Chapter One

Is Asia the Next Higher Education Superpower?

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Introduction

The 21st century will be the Asian century. This is overdue and inevitable. A surge of investment in higher education is already taking place in Asia, which will accompany the emergence of the Asian century. Asia has already overtaken both North America and Europe in the number of universities and university graduates. Asian universities need only to improve their quality in order to catch up with the West. As Asia struggles to make these advances, it also must meet new challenges presented by its rapidly changing educational landscape. In short, success is not guaranteed. Leaders of Asian universities must be bold and innovative if they want to move up in the global rankings.

This chapter consists of three main sections. The first section, “Asian Optimism,” explains why optimism over the future of higher education in Asia is justified. The second section, “The Asian Experience in Context,” draws out the diversity of the Asian experience, given that the Asian continent is far more varied than either North America or Europe. The third section, “Future Challenges,” touches on new challenges that Asian universities must overcome.
ASIAN OPTIMISM

A few leading indicators explain why optimism is justified for the future of Asian higher education. First, the outstanding performance of Asian students in leading global universities, especially in postgraduate science and engineering disciplines, indicates that Asian minds can perform as well as the rest of the world, if not outperform them, on a level playing field in higher education. A recent study examining two nationally representative cohort longitudinal surveys provided strong evidence that Asian Americans have an academic advantage over their peers (Hsin & Xie, 2014), apparently due to a tendency to exert more effort in their academics. In fact, Asian Americans constitute only 6 percent of the U.S. population, but compose 12–18 percent of the student body at Ivy League schools (Chen, 2012). In 2013, 8,549 Chinese students were enrolled in Ivy League schools, constituting 27 percent of total enrollment (Lai, 2012).

Second, many Asians, especially Asian Americans, have risen to key leadership positions in leading global universities. The academic talent to nurture great Asian universities is growing worldwide. Third, and perhaps most importantly, many Asian countries have significantly stepped up their national budgetary allocations for both higher education and research and development in science and technology. Hence, at a time when the publicly funded universities in both North America and Europe face budgetary challenges in obtaining funding from shrinking state budgets, many Asian public universities are benefiting from increased funding.

As a result, more and more Asian universities are entering the list of the top 100 universities in the world. According to Quacquarelli Symonds (QS), out of the top 100 universities in the world list, 17 are from Asia (Quacquarelli Symonds, 2014a). The top 17 universities on the QS list are shown in Table 1.1.
### Table 1.1: Asian Universities in the QS List of Top 100 World Universities

<table>
<thead>
<tr>
<th>QS Ranking</th>
<th>University</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>National University of Singapore (Singapore)</td>
</tr>
<tr>
<td>28</td>
<td>University of Hong Kong (Hong Kong)</td>
</tr>
<tr>
<td>31</td>
<td>The University of Tokyo (Japan)</td>
</tr>
<tr>
<td>31</td>
<td>Seoul National University (South Korea)</td>
</tr>
<tr>
<td>36</td>
<td>Kyoto University (Japan)</td>
</tr>
<tr>
<td>39</td>
<td>Nanyang Technological University (Singapore)</td>
</tr>
<tr>
<td>40</td>
<td>The Hong Kong University of Science and Technology (Hong Kong)</td>
</tr>
<tr>
<td>46</td>
<td>The Chinese University of Hong Kong (Hong Kong)</td>
</tr>
<tr>
<td>47</td>
<td>Tsinghua University (China)</td>
</tr>
<tr>
<td>51</td>
<td>KAIST (Korea Advanced Institute of Science and Technology; South Korea)</td>
</tr>
<tr>
<td>55</td>
<td>Osaka University (Japan)</td>
</tr>
<tr>
<td>57</td>
<td>Peking University (China)</td>
</tr>
<tr>
<td>68</td>
<td>Tokyo Institute of Technology (Japan)</td>
</tr>
<tr>
<td>71</td>
<td>Tohoku University (Japan)</td>
</tr>
<tr>
<td>71</td>
<td>Fudan University (China)</td>
</tr>
<tr>
<td>76</td>
<td>National Taiwan University (Taiwan)</td>
</tr>
<tr>
<td>86</td>
<td>Pohang University of Science And Technology (POSTECH) (South Korea)</td>
</tr>
</tbody>
</table>

Similarly, Times Higher Education also lists 11 Asian universities in its list of top 100 universities (Times Higher Education, 2014). Another reason for optimism is that there are 13 Asian universities in the list of top 50 universities under 50 years old (Quacquarelli Symonds, 2014b) as shown in Table 1.2.

