Within the higher education system, world-class universities are regarded as research or elite universities and play a critical role in developing human resource and generating new knowledge in the context of a knowledge-based economy. Governments around the world have made it a policy priority to ensure that their top universities are actually operating at the cutting edge of intellectual and scientific development. Top universities make every effort to develop and compete at this global stage.

"Paths to a World-Class University" provides insights into recent and ongoing experiences of building world-class universities, both at a national level and at an institutional level. It collects fifteen essays, most of which originated from papers presented at "The Third International Conference on World-Class Universities", held in November 2009 in Shanghai, China, and organized by the Center for World-Class Universities of Shanghai Jiao Tong University. Divided into two logical parts, the book:
- focuses on the role of world-class universities in national systems; and
- looks at institutional experiences and lessons in building world-class universities.

This book not only represents a contribution to the ongoing discussion on the topic of building world-class universities, but can be seen as a continuation of the previous two volumes on this topic—"World-Class Universities and Ranking: Aiming beyond Status" and "The World-Class University as Part of a New Higher Education Paradigm: From Institutional Qualities to Systemic Excellence". All three books will be useful reading for students and academics in higher education generally, in addition to policy makers and informed practitioners.
Paths to a World-Class University
GLOBAL PERSPECTIVES ON HIGHER EDUCATION

Volume 23

Higher education worldwide is in a period of transition, affected by globalization, the advent of mass access, changing relationships between the university and the state, and the new Technologies, among others. Global Perspectives on Higher Education provides cogent analysis and comparative perspectives on these and other central issues affecting postsecondary education worldwide.

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Paths to a World-Class University

Lessons from Practices and Experiences

Edited by

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The 1998/99 World Development Report: Knowledge for Development (World Bank, 1999) 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. Higher 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. Higher education helps countries build globally competitive economies by developing a skilled, productive, and flexible labour force and by creating, applying, and spreading new ideas and technologies.

Within the higher education system, world-class universities - regarded as research or elite 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.

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 higher education, but also, more importantly, for developing the capacity to compete in the global higher education marketplace, through the acquisition, adaptation, and creation of advanced knowledge. With students looking to attend the best possible tertiary institutions that they can afford, often regardless of national borders, and with governments keen on 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 signalling 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 *Times Higher Education* (THE) and Shanghai Jiao Tong University (SJTU). 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 labour 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 licences.

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 student life (Altbach, 2004; Khoon et al., 2005; Niland, 2000, 2007). Recent collaborative research on this theme between UK and Chinese universities (Alden

![Figure 1. Characteristics of a world-class university: Alignment of key factors.](source: Created by Jamil Salmi.)

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SALMI AND LIU
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 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) favourable 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 1).

**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.

In the past, the role of government in nurturing the growth of world-class universities was not a critical factor. In this regard, 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 favourable policy environment and direct public initiative and support, if only because of the high costs involved in setting up advanced research facilities and capacities.

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

Table 1 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.
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 programmes. 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.

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?

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

Source: Created by Jamil Salmi.
PATHS TO A WORLD-CLASS UNIVERSITY

– 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 higher 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, programmes, 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?

THE CHALLENGES OF ESTABLISHING WORLD-CLASS UNIVERSITIES

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 importantly) 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 higher 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 higher 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 higher
education system is expected to satisfy. The growing debate on measuring learning
outcomes at the higher 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 institu-
tions 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, so as to avoid
over-dramatization of the value and importance of world-class institutions and
distortions in resource allocation patterns within national higher education systems.
Even in a global knowledge economy, where every nation, both developed 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 higher 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 in all likelihood benefit
from an initial focus on developing the best national universities possible, modelled
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 eco-
nomy, 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 be considered
the very best in the world.

CONTRIBUTIONS TO THIS VOLUME

Reflecting the above points, the present volume provides insights into recent and
ongoing experiences of building world-class universities, both at a national level
and at an institutional level. It collects fifteen essays, most of which originated
from papers presented at the “3rd International Conference on World-Class Universities (WCU-3)”, held in November 2009 in Shanghai, China, and organized by the Centre for World-Class Universities at the Shanghai Jiao Tong University. The book is structured into two inter-related parts, that is, “the Role of World-Class Universities in National Systems” and “Institutional Practices of Building World-Class Universities”.

The Role of World-Class Universities in National Systems

This section discusses the role of world-class universities in national education and research systems and addresses issues and concerns that governments need to take into account in making education policies. It also focuses on the nature of the elite research university in different socio-economic contexts, its contribution to the national higher education and research system, and its development in the current context of globalization and economic crisis.

In Marginson’s chapter, the findings of ongoing research on global perspectives and strategies of Asia-Pacific research universities are presented. Marginson emphasizes that in spite of their varied strategic circumstances and resources according to national factors, the notion of world-class, such as global standing and institution effectiveness, has become the universal emphasis of research universities. As a result, strategies and actions of global, national as well as local dimensions need to be coordinated and integrated in universities’ transformation.

