

# Executive Summary

## Introduction

The ranking of world universities published by the *Times Higher Education Supplement (THES)* in September 2005 created a major controversy in Malaysia when it showed the country's top two universities slipping by almost 100 places compared with those of the previous year. Notwithstanding the fact that the big drop was mostly the result of a change in the ranking methodology—which was a little known fact and of limited comfort—the news was so traumatic that there were widespread calls for the establishment of a royal commission of inquiry to investigate the matter. A few weeks later, the Vice-Chancellor of the University of Malaya stepped down. This strong reaction was not out of character for a nation whose current Ninth Development Plan aims at shaping the transformation of the country into a knowledge-based economy, with emphasis on the important contribution of the university sector. And though apparently extreme, this reaction is not uncommon in university systems around the world.

Preoccupations about university rankings reflect the general recognition that economic growth and global competitiveness are increasingly driven by knowledge and that universities play a key role in that context. Indeed, rapid advances in science and technology across a wide range of

areas—from information and communication technologies (ICTs) to biotechnology to new materials—provide great potential for countries to accelerate and strengthen their economic development. The application of knowledge results in more efficient ways of producing goods and services and delivering them more effectively and at lower costs to a greater number of people.

*The 1998/99 World Development Report: Knowledge for Development* (World Bank 1999a) proposed an analytical framework emphasizing the complementary role of four key strategic dimensions to guide countries in the transition to a knowledge-based economy: an appropriate economic and institutional regime, a strong human capital base, a dynamic information infrastructure, and an efficient national innovation system.

Tertiary education is central to all four pillars of this framework, but its role is particularly crucial in support of building a strong human capital base and contributing to an efficient national innovation system. Tertiary education helps countries build globally competitive economies by developing a skilled, productive, and flexible labor force and by creating, applying, and spreading new ideas and technologies. A recent global study of patent generation has shown, for example, that universities and research institutes, rather than firms, drive scientific advances in biotechnology (Cookson 2007). Tertiary education institutions can also play a vital role in their local and regional economies (Yusuf and Nabeshima 2007).

According to *Constructing Knowledge Societies*, the World Bank's latest policy report on the contribution of tertiary education to sustainable economic development (World Bank 2002), high-performing tertiary education systems encompass a wide range of institutional models—not only research universities but also polytechnics, liberal arts colleges, short-duration technical institutes, community colleges, open universities, and so forth—that together produce the variety of skilled workers and employees sought by the labor market. Each type of institution has an important role to play, and achieving a balanced development among the various components of the system is a major preoccupation of many governments. Even in a relatively advanced economy (such as Chile), the lack of prestige and quality of the nonuniversity technical education sector undermines the country's ability to meet the demands for skilled labor, as reported in a recent review of tertiary education (OECD 2009).

Within the tertiary education system, research universities play a critical role in training the professionals, high-level specialists, scientists, and researchers needed by the economy and in generating new knowledge in support of national innovation systems (World Bank 2002). In this context,

an increasingly pressing priority of many governments is to make sure that their top universities are actually operating at the cutting edge of intellectual and scientific development.

There are many important questions to ask about the widespread push toward world-class status for universities around the world. Why is “world-class” the standard to which a nation should aspire to build at least a subset of its tertiary education system? Might many countries be better served by developing the most locally relevant system possible, without concern for its relative merits in a global comparison? Is the definition of “world-class” synonymous with “elite Western” and therefore inherently biased against the cultural traditions of tertiary education in non-Western countries? Are only research universities world-class, or can other types of tertiary education institutions (such as teaching universities, polytechnics, community colleges, and open universities) also aspire to be among the best of their kind in an international perspective?

This report will not delve deeply into an examination of the important questions noted above. While acknowledging that world-class universities are part of national systems of tertiary education and should operate within these systems, the main focus of this report is to explore *how* institutions become tops in their league to guide countries and university leaders seeking to achieve world-class status. The main objective of this report, therefore, is to explore the challenges involved in setting up globally competitive universities (also called “world-class,” “elite,” or “flagship” universities) that will be expected to compete effectively with the best of the best. Is there a pattern or template that might be followed to allow more rapid advancement to world-class status?

To answer these questions, the report starts by constructing an operational definition of a world-class university. It then outlines and analyzes possible strategies and pathways for establishing such universities and identifies the multiple challenges, costs, and risks associated with these approaches. It concludes by examining the implications of this drive for world-class institutions on the tertiary education efforts of the World Bank, offering options and alternative perspectives on how nations can develop the most effective and relevant tertiary education system to meet their specific needs.