### Table 1.2: Asian Universities in the QS List of Top 50 Universities Under 50 Years Old

<table>
<thead>
<tr>
<th>QS Ranking</th>
<th>University</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Nanyang Technological University (Singapore)</td>
</tr>
<tr>
<td>2</td>
<td>The Hong Kong University of Science and Technology (Hong Kong)</td>
</tr>
<tr>
<td>3</td>
<td>KAIST (South Korea)</td>
</tr>
<tr>
<td>4</td>
<td>Pohang University of Science and Technology (South Korea)</td>
</tr>
<tr>
<td>5</td>
<td>City University of Hong Kong (Hong Kong)</td>
</tr>
<tr>
<td>8</td>
<td>The Hong Kong Polytechnic University (Hong Kong)</td>
</tr>
<tr>
<td>13</td>
<td>University of Tsukuba (Japan)</td>
</tr>
<tr>
<td>18</td>
<td>National Yang Ming University (Taiwan)</td>
</tr>
<tr>
<td>20</td>
<td>Universiti Kebangsaan Malaysia (Malaysia)</td>
</tr>
<tr>
<td>30</td>
<td>Ben Gurion University of The Negev (Israel)</td>
</tr>
<tr>
<td>37</td>
<td>Hong Kong Baptist University (Hong Kong)</td>
</tr>
<tr>
<td>38</td>
<td>L.N. Gumilyov Eurasian National University</td>
</tr>
<tr>
<td>42</td>
<td>King Abdul Aziz University (Saudi Arabia)</td>
</tr>
</tbody>
</table>
Significantly, these top Asian universities come from a small group of Asian universities or territories, such as China, Hong Kong, Japan, Korea, Singapore, and Taiwan. Similarly, five other highly populated Asian countries, namely, Bangladesh (population: 155 million), Indonesia (population: 247 million), Pakistan (population: 179 million), the Philippines (population: 97 million), and Vietnam (population: 89 million), do not have any universities in the top 100 list. Figure 1 illustrates the state of tertiary education in several Asian countries.

**Figure 1.1: Gross Enrollment Ratios for Bachelor’s Degree Programs by Country or Territory, 1980–2011**

![Gross Enrollment Ratios](image)

Source: UNESCO, 2014

All these differences emphasize the diversity of the Asian experience. The story of higher education of each Asian country can only be understood in the context of its national experience. To illustrate this diversity, this chapter will delve deeply into the experiences of Asia’s two largest countries, China and India, and will explain the extraordinary success of universities in the smaller East Asian countries.
THE ASIAN EXPERIENCE IN CONTEXT

The China Story
Over time, volumes will be written on the story of higher education in China, because it is extraordinary in several ways. It will take some time before we can solve the mysteries behind some of the bold decisions made by Chinese leaders in this area. Consider the programs and initiatives described in the following sections.

University Expansion
It was an extraordinarily brave decision by Chinese leaders to launch the process of university expansion when it did. In the last 25 years, the rate of enrollment of young people going to college has grown 10-fold, from 3 percent of each cohort in 1990 to almost 30 percent in 2013 (World Bank, 2014). The year 1990 is significant. It was exactly one year after Chinese university students occupied Tiananmen Square and challenged the Chinese government. A more natural reaction of the Chinese government would have been to clamp down on university education in response to this political challenge from university students. Instead, it made the bold decision to expand it significantly.

Major Shifts
The Chinese higher education system made several major shifts in the 20th century. It initially followed the Western academic tradition, due to 19th-century reforms aimed at combining Chinese and Western knowledge. From 1952 to 1953, China adopted the Soviet model of higher education and centralized the educational bureaucracy. China nationalized existing higher education institutions, and Soviet-style specialized technical and research institutes were built. However, in 1998, China turned away from elite education and began a rapid drive toward mass higher education, based on the Chinese Ministry of Education’s Action Plan to Vitalize Education Facing the Twenty-First Century (Pretorius & Xue, 2003). This plan stipulated that the gross enrollment ratio (GER) should reach 15 percent by the end of 2010. It has now far exceeded that goal, hitting a 27 percent GER in 2012 (World Bank, 2014). Table 1.3 indicates the expansion of the number of institutions and enrollments in China since 1949.
### Table 1.3: Scale of Regular Higher Education in China by Period