Both Gallagher’s and Yonezawa’s chapters consider the policy tensions between developing world-class research universities and the quality and equity issues of research and education. Gallagher argues that a combination, that is, autonomous institutions operating in a market environment, with mission-based funding compacts as a means of safeguarding public good interests, allowing the universities the flexibility to be competitive and responsive. Drawing attention to the different contexts of world-class university policies among East Asian countries, in particular Japan’s “Global 30” scheme, Yonezawa highlights the practical difficulty of internationalization of leading research universities without deteriorating research and education performance.

Next, in response to the point raised above, that is, transformation of higher education should be closely articulated with a range of social, economic and educational factors in relation to their country, Agachi, Moraru, Cucuruzan and Curaj argue that the possible route for Romania to develop universities of excellence is to build research intensive universities, whilst in the mean time turning a few universities into the world-class category. Ruiz-Rodgers shares the National University of Colombia’s experience of building an internationally recognized centre of research and teaching within a different context of acute social strife, economic downturns and civil violence.

Van der Wende’s contribution shows that the proposed European university ranking, a multi-dimensional university ranking, covering the various institution missions of education, research, innovation, internationalization, community outreach
and employability. If this approach were adopted, it would have implications for national and institutional development, in terms of cooperation and competition, in that it would encourage and stimulate diversity of the European higher education system, whilst enhancing its convergence, and ultimately strengthen its position in global competition.

**Institutional Practices of Building World-Class Universities**

This section presents different strategies adopted by institutions around the world, in both developed and developing countries, in building universities and research centres of excellence. These practices can be mainly categorized into five main aspects, namely, building world-class universities requiring clear visions, strategic planning and strong management; high-quality research and teaching; effective human resources management; global/international partnership; and building a culture of quality.

Reflecting on the current world financial crisis, Casteen emphasizes the role of “Effective University Management in Difficult Times”. In spite of the discrepancies among colleges and universities in the US, many institutions have experienced common challenges in recent decades. Universities, particularly public universities in the US, have been affected by massive reductions in state support with increasing demand for student enrolment at the same time. These pressures have forced the universities to seek greater operating autonomy from their respective state governments, to reform tuition policy while ensuring access, diversity and affordability issues, and have led to increased dependency on private support. Casteen also points out that the current economic downturn offers opportunities in the US to re-examine common practices in each area, re-think university governance, cut back on nonessential spending, and find less expensive ways of achieving goals, whilst sustaining excellence in teaching, research and service. The experience of Ecole Polytechnique Fédérale de Lausanne (EPFL) presented by Noukakis, Ricci and Vetterli reveals its own recipes to cope with academic challenges by asserting its mission, changing its structure and developing a new corporate culture. Specific strategies for other universities to draw on include designing clear positioning and action plans, improving quality of people at key managerial positions, encouraging competitive recruitment of senior and junior faculty, promoting interdisciplinary teaching and research, and diversifying funding resources. Zè Amvela’s contribution shares the University of Yaoundé’s experience of strategic planning and its concrete measures taken in the aspects of quality teaching and research, interdisciplinary research and international cooperation.

Building world-class universities requires high-quality research and teaching. Marlin draws the readers’ attention to the tension between the desire of the university management to improve research performance and that of individual researchers to pursue their own research agenda. From Flinders University’s experience, Marlin argues that identifying the sources of research support and engaging the university research community in the selection process are of great importance in conducting strategic research planning.
Making references to the National University of Singapore’s experience, Ramakrishna and Krishna offer six factors for developing and supporting leading research intensive universities, namely, strong commitment for global recruitment of faculty, effective educational and research network with world leading institutions, solid support on building research infrastructure, attracting best talent including students and faculty, development of multi-disciplinary research to address national and global issues and challenges, and positive and harmonious partnership with the private sector and policy makers.

Following Ramakrishna and Krishna’s point on educational and research network, Grant provides an account of the Global Partnership Network (GPN) established among five universities from different parts of the world in 2008. The GPN is a sustainable, research-led, tight multilateral network, emphasising professional education and curricular innovation. In spite of its initial success, Grant argues that the GPN needs to ensure its internationally limited membership, strong mobility for both students and faculty at all levels, international benchmarking for teaching and research excellence, multilateral research innovation and close co-operation among the members in its sustainable development. Maurer and Zheng review the University of Nebraska Medical Center’s (UNMC) effort and policies to “Become a World-Renowned Health Sciences Centre in the Era of the Global Market”, particularly in the aspect of promoting academic talent. Agreeing with Grant’s argument, Maurer and Zheng propose that close international collaboration with prominent partners will enable their institution to achieve the goal of being world-class, as the strengths of each partner could be utilized towards a common goal, in this case that of meeting the healthcare needs of a whole population for our current global economy.

In his contribution, Lanarés argues that going towards excellence means not only creating and operating a rigorous quality assurance system, but also developing a culture of quality. The experience of the University of Lausanne implies three steps are needed to reach a broad convergence of ways of thinking and acting about quality and associated values, that is, to identify core values and the creation of an adhesion to these values, to translate the values into both concepts and practices of the quality system, and to influence collective and individual practices. The development of a culture of quality is a long term process and requires critical evaluation.