### **What Does It Mean to Be a World-Class University?**

In the past decade, the term “world-class university” has become a catch phrase, not simply for improving the quality of learning and research in

tertiary education but also, more important, for developing the capacity to compete in the global tertiary education marketplace through the acquisition, adaptation, and creation of advanced knowledge. With students looking to attend the best possible tertiary institution that they can afford, often regardless of national borders, and with governments keen on maximizing the returns on their investments in universities, global standing is becoming an increasingly important concern for institutions around the world (Williams and Van Dyke 2007). The paradox of the world-class university, however, as Altbach has succinctly and accurately observed, is that “everyone wants one, no one knows what it is, and no one knows how to get one” (Altbach 2004).

Becoming a member of the exclusive group of world-class universities is not achieved by self-declaration; rather, elite status is conferred by the outside world on the basis of international recognition. Until recently, the process involved a subjective qualification, mostly that of reputation. For example, Ivy League universities in the United States (U.S.), such as Harvard, Yale, or Columbia; the Universities of Oxford and Cambridge in the United Kingdom (U.K.); and the University of Tokyo have traditionally been counted among the exclusive group of elite universities, but no direct and rigorous measure was available to substantiate their superior status in terms of outstanding results such as training of graduates, research output, and technology transfer. Even the higher salaries captured by their graduates could be interpreted as a signaling proxy as much as the true value of their education.

With the proliferation of league tables in the past few years, however, more systematic ways of identifying and classifying world-class universities have appeared (IHEP 2007). Although most of the best-known rankings purport to categorize universities within a given country, there have also been attempts to establish international rankings. The two most comprehensive international rankings, allowing for broad benchmark comparisons of institutions across national borders, are those prepared by the *THES* and Shanghai Jiao Tong University (SJTU).

To compare the international stature of institutions, these league tables are constructed by using objective or subjective data (or both) obtained from the universities themselves or from the public domain. The *THES* ranking selects the top 200 universities in the world. First presented in 2004, the methodology for this ranking focuses most heavily on international reputation, combining subjective inputs (such as peer reviews and employer recruiting surveys), quantitative data (including the numbers of international students and faculty), and the influence of the faculty

(as represented by research citations). Operating since 2003, SJTU uses a methodology that focuses on objective indicators exclusively, such as the academic and research performance of faculty, alumni, and staff, to identify the top 500 universities in the world. The measures evaluated include publications, citations, and exclusive international awards (such as Nobel Prizes and Fields Medals). Table 1 shows the results of the 2008 *THES* and SJTU world rankings.

Notwithstanding the serious methodological limitations of any ranking exercise (Salmi and Saroyan 2007), world-class universities are recognized in part for their superior outputs. They produce well-qualified graduates who are in high demand on the labor market; they conduct leading-edge research published in top scientific journals; and in the case of science-and-technology-oriented institutions, they contribute to technical innovations through patents and licenses.

Most universities recognized as world-class originate from a very small number of countries, mostly Western. In fact, the University of Tokyo is

**Table 1. Top 20 Universities in *THES* and SJTU World Rankings, 2008**

<i>Rank</i>	<i>THES</i>	<i>Rank</i>	<i>SJTU</i>
1	Harvard University	1	Harvard University
2	Yale University	2	Stanford University
3	University of Cambridge	3	University of California, Berkeley
4	University of Oxford	4	University of Cambridge
5	California Institute of Technology	5	Massachusetts Institute of Technology (MIT)
6	Imperial College London	6	California Institute of Technology
7	University College London	7	Columbia University
8	University of Chicago	8	Princeton University
9	Massachusetts Institute of Technology (MIT)	9	University of Chicago
10	Columbia University	10	University of Oxford
11	University of Pennsylvania	11	Yale University
12	Princeton University	12	Cornell University
13	Duke University	13	University of California, Los Angeles
13	Johns Hopkins University	14	University of California, San Diego
15	Cornell University	15	University of Pennsylvania
16	Australian National University	16	University of Washington, Seattle
17	Stanford University	17	University of Wisconsin, Madison
18	University of Michigan	18	University of California, San Francisco
19	University of Tokyo	19	University of Tokyo
20	McGill University	20	Johns Hopkins University