<table>
<thead>
<tr>
<th>Period</th>
<th>Year</th>
<th>No. Institutions</th>
<th>Undergraduate Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reconstruction and 1st Plan</td>
<td>1949</td>
<td>205</td>
<td>116,504</td>
</tr>
<tr>
<td></td>
<td>1957</td>
<td>229</td>
<td>441,181</td>
</tr>
<tr>
<td>Great Leap Forward and Adjustment</td>
<td>1958</td>
<td>791</td>
<td>659,627</td>
</tr>
<tr>
<td></td>
<td>1960</td>
<td>1,289</td>
<td>961,623</td>
</tr>
<tr>
<td></td>
<td>1965</td>
<td>434</td>
<td>674,436</td>
</tr>
<tr>
<td>Great Proletariat Cultural Revolution</td>
<td>1966</td>
<td>434</td>
<td>533,766</td>
</tr>
<tr>
<td></td>
<td>1970</td>
<td>434</td>
<td>47,815</td>
</tr>
<tr>
<td></td>
<td>1976</td>
<td>392</td>
<td>564,715</td>
</tr>
<tr>
<td>Reform and Opening Up</td>
<td>1978</td>
<td>598</td>
<td>856,322</td>
</tr>
<tr>
<td></td>
<td>1983</td>
<td>805</td>
<td>1206,823</td>
</tr>
<tr>
<td></td>
<td>1988</td>
<td>1075</td>
<td>2065,900</td>
</tr>
<tr>
<td></td>
<td>1993</td>
<td>1065</td>
<td>2535,500</td>
</tr>
<tr>
<td></td>
<td>1998</td>
<td>1022</td>
<td>3408,800</td>
</tr>
</tbody>
</table>

Source: Educational statistics published by Ministry of Education, China

#### Subsidization of Expansion

The Chinese government also heavily subsidized the massive expansion to ensure that university education remained affordable for the masses. As a result, the number of Chinese students graduating from Chinese universities, in terms of absolute numbers, has exploded from 614,000 in 1990 to almost 7 million in 2013 (National Bureau of Statistics of China, 2013). Figure 1.2 illustrates the scale and pace of expansion.
Chinese Initiatives

It was equally bold for the Chinese government to focus on improving the quality of university education as much as it focused on increasing the number of educational institutions. This is why the Chinese government launched several high-profile initiatives to attract to China both Chinese and foreign academics who were teaching or conducting research in American universities. It also invested more in leading Chinese universities.

The first big initiative by the Chinese government was the Thousand Talents initiative, launched in 2008. This high-profile scheme was aimed at luring back top talents to boost the country’s innovative capacity and international competitiveness. This ambitious plan aims to attract more than 2,000 leading researchers who have held professorship or equivalent at renowned universities or institutes abroad. In some cases, the Chinese government was spectacularly successful in attracting back world-class talent. One good example was Professor Shi Yigong, who left Princeton University to head the Department of Life Sciences in Tsinghua University in 2009, and Professor Andrew Yao, a Taiwanese American computer scientist and computational theorist, who, after teaching at Stanford and Princeton, moved to Tsinghua to head the Institute for Theoretical Computer Science in 2004.
The second big initiative was launched in 2012 by the Chinese Ministry of Human Resources and Social Security, in collaboration with four other ministries. Again, this was aimed at implementing China’s long-term plan of importing expert talent from abroad. Under this new measure, all foreigners who are eligible for “Highly Qualified” status are granted privileges, which include relaxation of the visa rules on entry into China and easier regulations for the granting of permanent residencies (Dezan Shira & Associates, 2012).

The third big initiative by China was the 2009 creation of the C9 League, an alliance of the top nine universities in China, to boost their global standing. In this alliance, the nine institutions would recognize each other’s course credits, share resources, and allow students to attend courses on each other’s campuses. In 2013, these nine leading research universities signed the Hefei Statement, which was jointly drawn up with the League of European Research Universities (LERU), Australia’s Group of Eight Universities, and the Association of American Universities to uphold academic freedom in research and development (Heron, 2013).

As a result of attracting back world-class academic talent and increased investment, the Chinese universities have been climbing up in the global ranking of universities. In the latest QS ranking of top Asian universities in 2013, China had six universities in the top 100.

Autonomy

Even though the state remains dominant in China, the Chinese government has been trying to provide greater autonomy to Chinese university administrations. Surprisingly, even though both a university president and a party secretary lead each Chinese university, the administrations of Chinese universities are leaner than American universities. Two leading scholars, Devesh Kapur and Elizabeth J. Perry, have written a brilliant paper entitled “Higher Education Reform in China and India: The Role of the State.” They stated, “China’s commitment to reduce the size of academic administration stands in stark contrast to higher education trends in other parts of the world. In the United States, the number of administrators and professional staff at universities and colleges has doubled in the past 25 years—a rate of increase more than twice that of student enrollments in the same period” (Kapur & Perry, 2014).