This book not only represents a contribution to the ongoing discussion on the topic of building world-class universities, but can be seen as being a continuation of the previous two volumes on this topic - “World-Class Universities and Ranking: Aiming beyond Status” and “The World-Class University as Part of a New Higher Education Paradigm: From Institutional Qualities to Systemic Excellence” (Sadlak and Liu, 2007 and 2009).

NOTES

1 This introductory paper is based on the keynote speech of Jamil Salmi at the WCU-3 Conference. Part of the content is excerpted from Jamil Salmi’s book entitled ‘The Challenge of Establishing World-Class Universities’ published by the World Bank in 2009, reproduced here with the World Bank’s permission.
REFERENCES


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SECTION I:
THE ROLE OF WORLD-CLASS UNIVERSITIES IN NATIONAL SYSTEMS
1. GLOBAL PERSPECTIVES AND STRATEGIES OF ASIA-PACIFIC RESEARCH UNIVERSITIES

INTRODUCTION

Globalization is the tendency towards convergence and integration on the world scale (Held, et al., 1999). All research universities are now immersed in processes of globalization. This is directly apparent in the power of the global research system in local affairs. The drive to publish in journals with international standing is now universal to the science disciplines in research universities. Another global system is apparent in the impact of university comparisons and rankings on the local and national status of universities. A comparative survey by Ellen Hazelkorn (2008) for the OECD showed that comparative rankings and research output metrics have been quickly adopted in the visions, performance measurement systems and policy goals of both national governments and institutions. Furthermore, they enter the funding decisions of corporations and donors, and affect student choices. Globalization is also apparent in the growing mobility of students and faculty (Enders and De Weert, 2009). In this regard, between 2000 and 2007 the number of cross-border students increased by 59%, an annual rate of 7%, reaching a total three million a year (OECD, 2009, p. 312). Doctoral student mobility and the short-term movement of faculty are also growing although the trend in long-term academic migration is less clear (Marginson, 2009). Policy borrowing and the partial convergence in policy frameworks and organizational templates, albeit with national and local rhythms and variations (King, 2009), are other forms of globalization in higher education.

Individual universities, and individual national systems of higher education, do more than respond to globalization, as they are also primary drivers of global flows in knowledge, communications and people movement. Leading research universities are among the most internationalized and cosmopolitan of all human organizations and they constitute a world-wide network in which the Internet presence of each is visible to all the others. Rankings create the sense of a single common environment in education and research, such that all can be compared with each other. Meeting each other in conferences and on the web, in working together and through personnel exchange, research universities are continually reminded that they share essential attributes. Everywhere, university leaders instinctively understand - and tend to sympathize with - their counterparts across the world.

Universities and national systems of higher education are together creating a remarkable new dimension of activity, the global dimension of action, which is
positioned across and beyond the nation-state systems. In the last twenty years, especially the last ten, many cross-border initiatives and global strategies have emerged and Table 1 below provides a summary of these.

**Table 1. Developmental strategies that are creating the global dimension of higher education and knowledge**

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Description/examples</th>
<th>Global spatial meanings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strategies largely driven by national governments</strong></td>
<td>Capacity building in research</td>
<td>Investment in research universities and institutes designed to lift the volume and quantity of research activity, with a view to strengthening national R&amp;D-led innovation and/or the position of national universities in global rankings. There is now a global “arms race” in innovation spending in many countries. May be joined to policies of greater concentration of research in selected institutions, merger programmes, etc.</td>
</tr>
<tr>
<td>Recreation of nation/city as a “global hub” for education and research activities</td>
<td>Building of the global role of local education and research institutions; together with investment in precinct, infrastructure and changes to policy and regulation, designed to attract: foreign education and research providers, students and investment capital.</td>
<td>Designed to pull global flows of knowledge, people and capital towards a particular locality. May be joined to national capacity building in research, and educational exports.</td>
</tr>
<tr>
<td>Negotiation of a global system of free trade in educational services, through WTO-GATS</td>
<td>Nations deregulate their education systems sufficiently to permit entry of foreign providers on the same terms as local providers, including subsidies etc.</td>
<td>The recreation of worldwide higher education as a single space for business and trade. (This has had little support among either national governments or universities and has not happened).</td>
</tr>
</tbody>
</table>
### Largely university-driven strategies

| Partnerships between universities | Universities sign agreements with similar institutions in other countries; and carry out cooperative joint activities in: personnel and student exchange, curriculum, research, university organization, benchmarking, etc. e.g. All research universities | A longstanding strategy used much more in the last two decades. The effect is to create a lattice-like network around each university as the node. Some of these nodes are much thicker than others, indicating broader and more intensive global connectedness. |

### University consortia

| Formal networks consisting of a large number of university partners, typically 10-30. Sometimes more intensive micro-consortia are developed, with 3–5 partners. Activities are for university partnerships. e.g. Universitas 21, Association of Pacific Rim Universities | Consortia are also positioning devices with universities drawing status benefits from the strongest of their partners. The level of activity conducted through these large networks varies, but some universities drive a significant proportion of global work this way. Others maintain a broad set of connections and options. |