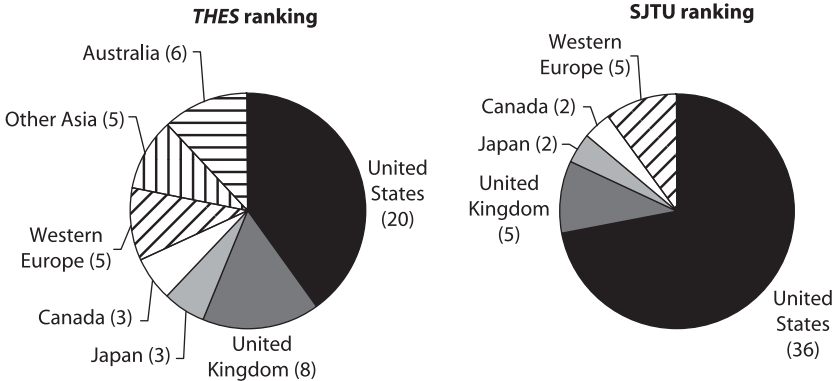
Sources: *THES* 2008; SJTU 2008.

the only non-U.S., non-U.K. university among the top 20 in the SJTU ranking. If one considers that there are only between 30 and 50 world-class universities in total, according to the SJTU ranking they all come from a small group of eight North American and Western European countries, Japan being again the only exception. *THES* has a slightly wider range of countries of origin among the top 50 universities (11 countries), including Hong Kong, China; New Zealand; and Singapore besides the usual North American and Western European nations (figure 1).

The few scholars who have attempted to define what world-class universities have that regular universities do not possess have identified a number of basic features, such as highly qualified faculty; excellence in research; quality teaching; high levels of government and nongovernment sources of funding; international and highly talented students; academic freedom; well-defined autonomous governance structures; and well-equipped facilities for teaching, research, administration, and (often) student life (Altbach 2004; Khoon et al. 2005; Niland 2000, 2007). Recent collaborative research on this theme between U.K. and Chinese universities (Alden and Lin 2004) has resulted in an even longer list of key attributes, ranging from the international reputation of the university to more abstract concepts such as the university’s contribution to society, both very difficult to measure in an objective manner.

In an attempt to propose a more manageable definition of world-class universities, this report makes the case that the superior results of these institutions (highly sought graduates, leading-edge research, and technology

**Figure 1. Geographical Distribution of World-Class Universities**  
(Top 50 in 2008)



Sources: *THES* 2008; SJTU 2008.

transfer) can essentially be attributed to three complementary sets of factors at play in top universities: (a) a **high concentration of talent** (faculty and students), (b) **abundant resources** to offer a rich learning environment and to conduct advanced research, and (c) **favorable governance** features that encourage strategic vision, innovation, and flexibility and that enable institutions to make decisions and to manage resources without being encumbered by bureaucracy (figure 2).

## **Paths to Transformation**

Two complementary perspectives need to be considered in examining how to establish new world-class universities. The first dimension, of an external nature, concerns the role of government at the national, state, and provincial levels and the resources that can be made available to enhance the stature of institutions. The second dimension is internal. It has to do with the individual institutions themselves and the necessary evolution and steps that they need to take to transform themselves into world-class institutions.

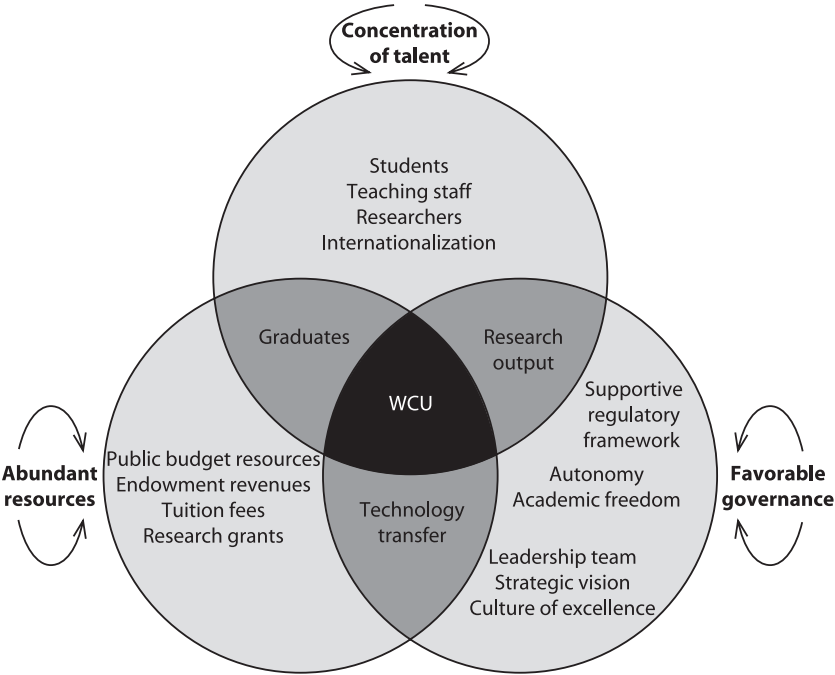
### ***The Role of Government***

In the past, the role of government in nurturing the growth of world-class universities was not a critical factor. The history of the Ivy League universities in the United States reveals that, by and large, they grew to prominence as a result of incremental progress, rather than by deliberate government intervention. Similarly, the Universities of Oxford and Cambridge evolved over the centuries of their own volition, with variable levels of public funding, but with considerable autonomy in terms of governance, definition of mission, and direction. Today, however, it is unlikely that a world-class university can be rapidly created without a favorable policy environment and direct public initiative and support, if only because of the high costs involved in setting up advanced research facilities and capacities.