At the same time, China has invested heavily in developing world-class university administrators. For several years running, Yale University, led by the then-president Richard Levin, hosted a two- to three-week seminar for university leaders from leading Chinese universities. Clearly, managing a university is very different from managing a government department or a multinational corporation. Hence, China has invested seriously in developing the next generation of university leaders (Jiangsu
Education, 2011). As a result, Chinese university leaders have greater freedom than their Indian counterparts to match leading global salaries in attracting the best academic talent back to China.

Despite these remarkable advances and bold experiments, it would be a mistake to assume that Chinese universities have achieved nirvana. Many of them are still new institutions. As the third section of this essay will document, the “massification” of the Chinese university system has introduced new challenges for China to contend with.

The India Story

All over Asia, modern universities are a Western import (Kapur & Perry, 2014). Even though, in the last 10 years of the Cold War, India was closer to the Soviet Union, and China drew closer to the United States, India has had a deeper and longer engagement with the West. It was colonized by the British for over a century. Even after independence, Indians used to revere London as a cultural capital, before they discovered the magic of the American dream. Hence, hundreds of thousands of young Indians studied in leading Western universities long before the young Chinese students arrived in the West. This may also explain why Indians significantly outnumber Chinese in leading positions in American universities. For example, it is remarkable how many Indians have become deans of leading American business schools. They include Nitin Nohria, dean of the Harvard Business School; Soumitra Dutta, dean of the Samuel Curtis Johnson Graduate School of Management at Cornell University; and Sunil Kumar, dean of the University of Chicago Booth School of Business.

Against this historical backdrop, it would have been natural to assume that India would have provided a more promising soil for the nurturing of Western-style universities than China. Surprisingly, the opposite has happened. While China has six universities in the QS list of top 100, India has none, despite that fact that India, like China, has had a significant “massification” of its higher education system. In 1990, the GER was 3 percent in China and 6 percent in India. Despite this initial lag, China quickly overtook India, achieving a 27 percent GER in 2012, while India raised its GER to 20 percent (Government of India, 2013). In 2011, India had around 4 million graduates (Nandakumar & Sabharwal, 2011), while China had 6 million graduates (National Bureau of Statistics of China, 2013). The expected number of graduates from India in 2014 is 5 million (NASSCOM, 2014), compared to 7 million in China (China Daily, 2014). Figure 1.3 shows the dramatic increase in university enrollment rates in China in the last three decades.
The article by Kapur and Perry (2014) mentioned earlier provides some of the reasons why the Indian universities have lagged behind China. They pointed out that in the case of India,

in contrast to China—and indeed relative to its own pre-independence past—Indian higher education is highly centralized, politicized, and paradoxically anti-intellectual. The prevailing political ideological climate in which elite institutions are seen as anti-democratic, finds its natural response in political control to influence admissions policies, internal organization, and the structure of courses and funding (Kapur & Perry, 2014, p. 17).

They also added that “higher education in India suffers from political, administrative, and regulatory interference on virtually every aspect of higher education—be it admissions policies, internal organization, fees and salaries, and the structure of courses and funding” (Kapur & Perry, 2014, p. 17). Given that public-sector universities in India face serious constraints, private-sector initiatives have been growing. Kapur and Perry further noted:

In contrast to China, most of the growth in enrollments in higher education in India has taken place through the establishment of new private colleges in the last decade, with the bulk of expansion in professional and technical education like engineering, business,
pharmacy, and the like. Between 2000–2001 and 2011–2012, the number of colleges in India increased from 12,800 to 35,500, which meant an average of nearly six new colleges a day for more than a decade. (p. 9)

This may well be India’s greatest hope: that the dynamic private sector will make up for the weaknesses of the Indian state in developing world-class institutes of higher education. The Indian School of Business provides a good illustration of how private-sector initiatives can work well. Established in 2001, it has grown rapidly and now has two campuses: one in Hyderabad and one in Mohali. The good news is that India represents the norm rather than the exception. Private education has been expanding in many other Asian countries besides India, as shown in Figure 1.4.

**Figure 1.4: Enrollment in Private Higher Education Institutions as a Percentage of Total Higher Education Enrollment by Country or Territory, 2011 or Most Recent Year Available**

Source: Figure 6 in UNESCO, 2014

**The Advanced Asian Economies**

In contrast to China and India, which have recently increased their university enrollments, the advanced Asian economies of Japan, South Korea, Taiwan, Hong Kong, and Singapore have been investing heavily in higher education for several decades.
Universities, unlike corporations like Google and Microsoft, cannot succeed overnight. They require some nurturing. Hence, it is not surprising that most of the leading Asian universities are found in the advanced Asian economies.