### Transnational campuses

| Universities establish branch campuses in another country, either in their own right (providing the premises themselves) or in alliance with a local partner that manages the site. Branch campuses are specifically permitted to operate by the local authorities. e.g. University of Nottingham (UK) in Malaysia and China, RMIT University (Australia) in Vietnam | Such foreign campuses can influence local educational developments over time, and also encourage more multiple or hybrid approaches and reciprocal flows of influence, with potential to leak back to the “mother” institution. |

### Global “e-Universities”

| Virtual delivery of programmes on the Internet, by either established universities or commercial providers specifically created for the purpose. Curriculum, student assessment, credentialing and administration are provided from one central location. Teaching intensity varies. e.g. Cardean University, U21 Global, the University of Phoenix online | Between the mid 1990s and the early 2000s there were significant investments in stand-alone e-U’s, but they were unsuccessful in recruiting enough students. E-learning provided alongside or joined to face-to-face programmes, e.g. at the University of Phoenix, has been more successful. |


### Table 1. (Continued)

<table>
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<tr>
<th>Strategies driven by both government and universities</th>
<th>Export of education on a fully commercial basis</th>
<th>Higher education in a national system deregulated as necessary to enable the provision of full fee places to international students, with provider institutions free to determine price and volume. <em>e.g. the UK, Australia</em></th>
<th>Now a large scale trading industry; and the one established form of global educational capitalism. It has accelerated cross-border student mobility and positioned universities and students as entrepreneurs/consumers, though both also engage in non commercial global activities, for example, in relation to research.</th>
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<td>Knowledge city developments</td>
<td>Investment by universities, city authorities and governments in precinct and infrastructure, designed to attract foreign education and research providers, students and investment capital. A more modest version of the “hub” strategy that is often centred on promoting a small number of universities. <em>e.g. numerous cities</em></td>
<td>Versions of this strategy are widely practiced among nations with advanced education and research systems. Some cities place much emphasis on this kind of mission in their development profiles. The balance between commercial international education and R&amp;D varies.</td>
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<tr>
<td>Regional developments in higher education and research</td>
<td>Agreed regional (pan-national) cooperation between national higher education systems, including: common research grant programmes; measures to align degree structures, curriculum contents and professional requirements; common systems for the recognition of institutions and qualifications, and quality assurance systems; comparison, ranking and evaluation of institutions on a regional basis. <em>e.g. the formation of the European Higher Education and European Research Areas, via the Bologna reforms</em></td>
<td>Regional system building and partial convergence in higher education and research in Europe is creating a meso-level of activity between the national and global dimensions, and in the longer run is aimed at positioning Europe so as to be able to act as a unit on the global stage. It also encourages enhanced investments in higher education and research in Europe. There are also embryonic regional developments in South America and Southeast Asia.</td>
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<tr>
<td>Strategies pursued by multi-actors (universities, governments, publishing companies, etc.)</td>
<td>Data-based global comparisons of universities, and of research and publication/citation</td>
<td>Comparisons of the number of leading researchers, publications and/or citations used to generate a vertical “league table” of university performance. <em>e.g. Shanghai Jiao Tong University rankings, Leiden CWTS, Taiwan HEEACT</em></td>
<td>Outside the USA, global comparisons have been decisive in imposing on all universities overarching measures of performance and status, relativizing national performance measures,</td>
</tr>
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Table 1. (Continued)

| Outputs on a university-wide or field specific basis. | Comparisons of universities based on a range of elements combined into a single index and league table, e.g. Times Higher Education Supplement | which are now constantly referenced in debates about higher education and in investment decisions by: students, researchers, business and industry, and governments. More than any other method global rankings create an imagining of the global dimension of higher education. |

The global dimension of higher education is being formed by three kinds of action. First, *acts of imagination*. As will be described below, leaders imagine the global dimension as a field of practical activity, and they imagine their institution’s global activity prior to the attempt to create it. Second, the global dimension involves *acts of production* - global outputs such as research knowledge, messages, open courseware and other web postings, and global teaching programmes, like commercial degrees and e-U’s. Third, the global dimension involves *acts of regulation*. Governments set many of the conditions of global activity, through the regulation of national systems, and via bilateral and multilateral negotiations.

Many universities in the Asia-Pacific region are involved in the formation of the global dimension of higher education (Marginson et al., forthcoming). However, some are more intensively involved than others owing to both their conditions and their choices. Moreover, the pattern of global inequalities means that the different national systems, individual institutions and individual university leaders are located differentially within the global dimension of action, whereby some have more global options. In this regard, some can work the global dimension as an extension of their local/national space, whereas for others it is a much more difficult terrain to navigate. Nevertheless, for all national research universities the global dimension is proving to be inevitable in its demands and transformational in its effects.

The chapter draws on a set of case studies of research universities in the Asia-Pacific region to review their global visions and strategies. Case studies were conducted in one leading national research university in each of 12 countries. The material drawn on in the paper is primarily taken from the interviews with the university head - the president, rector or vice-chancellor.