International experience shows that three basic strategies can be followed to establish world-class universities:

- Governments could consider upgrading a small number of existing universities that have the potential of excelling (picking winners).
- Governments could encourage a number of existing institutions to merge and transform into a new university that would achieve the type of synergies corresponding to a world-class institution (hybrid formula).

**Figure 2. Characteristics of a World-Class University (WCU): Alignment of Key Factors**



Source: Created by Jamil Salmi.

**Table 2. Costs and Benefits of Strategic Approaches for Establishing World-Class Universities**

<i>Conditions</i>	<i>Approach</i>		
	<i>Upgrading existing institutions</i>	<i>Merging existing institutions</i>	<i>Creating new institutions</i>
Ability to attract talent	Difficult to renew staff and change the brand to attract top students	Opportunity to change the leadership and to attract new staff; existing staff may resist	Opportunity to select the best (staff and students); difficulties in recruiting top students to “unknown” institution; need to build up research and teaching traditions
Costs	Less expensive	Neutral	More expensive
Governance	Difficult to change mode of operation within same regulatory framework	More likely to work with legal status different from that of existing institutions	Opportunity to create appropriate regulatory and incentives framework
Institutional culture	Difficult to transform from within	May be difficult to create a new identity out of distinct institutional cultures	Opportunity to create culture of excellence
Change management	Major consultation and communication campaign with all stakeholders	“Normative” approach to educate all stakeholders about expected norms and institutional culture	“Environmentally adaptive” approach to communicate and socially market the new institution

*Source:* Created by Jamil Salmi.

- Governments could create new world-class universities from scratch (clean-slate approach).

Table 2 summarizes the pros and cons of each approach. It should be noted that these generic approaches are not mutually incompatible and that countries may pursue a combination of strategies based on these models.

### ***Strategies at the Institutional Level***

The establishment of a world-class university requires, above all, strong leadership, a bold vision of the institution’s mission and goals, and a clearly articulated strategic plan to translate the vision into concrete targets and programs. Universities that aspire to better results engage in an objective

assessment of their strengths and areas for improvement, set new stretch goals, and design and implement a renewal plan that can lead to improved performance. By contrast, many institutions are complacent in their outlook, lack an ambitious vision of a better future, and continue to operate as they have in the past, ending up with a growing performance gap compared with that of their national or international competitors.

### ***Summary Checklist***

The following key questions need to be answered—by governments and institutions—to guide the quest toward establishing world-class universities:

- Why does the country need a world-class university? What is the economic rationale and the expected added value compared with the contribution of existing institutions?
- What is the vision for this university? What niche will it occupy?
- How many world-class universities are desirable and affordable as a public sector investment?
- What strategy would work best in the country context: upgrading existing institutions, merging existing institutions, or creating new institutions?
- What should be the selection process among existing institutions if the first or second approach is chosen?
- What will be the relationship and articulation between the new institution(s) and existing tertiary education institutions?
- How will the transformation be financed? What share should fall under the public budget? What share should be borne by the private sector? What incentives should be offered (for example, land grants and tax exemptions)?
- What are the governance arrangements that must be put in place to facilitate this transformation and support suitable management practices? What level of autonomy and forms of accountability will be appropriate?
- What will the government's role be in this process?
- How can the institution build the best leadership team?
- What are the vision and mission statements, and what are the specific goals that the university is seeking to achieve?
- In what niche(s) will it pursue excellence in teaching and research?
- What is the target student population?
- What are the internationalization goals that the university needs to achieve (with regard to faculty, students, programs, and so forth)?

- What is the likely cost of the proposed qualitative leap, and how is it going to be funded?
- How will success be measured? What monitoring systems, outcome indicators, and accountability mechanisms will be used?

## **Implications for the World Bank**

In the tertiary education sector, the World Bank's work with governments in developing and transition countries has focused essentially on systemwide issues and reforms. World Bank assistance has combined policy advice, analytical work, capacity-building activities, and financial support through loans and credits to facilitate and accompany the design and implementation of major tertiary education reforms.