Japan was the first Asian country to modernize (after the Meiji restoration), and it has the highest number of universities in the list of top 50 universities in Asia. Globally, in the 2013–14 QS World University Rankings, the highest-ranked Japanese universities are the University of Tokyo in 32nd place, Kyoto University in 35th place, and Osaka University in 55th place. Similarly, South Korea, which is the second Asian country after Japan to join the OECD (Organization for Economic Cooperation and Development), had for a long time a higher education landscape that had been dominated by the SKY universities: Seoul National University, Korea University, and Yonsei University. However, the intense competition in Korea has led to the creation of an “upstart” university, the Korea Advanced Institute of Science and Technology (KAIST). In the latest QS ranking, KAIST has emerged as the number two university in Asia after National University of Singapore (NUS), and it has come third in the ranking of the world’s 50 universities under 50 years old (QS, 2014).

Among the universities in the advanced Asian universities list, the story of the NUS is particularly inspiring. Established in 1905 as the Straits and Federated Malay States Government Medical School (NUS, n.d.), NUS has climbed its way up to emerge as the top university in Asia in QS world ranking of global universities in 2013–14 (Davie, 2014).

This success was a result of several factors. First, as Singapore joined the league of advanced economies with a per capita income that exceeds those of many OECD member states, its government realized that Singapore could only compete in the advanced league of economies if it invested heavily in higher education. Second, a major effort has been made to emulate leading American universities. Hence, when Shih Choon Fong, a Singaporean academic who taught at Brown University, was appointed to lead NUS in 1997, his title was changed from Vice Chancellor to President. This was more than a symbolic change. It was a signal that NUS would adopt best practices from leading global universities, including the tightening of promotion and tenure procedures. Third, the Singapore government wisely decided to grant greater autonomy to its universities. NUS was incorporated as a not-for-profit company limited by guarantee. The government remained committed to funding NUS, even while it provided maximal autonomy for NUS to chart its own course and deploy its resources as they deemed fit. This allowed NUS to become very nimble and was a critical factor in its surge ahead. Fourth, NUS also succeeded because it was supported by a positive eco-system. A dynamic and globally competitive economy generated a strong demand for its graduates and researchers. The Singapore economy was ranked second in the World Economic Forum Global Competitiveness Report 2014–2015 (World Economic Forum, 2014) and ranked seventh in the 2014
Global Innovation Index (Cornell University, INSEAD, and WIPO, 2014). Singapore was also ranked number three in the 2014 QS list of “Best Student Cities,” reflecting on the open cosmopolitan environment of Singapore (Quacquarelli Symonds, 2013).

Hong Kong, a former British colony like Singapore, shares many of these competitive attributes. Hence, it also has several leading universities. Hong Kong University, like NUS, has always done well in the global rankings. The Hong Kong University of Science and Technology and the Nanyang Technological University in Singapore have both done well in the list of top 50 under 50 years old.

Southeast Asia

The Association of Southeast Asian Nations (ASEAN) countries today represent the ninth largest economy in the world with a gross domestic product of U.S. $2 trillion. ASEAN Vision 2020 calls for investments to be made in the development of a knowledge economy.

University enrollment has improved in emerging Southeast Asian countries. According to World Bank Data, the GER in ASEAN countries (excluding Singapore) multiplied 2.5 times, from just over 10 percent in 1995 to almost 25 percent in 2010 (World Bank, 2014). Malaysia and Thailand are among the Southeast Asian middle-income countries that lead the region in the development of graduate education. Both countries have experienced rapid growth in undergraduate enrollment, and both have developed an extensive network of both public and private colleges and universities. In Malaysia, graduate enrollment increased fourfold (from about 21,100 in 2000 to 85,200 in 2010). Malaysia has also been active in developing its higher education system, aiming to produce 100,000 PhD holders by 2020 (including locally trained, overseas-trained, and split programs with foreign universities) and to increase its higher education participation rate from the current 40 percent to 50 percent by 2020. The development of higher education in smaller Southeast Asian countries has been promising. In Brunei, the enrollment rates increased from 10 percent in 1998 to 24 percent in 2012; Cambodia’s enrollment rates increased from 1 percent in 1995 to 16 percent in 2011; and in Myanmar, the increase was from 5 percent in 1995 to 14 percent in 2011 (World Bank, 2014).