A Note on the Research

In this study, the Asia-Pacific region is broadly defined so as to include the Americas. The universities included are: Universitas Indonesia, the National University of Singapore, the University of Malaya in Malaysia, Chulalongkorn University in Thailand, the Vietnam National University in Hanoi, the University of Tokyo in Japan, the Australian National University, the University of Auckland in New Zealand,
the University of Toronto in Canada, the University of Illinois (Urbana-Champaign) in the USA, the Universidad Nacional Autonoma de Mexico, and two contrasting Netherlands universities, Leiden University, and the University of Twente, which allows for a comparison with Asia-Pacific institutions. Leiden is a leading research-intensive university, whereas Twente is a newer technological university of less storied status.¹

In each institution, between 12 and 20 interviews were conducted, however, this paper draws almost solely on the interviews with the respective university president/rector/vice-chancellor. The interviews focused on the university leaders’ imaginings of the global space, how they understand globalization; the tools they use to observe and interpret it; their perceptions of commonalities and differences between countries and universities; how globalization affects the imperatives confronting nation and university; the scope for initiative and response; the global/national/local interfaces, and whether and to what extent national policy helps or hinders the presidents; and their priorities for development of their own global operations.

The case study programme was conducted in institutions broadly similar within their nations: all are leading research universities, and nearly all are generally understood to be the number one or number two universities in the country. All are national and public sector institutions, and have been historically shaped by government. When compared with each other, from a global perspective, the individual universities are very different from each other in their levels of: resources, research performance and their rankings. Differing levels of funding and historically accumulated resources, and different languages of use, all affect the relative position. Because a common template of institutional type is used, these global variations are not so much due to differences in the missions or statuses of these universities within their respective national systems, but rather the global variations shown here are shaped by differences between the nations in terms of resources and also by local factors in each institution that can be identified by studying its history and organization. In this manner, the study helps to map the global dimension of action in higher education, by clarifying the place each national system has within the global setting and the same time eliciting local specific factors.

Local factors like history, organizational cultures, systems, policies and leadership closely affect institutions. For example the Universities of Tokyo and Indonesia, Vietnam National University and Chulalongkorn all train capital city elites, but only Tokyo was built by the nation into a global research powerhouse. UNAM plays the overwhelming role in Mexico; it conducts 30 per cent of all research and is closely affected by national politics. It is also less global in orientation than some other universities. Leiden in the Netherlands is very international in mission. Likewise the Australian National University has specialized in research and international networking since its foundation in 1946.

GLOBAL STRATEGIES OF UNIVERSITIES

In the emerging global dimension of higher education and research, some global strategies are led by governments, some by universities or their units, and others by
GLOBAL PERSPECTIVES AND STRATEGIES

publishing companies and other corporations. Often, a key initiating role is played by individual university executive leaders. Table 1 summarizes the strategies.

These global strategies have changed the possibilities, and the necessities, affecting all national systems and research universities. They are a mixture of old and new. There was always some international activity in higher education, but the global work has been greatly facilitated by synchronous electronic communication and one-world visualization enabled by the Internet. The global strategies employed today include: research concentrations; education hub strategies designed to pull global flows into the city or nation; cross-border collaborations, alliances and consortia; region-building in higher education, especially but not only in Europe; the commercial marketing of international education at home; the creation of transnational (offshore) campuses on a partner or stand-alone basis; and the creation of global “e-universities”, designed to reach students everywhere. Some universities pursue a number of these strategies simultaneously.

At the same time, two other kinds of initiative have contributed to shaping and defining the global dimension of higher education and research. One is the process of multilateral trade liberalization through WTO-GATS, though the momentum for that development now seems to have slowed. The other is global comparisons, rankings and moves towards a world classification of the higher education sector.

The global strategies of universities and systems have been partly recession proof, thus indicating the universal creative momentum of globalization. In this regard, during the global financial crisis, with its downward pressure on budgets in most countries, much cross-border activity kept growing, for example, commercial exports and research collaborations. However, the fact that the financial capacity of some universities and national systems has been reduced must have inhibited some cross-border activity - after all the recession has inhibited activity in higher education as a whole, and cross-border work has to be subsidized from local and national resources. Nevertheless, cross-border activity has not been the first item jettisoned, which might have been expected a generation ago. This suggests that global activity is not longer considered ephemeral or at the margins of more substantial national and local functions, and that global activity has now become central and essential to the “Idea of a University”.

WORLD-CLASS GLOBAL RESEARCH UNIVERSITIES (WCGRU)

At the institutional level the creation of global activity would appear to proceed through three phases, which are sometimes pushed together. First, the institution or nation concerned builds the capacity to operate globally, for example in research. Second, it focuses on improving global connectivity, not just electronically, but through partnerships, networks and the ongoing exchange of: personnel, staff and students. The third phase is global activity. University executives sometimes see building capacity and connectivity as ends in themselves, but capacity and connectivity are also conditions for global activity, in that once global capacity and global connectivity are established, the institution (or national system) has the freedom to act globally.
The global capacity of the individual university depends on its infrastructure: financial resources, physical resources such as communications and transport, facilities and specialist equipment, cultural/linguistic and intellectual resources, and organizational and regulatory mechanisms, including internal cultures and the rhetoric, systems and policies of the institutional and academic leaders. However, mission statements can be reinvented quicker than university resources, which are history-bound and practice dependant. Global capacity is also created and sustained in processes of institutionalization, the regularization of global relationships and interactions to embed them in the life of the institution (Held et al., 1999, p. 19). In this process, the university becomes not just self-referenced and nationally-referenced, but globally-referenced and this perspective is crucial, in that it needs to be able see its position in the global context if it is going to develop optimizing strategies. Moreover, global referencing is powerful in its effects on university thinking and in the present era of communicative globalization there has been the emergence of a new “Idea of a University”, that of the “World-class Global Research University” or WCGRU.