In recent years, however, a growing number of countries have asked the World Bank for help identifying the main obstacles preventing their universities from becoming world-class universities and mapping out ways to transform them toward this goal. To accommodate these requests, the World Bank has found that it needs to consider how to align support for individual institutions with its traditional emphasis on systemwide innovations and reforms. Experience to date suggests that this goal can be achieved through three types of complementary interventions that would be combined in a variety of configurations under different country circumstances:

- Technical assistance and guidance to assist countries in (a) identifying possible options and affordability; (b) deciding the number of elite universities that they need and can fund in a sustainable way, based on analysis guided by existing and projected financial constraints; (c) defining in each case the specific mission and niche of the institution; and (d) working out the articulation with the rest of the tertiary education system to avoid resource allocation distortions.
- Facilitation and brokering to help new elite institutions get exposure to relevant international experience through workshops and study tours. This can involve linking up with foreign partner institutions that can provide capacity-building support during the start-up years of the new institution or the transformation period of an existing institution aspiring to become world-class. The World Bank can also facilitate policy dialogue by bringing different stakeholders and partners together to agree on the vision and to garner support for the new institution(s).

- Financial support to fund preinvestment studies for the design of the project and investment costs for the actual establishment of the planned institution.

In countries that have established a positive regulatory and incentive framework to promote the development of private tertiary education, International Finance Corporation (IFC) loans and guarantees can also be used to complement or replace World Bank Group financial support if the target university or universities are set up or transformed as public–private partnerships.

It is, of course, important to tailor these options to specific country situations. Upper-middle-income countries are unlikely to be seeking financial aid as such, but are definitely looking for advice reflecting the World Bank’s comparative advantage as both a knowledge broker and an observer of international experience. This advice could be provided on a fee-for-service basis.

## Conclusion

The highest-ranked universities are the ones that make significant contributions to the advancement of knowledge through research, teach with the most innovative curricula and pedagogical methods under the most conducive circumstances, make research an integral component of undergraduate teaching, and produce graduates who stand out because of their success in intensely competitive arenas during their education and (more important) after graduation.

There is no universal recipe or magic formula for “making” a world-class university. National contexts and institutional models vary widely. Therefore, each country must choose, from among the various possible pathways, a strategy that plays to its strengths and resources. International experience provides a few lessons regarding the key features of such universities—high concentrations of talent, abundance of resources, and flexible governance arrangements—and successful approaches to move in that direction, from upgrading or merging existing institutions to creating new institutions altogether.

Furthermore, the transformation of the university system cannot take place in isolation. A long-term vision for creating world-class universities—and its implementation—should be closely articulated with (a) the country’s overall economic and social development strategy, (b) ongoing changes and planned reforms at the lower levels of the education system, and

(c) plans for the development of other types of tertiary education institutions to build an integrated system of teaching, research, and technology-oriented institutions.

Although world-class institutions are commonly equated with top research universities, there are also world-class tertiary education institutions that are neither research focused nor operate as universities in the strictest interpretation of the term. As countries embark on the task of establishing world-class institutions, they must also consider the need to create, besides research universities, excellent alternative institutions to meet the wide range of education and training needs that the tertiary education system is expected to satisfy. The growing debate on measuring learning outcomes at the tertiary education level is testimony to the recognition that excellence is not only about achieving outstanding results with outstanding students but ought, perhaps, to be also measured in terms of how much added value is given by institutions in addressing the specific learning needs of an increasingly diverse student population.

Finally, the building pressures and momentum behind the push for world-class universities must be examined within the proper context to avoid overdramatization of the value and importance of world-class institutions and distortions in resource allocation patterns within national tertiary education systems. Even in a global knowledge economy, where every nation, both industrial and developing, is seeking to increase its share of the economic pie, the hype surrounding world-class institutions far exceeds the need and capacity for many systems to benefit from such advanced education and research opportunities, at least in the short term.

As with other service industries, not every nation needs comprehensive world-class universities, at least not while more fundamental tertiary education needs are not being met. World-class research institutions require huge financial commitments, a concentration of exceptional human capital, and governance policies that allow for top-notch teaching and research. Many nations would likely benefit from an initial focus on developing the best national universities possible, modeled perhaps on those developed as the land-grant institutions in the United States during the 19th century or the polytechnic universities of Germany and Canada. Such institutions would emphasize the diverse learning and training needs of the domestic student population and economy. Focusing efforts on the local community and economy, such institutions could lead to more effective and sustainable

development than broader world-class aspirations. Regardless, institutions will inevitably, from here on out, be increasingly subject to comparisons and rankings, and those deemed to be the best in these rankings of research universities will continue to be considered the very best in the world.