The number of higher education institutes in Southeast Asian countries has also been increasing, driven particularly by the growth of private higher education institutions. Across Asia, almost 40 percent of higher education students are enrolled in private institutions (UNESCO, 2014). For example, the Philippines higher education system has been characterized by rapid expansion in the last 10 years: The number of higher education institutions increased from 1,400 in 2001 to 1,800 in 2010,
growing by an annual average of 45 new institutions, or 3 percent. Only 12 percent of these institutions are public and 88 percent are private (Asian Development Bank [ADB], 2012). In Cambodia, 44 out of 73 higher education institutions are private, and as many as 16 of these private institutions were established in 2002–2003 alone (ADB, 2012).

However, the level and quality of development across the region has been diverse, particularly due to the rise of these private higher education institutions. While Indonesia, Malaysia, Philippines, and Thailand have been developing their quality systems in the higher education sector for decades now, countries like Laos, Vietnam, and Cambodia have only recently started to pursue strategies to improve quality in their national strategic plans (UNESCO, 2006). For example, in 2004, Cambodia issued a regulation to create a quality assurance unit in every higher education institution to undertake self-assessment (ADB, 2012). Regionally, ASEAN created the ASEAN Quality Assurance Network (AQAN), which has the aim of promoting and building a common and harmonious language of quality assurance in higher education institutions across Southeast Asia without losing individual country identity (AQAN, 2012). However, it will take some time before we know the impact of AQAN in improving the quality of higher education in Southeast Asia.

FUTURE CHALLENGES

Despite the many positive trends in the field of higher education in Asia, there remain many serious challenges to overcome. It would be a mistake for Asian governments to continue on a steady course of expansion and massive investments in the higher education sphere without paying attention to the changing education landscape.

The first challenge that Asian governments have to deal with is the result of the massification of higher education. China and India alone will account for 40 percent of all young people with a tertiary education in G20 and OECD countries by 2020 (Garcia de León, Heckmann, & González, 2012). Indeed, by 2020, four countries (China, India, United States, and Brazil) will account for more than half of global tertiary enrollments (ages 18–22). The current estimates are shown in Table 1.4.
China has increased its number of university graduates significantly, from 3 percent of each cohort in 1990 to almost 30 percent in 2013 (World Bank, 2014). Now China is struggling to find jobs for this massive number of university graduates. Although the current unemployment rate in China is 4 percent (Statistica, 2014), the New York Times has reported a figure of 18 percent unemployment for this cohort of 7 million Chinese graduates (Fischer, 2014). As a result, China has significantly curtailed the expansion of its higher education system. This reduction also reflects the demographic decline in China.

By contrast, India is about to reap its demographic dividend, and the expansion of its higher education sector is likely to continue. The Modi government, which took office in June 2014, declared human resource development as one of its priorities, stating that it will invest more in higher education and support private-sector efforts to invest more in this area. In February 2014, Prime Minister Narendra Modi described education as “the only potent route to fight poverty,” acknowledging that India should review its commitment to education. He said that the private sector should be given more leeway to develop education, and that the government should set up more major institutions, such as the Indian Institute of Technology and the Indian Institute of Management, in all states (IANS, 2014). In keeping with these beliefs, the new Modi government announced several measures to improve access to and quality of education and to institute educational reforms aimed at spurring growth in science and technology (Government of India, 2014).

Table 1.4: Tertiary Enrollment in 2020 in Selected Countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Tertiary enrollment by 2020 (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>37.4</td>
</tr>
<tr>
<td>India</td>
<td>27.8</td>
</tr>
<tr>
<td>United States</td>
<td>20</td>
</tr>
<tr>
<td>Brazil</td>
<td>9.2</td>
</tr>
<tr>
<td>Indonesia</td>
<td>7.7</td>
</tr>
<tr>
<td>Russia</td>
<td>6.3</td>
</tr>
</tbody>
</table>

British Council, 2012)

Both South Korea and Taiwan, which have also carried out similar massification processes, have an oversupply of university graduates as well (Chong, 2013). South Korea has among the highest university participation rates in the world, at around 80 percent compared with 15 percent to 40 percent for most advanced economies, but the number of “economically inactive” graduates has risen to more than 3 million (Sharma, 2014a), with an unemployment rate of about 6 percent. Similarly, in Taiwan, the number of higher education institutions has increased to 165, with a total student enrollment of 1.3 million, representing a gross enrollment ratio of 79 percent.
However, Taiwan had an unemployment rate of 6 percent for university graduates in 2012 (Taipei Economic and Cultural Office, 2012).