The term “world-class university” (SJTUGSE, 2009) has been criticized, for being normative, thereby lacking an objective definition and thus immediately leads to the posing of the question: “What is world-class?” It has been lampooned by some scholars, particularly those in the United States, where all research institutions are secure in their global status, but the term is entirely meaningful for those nations and those universities who aspire to it. “World-class university” is an aspirational notion, one which reflects the desire to be globally effective and to be seen as such by the entire world.

In this context the term “Global Research University” (GRU) (Ma, 2008; Marginson, 2008) provides an objective descriptor that gives content to the notion of a “world-class university”. A GRU must be globally networked, globally recognized and effective in local, national and global action. Moreover, it must house a global research capability and output in several fields, and maintain staff capable of interpreting and applying findings in most fields of knowledge. Furthermore, it needs to have a viable local doctoral programme in some fields. Nowadays, owing to widening of aspirations, the research university functions of knowledge creation, dissemination, storage and transmission, and also research training, are now spreading from a limited group of nations to the majority of nations. In addition, a GRU must also pay academic faculty enough to attract and hold those staff with the potential to be globally mobile; or alternatively, inspire an affective commitment to university or nation that is strong enough to compensate for salaries below globally competitive levels, so as to be able to maintain stability in policy, funding and organization and to make the local setting acceptably habitable for staff and students.

Research capacity is central to the WCGRU for four reasons. First, knowledge is the common currency, the medium of exchange in which research universities deal and collaborate and in fact is often even more important to them than money, for it is already a global public good of economic value (Stiglitz, 1999). Further, in its natural state it flows freely across borders and is used everywhere without losing its value. Arguably, globalization has enhanced the universal character and intrinsic
importance of knowledge. Second, the creation, interpretation and codification of knowledge, in the form of research, distinguishes such universities from other educational institutions, and almost all social organizations. Third, research capacity is closely associated with dominant notions of the “idea of a University”. Fourth, it is taken into nation-building strategies. This embedding of the university in research is grounded in the historical military and economic role of science and technology, which predates communicative globalization. Above all it was installed by the creation of the nuclear weapons that closed the Second World War. Thus research performance has long been the marker of university status, even in relation to first degree education where, strictly speaking, research is not in play.

In the interviews with Asia-Pacific presidents the aspiration to be a WCGRU was especially strongly felt in the universities most marginal to the global metropolis: Universitas Indonesia, Vietnam National University and the University of Malaya. It also concerned the University of Auckland, whose leaders nursed a sense of inadequacy in relation to the university’s global position, even though Auckland was in the top 300 on research performance.

Our ambition is to meet international standards. To be in the top 200 universities in the world. Of course, this is the long-term vision. Not in one day… Our mission is to become a research university that meets international standards. We focus all our efforts to achieve that. (Mai Trong Nhuan, President, the Vietnam National University Hanoi)

The dividing line between being a WCGRU as opposed to not is a crucial distinction of each national system, for it demarcates the global sector from the rest. It is also expressed within institutions, in the distinction between on the one hand, research and graduate research or doctoral education, which are global activities, and on the other, first degree teaching and medium level graduate professional programmes (Horta, 2009). Several of the presidents emphasized that building global research activity in their institutions was central to their aspirations for WCGRU status. Moreover, they also expressed the view that English language publications have become more important than before:

Q. What impact has globalization had on a public research university like the University of Malaya?

A. We are now putting a lot of effort, money and resources and manpower into the research field… promotion to professor and associate professor now depends largely on publication. (Hashim Yaacob, Vice-Chancellor, University of Malaya)

Research development was touched upon in one way or another by all presidents. In this regard, the leaders of the Universities of Toronto, Illinois, Tokyo, Leiden and the Australian National University, all located in the Shanghai Jiao Tong University top 100, all expressed the view that they were secure about their standing as research universities, but took for granted the need to continually improve research outcomes.
Sources of the Imagination

In the study, interviewees were asked how they gathered information about global trends and developments on a continuing basis. For the most part, they emphasized networking with other presidents, consortia and other international meetings, and data gathered by their own personnel working on international matters. Moreover, person-to-person contact was seen as more effective than videoconferencing and the Tokyo executive vice-president, a member of the OECD committee for Science, Technology and Policy emphasized the importance of the regular OECD meetings: “That is a very big source”. Only a small number were extensive readers, but all were regular and active users of email, and most used the Internet directly and frequently, for media and other sources.

Now it is the era of information. We get lots of information from personal networking, and university organizations overseas, which always conduct workshops about the development of universities in the era of globalization. We also get information from the Internet, and journals of higher education, which can give us perspective. Next week I go to England for a meeting of Indonesian rectors on university management. We have been invited by the British Council. (Usman Chatib Warsa, Rector, Universitas Indonesia)

The trick, of course, is to filter out what’s good and useful. You have to be careful not to be too driven by your own prejudices. To some extent you talk to people with whom you’re comfortable. So it’s a matter of trying to step away from that and think about different ways of doing things. (Stuart McCutcheon, Vice-Chancellor, University of Auckland)

It’s absolutely astonishing how much one now draws information from all over the world in making any decision about any aspect of the university … I’m old enough to remember when travel was quite exotic, when colleagues would come back with slides from some remote place. In the small town where I grew up, you would have the high school auditorium filled with travelogue presentations, where some individual would present a speech and show slides. This was remarkable and highly entertaining, and would keep an audience spellbound. And now of course airplane travel is not a romantic or glamorous luxury, it’s a nuisance, a necessary nuisance. Electronic communication occurs instantly, and you have information and embedded slideshows on every imaginable structure and institution. You can do a virtual tour of half the universities of the US. (David Naylor, President, University of Toronto)

The leaders saw it as being crucial to maintain an open outlook, imagining what was a potentially very heterogeneous set of strategic options, which created issues of monitoring and selection: “Our fundamental problem is that we try to do too much” (Stuart McCutcheon, Vice-Chancellor, University of Auckland). Several presidents emphasized strategic focus, but only the National University of Singapore (NUS), with its fully crafted global strategy, replete with active portfolios in each selected
part of the world, seemed fully on top of this problem. Another problem mentioned by some presidents was the lack of discretionary time in which to imagine, speculate and explore the different strategic options.

Understandings of Globalization

The most common definition of globalization used by the presidents referred to convergence and integration on a world-scale. In particular, the communicative aspect was emphasized:

Globalization, to me in general terms, is the increasing convergence and interdependence of economies. In higher education globalization is the increasing convergence and interdependence of higher education systems. (Frans van Vught, Rector, University of Twente, Netherlands)

The term “globalization” connotes an array of outcomes going far beyond the conventional view of closely linked world markets. In tandem, leaps of technology and the Internet have shrunk time and space as well as levelled the global playing field. We live in a shrinking, flattening world. (Shih Choon Fong, President, National University of Singapore)

The president of the Vietnam National University noted that globalization could not be measured. “It is not scientific, not exact”. It is a “feeling”.

Globalization makes the world more connected, more collaborative, more flat. That’s my feeling about globalization. Reducing geographical boundaries. No geographical boundaries. Making the distance less. And you cannot live and work alone. Before you could. Now you cannot. You cannot do everything your own way. (Mai Trong Nhuan, President, Vietnam National University Hanoi)
A sense of “one-worldism” came through in several interviews. In both Mexico and at the University of Tokyo, globalization was discussed in terms of global ecology. The President of Chulalongkorn University in Thailand stated that:

The world will become one. It’s not that countries disappear or that the barriers between them will go away, no. But the system of the world will be more of a unified system. People can reach each other. (Khunying Suchada, President, Chulalongkorn University)

“Chula” graduates could be expected to work in many countries and should be prepared for that, she said. Graduate labour mobility was a key aspect of globalization for several presidents. Most stated that globalization created a more competitive, a more open and a more opportunistic environment for graduates and for universities. Half of the presidents noted that global competition in higher education had a downside. Some referred to the 1990s definition of globalization as world economic markets. One president said that while he was strongly in favour of “internationalization”, which was central to the mission:

I don’t actually see globalization as a universal good. It has created more problems than it has given value in many instances. For us it means potentially hugely increased competition and a level of uncertainty that adds an unnecessarily difficult dimension to managing complex institutions…. I do see benefits from freeing markets from unnecessary constraints, but you can’t make them totally free. For a university like this, I’m confident that we could survive in a much freer more competitive environment. But if it’s totally deregulated no Australian university would survive. (Ian Chubb, Vice-Chancellor, Australian National University)

Similarly the Provost at the University of Illinois, Linda Katehi, advocated “internationalization” as learning from other countries and cultures, changing one’s own outlook, and acquiring a sense of living in “a much larger world”; whereas globalization was defined in imperial terms as “assimilating others to what we do rather than changing ourselves”. Other nations saw the global expression of their own national cultures in positive terms and they wanted to be more globally influential. The Rector at the University of Indonesia and the President of Chulalongkorn in Thailand, both felt that the positive potential of globalization lay in the possibility of bringing distinctive attributes associated with their nations to the larger world setting.

I think the Thai people are special in the way they behave... we are considerate of other people’s feelings. I think that is a unique Thai way. We smile a lot, we are courteous, and we work very hard. Those that work offshore, they are mostly smart and they work hard, and at the same time they have these interpersonal skills that can work with other people. I would love to think that my students also have morals and good governance in their heads and the integrity of being a good citizen of the world. (Khunying Suchada, President, Chulalongkorn University)
At the University of Toronto there was a typical Canadian enthusiasm for cultural openness, mixing and cosmopolitanism. Within the case study group this attitude was shared, in more muted fashion, by the representatives from the ANU, Illinois and Leiden. “I think there is optimism about globalization in Canada that is probably greater than in any other nation” (David Naylor, President, University of Toronto). However, global openness was often seen as threatening for non English speaking cultures (see below).