The second challenge is one that is faced by all universities: the impact of new technology. The proliferation of online courses, such as massive open online courses (MOOCs), has raised profound questions about the future of universities. Some have suggested that, just as digital technology buried Kodak, universities face the same threat today. For example, University of Maryland professor Henry C. Lucas, Jr., has suggested that the American higher education systems will face the same fate as the three failed organizations of Borders, Kodak, and Blockbuster if they continue to embrace the status quo. He argued that only the top universities will survive because of their superior brands. The mass industry of brick-and-mortar universities will be replaced by MOOCs or their equivalent, as young people find cheaper and more innovative means of educating themselves (Lucas, 2013). These predictions of doom and gloom for traditional universities may be overblown, but it would be a mistake for traditional Asian universities to remain complacent in the face of this new challenge.

Third, the changing nature of work introduces new challenges. In the West, many see universities primarily as a place to nurture citizens, while in many Asian countries, universities are seen as agencies for developing a talented workforce. Of course, the picture is more nuanced. Asian countries are increasingly adopting Western models of education in order to produce a well-educated citizenry capable of innovative and critical thinking. For example, in 2001, Peking University introduced the Yuanpei Honors Program in 2001, a pilot program that immerses a select group of the most gifted Chinese students in a liberal arts environment (Levin, 2010). At the same time, Western universities are beginning to focus on students’ employability and developing skills that are compatible with today’s macroeconomic requirements. Two recent works explain the Western challenge well. A McKinsey Center for Government report, Education to Employment: Getting Europe’s Youth into Work (Mourshed, Patel, & Suder, 2014), points out how higher education institutions must collaborate with employers to prepare young graduates in terms of “work readiness.” This report also highlights the gap between universities and employers, which has led to the production of graduates who do not fit the employers’ requirements. Similarly, an article on job polarization and rising inequality focusing on New York and New Jersey explains how technological change and globalization has led to the demand for a new kind of highly skilled workers, which are not being currently produced by universities (Abel & Deitz, 2012). What all this means for higher education is that universities will increasingly have to transform their curricula and prepare their students for a future of work that is dominated by infocomm technologies, robotics, big data, and supercomputing power. Even highly skilled professionals such as doctors, accountants, economists, and, yes, even university professors will not be spared. They will find themselves competing in increasingly winner-take-all markets. Although both reports focused mainly on the challenges of preparing today’s youth in Europe and New York for the workplace, there can be no
doubt that Asian countries will face similar challenges as they move up the ladder of economic development.

Anticipating these challenges, China has taken a major leap forward by recently announcing that it will turn at least half of its public universities into institutions of applied learning or polytechnics to produce more technically trained graduates to meet the competing demand for jobs. Lu Xin, vice minister in China’s Ministry of Education said that in a “gradual transition to the dual system, the new applied institutions would focus on training engineers, senior technicians, and other highly skilled workers rather than pursuing over-academic, highly theoretical studies.” (Sharma, 2014b). With more than 7 million graduates pouring into China’s economy, China is taking concrete measures to address the issues of unemployment and economic instability through innovation in its education system. To combat unemployment, China recently took a transformational step toward increasing employability and diversity in the job market among university graduates by announcing its decision to turn 600 public universities into institutions of applied learning or polytechnics, intended to produce technically trained graduates. This reform of educational institutions aims to produce more technically trained graduates and increase their market relevance, which will transform the educational landscape of the Chinese higher education system.

Fourth, as Asian universities strive to move up the “global leagues,” they will have to develop the same ability as leading Western universities in attracting the best international students. This has been one of the greatest strengths of the American higher education system. Each year, the United States attracts at least 800,000 foreign students to study in its campuses. China is by far the largest supplier of international students with more than 200,000 Chinese students. The next largest suppliers are India, South Korea, Saudi Arabia, and Canada (Institute of International Education, 2013).

Several Asian countries are now attempting to emulate the United States in this field. Arguably, the most successful country in attracting international students has been China, which is surprising because both Japan and South Korea developed earlier than China and could have become the most favored destination for higher education in Asia. In 1999 China had a mere 44,700 international students. In 2011, China hosted a total of 292,600 foreign students from 194 countries, studying at 660 higher education institutions. This marked a more than 10 percent increase over the previous year (Kapur & Perry, 2014). Figure 1.5 shows the increase in foreign students in China from 1999 to 2010.

China’s popularity among international students can be attributed to many factors. First, the rapid growth of the Chinese economy since 1978 increased the role of the market and substantially reduced government planning and direct control. Second, the economic success of China has benefited international students. Since 1997, China has relentlessly pursued many agreements and programs with more than
174 countries to facilitate the inbound mobility of students through scholarships and Chinese government grants, which, combined with low tuition, makes higher education in China more affordable than many Asian countries. Third, the quality of education provided by the Chinese universities has improved significantly. China has signed protocols with more than 34 countries in mutual recognition of academic degrees and qualifications. The fourth significant factor that makes China attractive to international students is the better prospects of being hired by foreign companies, who look for Chinese-speaking graduates, given China has gained recognition as the second largest economy in the world (UNESCO, 2013).

**Figure 1.5: Total number of international students in China**

![Graph showing the total number of international students in China from 1999 to 2010](image)


As the evidence becomes increasingly clear that the 21st century will be the Asian century, it is natural that more and more international students will enroll in Asian universities to fulfill several goals simultaneously: attain a good university education, develop a good understanding of Asian cultures (which will enhance their competitiveness in global job markets), and develop their Asian networks. Hence, just as the American century led to a natural shift of international students studying in American universities, the dawn of the Asian century will see a similar shift of international students studying in Asian universities. In this spirit, Forbes published an article in 2014 with this provocative headline: “Why Go to Harvard When You Can Opt for an Asian Ivy League?” (Ni, 2014). The article proceeded to list the Asian equivalents of American Ivy League universities. The NUS was compared to Stanford for its entrepreneurial campus environment; the University of Hong Kong was deemed the Columbia of Hong Kong for its prestige and international orientation; Seoul National University was likened to University of Pennsylvania for its strong business programs;
Nanyang Technological University was compared to University of California, Berkeley, for its strong science, technology, engineering, and mathematics (STEM) majors and political activism; Peking University was likened to Yale University for its strong social sciences, humanities, and pure sciences programs; University of Tokyo was compared to Cornell University for its strong agricultural sciences and engineering programs; and Tsinghua was deemed the “MIT of Asia” for its strength in STEM fields.

It is not surprising that the two Asian giants are attracting more international students. However, it is surprising that small Persian Gulf countries are making huge investments in global campuses on their soil, such as the S.P. Jain School of Global Management in Dubai and Georgetown University School of Foreign Service in Qatar. Similarly, Malaysia has been successfully attracting Western universities to set up branch campuses on its soil.

The next big wave will not be the proliferation of passive branch campuses, but the creation of active new partnerships between leading Western and Asian universities. The innovative collaboration between Yale and NUS in setting up the Yale-NUS College in Singapore provides a glimpse into the future that is emerging as both Western and Asian universities realize the value of close collaboration. Such collaboration will, in turn, strengthen Asian universities, leading to the emergence of Asia as the next higher education superpower.

Despite having come a long way in less than half a century, Asians should not rest on their laurels. First, the harmonization of higher education systems among ASEAN countries—not to mention all of Asia—is far from complete, with the differing capacities of universities and different education systems proving a significant obstacle. Second, the increasing professionalization and changing needs of the job market are also a challenge for universities in Asia, which are responsible for training graduates with skills that are relevant to a rapidly evolving global market. Third, instead of trying to unquestioningly copy the best Western institutions and theories, Asian universities should gradually develop the confidence to find their own niches. They should cultivate the ability to complement Western-dominated research by starting their own research programs that do justice to Asia’s own rich traditions of the sciences and humanities, as well as their high moral regard for education.

As President Tan Chorh Chuan, quoting Winston Churchill, said in a speech in November 2010 (Tan, 2010), “The empires of the future are the empires of the mind.” He argued that Asian universities need to make a big shift from highly specialized education models to more broad-based ones, and develop strong global education programs and research centers that are among the leaders in the world. In doing so, Asian universities will be able to overcome their limitations and “leapfrog ahead to join the distinguished league of the world’s leading universities.”
REFERENCES


NOTES

1 The China-Yale University Advanced Seminar for University Leaders is an education project organized by the Ministry of Education of China and Yale University. It is the first advanced seminar jointly held by the Chinese government and one of the most prestigious universities in the United States.

2 A senior Taiwanese education official comments that the abundance of places had undermined the quality of degrees and created a skill mismatch in the job market. “We would not like to see low-ranking jobs that only require a high school education flooded by applicants with PhDs,” he said.

3 Based on calculating 3 million unemployed graduates out of a total of 50 million graduates.

4 Data is from the Institute of International Education’s 2014 Open Doors Report. The United States achieved a record high 8 percent increase for international student intake to a record high of 886,052 students. China supplied 274,439 students to the United States.