The Global Higher Education Sector

The global dimension was imagined, above all, as a sphere of comparison. Perhaps the most important single influence in shaping the global sector was university rankings, except in the USA and Mexico. A bad global ranking hurt the university in the halls of national government, although a good ranking did not necessarily strengthen the university’s position with government. At Chulalongkorn in Thailand a high ranking in the *Times* Higher table one year (121) might even have contributed to the university’s continued funding problems.

Yeah, that’s what they said. Even though we don’t give Chula lots of money they can still do well, they can survive. Don’t worry about them. (Khunying Suchada, President, Chulalongkorn University)

In Malaysia, a declining ranking in the same *Times* collection generated public disquiet and may have contributed to the decision of the government not to reappoint the vice-chancellor, which the vice-chancellor himself felt was the case. Some presidents focused on the biases inherent in the rankings process, but regardless, they fed a strategic approach to rankings into their internal priorities and their incentive and reporting systems. Notwithstanding the methodological and political problems with rankings, it was generally accepted that they could not be ignored.

A few presidents emphasized the need for a greater steering capacity in relation to academic units and behaviour, so as to promote global activity. This was a particular concern for President Takeshi Sasaki at the University of Tokyo. However, most respondents seemed to be generally comfortable about their capacity to influence the international activities of the university.

When considering the global dimension of higher education as a whole, all the leaders emphasized the standing and influence of the American sector. When asked to name the institutions that most impressed them as models, they listed such institutions as Harvard, Stanford, MIT, Caltech, Berkeley and/or the University of California system as a whole, and sometimes large public research universities, such as Wisconsin. Cambridge in the UK was also mentioned several times. The major European universities were rarely acknowledged by name, except by the Rector at Leiden. In the non-English speaking countries in Asia there was a strong desire, albeit expressed in general terms, to source models of universities from Europe (especially Germany) as well as the USA/UK.
It was generally agreed across the whole study that the Chinese research universities would succeed in their ambition to develop as world-leading institutions. There was also general agreement that the NUS was particularly impressive, not just in its international work, but in all other aspects and nearly every other university had an active partnership with this institution. One university in the group that appeared to be highly internationalized, in terms of the volume and intensity of its global networking, was Illinois in the USA. Illinois had just negotiated a major agreement with the NUS and its leaders sang the praises of the Singapore institution.

The National University of Singapore was unique in the extent to which it had devised a detailed global strategy and was implementing it, and in the degree of emphasis placed on the global factors in university development. This advanced global orientation was a function of Singapore’s own position as a nation:

Singapore is a tiny island with some big neighbours, e.g. Australia, China, India, Indonesia and Japan. With no retreat or hinterland, globalization is not an option but a necessity for Singapore. We have no choice but to think “global”, breathe “global” and to be “global”. We constantly have to ask ourselves: “How can we build mutual respect?” “How can we be useful and relevant to the world?” … Singapore was global before the term “globalization” became fashionable…. In a global economy characterized by intense competition for talent, ideas and capital, Singapore’s universities have also had to re-make themselves to stay relevant and thrive… the NUS has undergone a dramatic transformation, from a predominantly teaching institution training competent manpower for Singapore, to a research-intensive university respected in the global arena, and from a governance and management system closely aligned to the civil service to one based on performance and global best practice. (Shih Choon Fong, President, National University of Singapore)

The universities generally preferred to network actively with like-missioned institutions in other countries of roughly equivalent status to themselves, that is, with other universities of the type researched in the study - leading universities in the state/national/public sector. At the same time all the non-American universities were conscious on global inequalities, which had two vectors. One was linguistic and cultural, the other was understood in terms of political economy.

In relation to cultural aspects of globalization, the presidents from non English-speaking countries were concerned about the dominance of the Anglo-American world in higher education. Most stated that rankings criteria favoured the USA.

Q. What do you understand by the term globalization?

A. The unification of culture by the United States. It’s a very bad aspect of the present phenomenon of globalization. The idea of globalization should mean that all people can access the Internet equally. Japan is an advanced, developed country. We have a completely different culture from the Western world. I think this is quite special. (Hiroshi Komiyama, Executive Vice-President, University of Tokyo)
Globalization has brought Indonesia into a big arena where the countries become borderless… globalization comes into all countries. The problems are different from country to country. Other countries may be more prepared than Indonesia in facing globalization. If Indonesia is not prepared, the country will become the consumer of developed countries… Western culture can now easily come into Indonesia. (Usman Chatib Warsa, Rector, Universitas Indonesia)

The President of the Vietnam National University made a similar point about the openness of Vietnam to American media and the potential for regressive cultural transformation, especially in the rural areas and among the uneducated. However, he was less worried about the potential dangers for the university, with its longer history of cross-border flows.

The economic form of inequality was stressed by the interviewees from each of Malaysia, Thailand, Indonesia, Vietnam and Mexico. In this regard, in Indonesia and Vietnam the universities could not afford subscriptions to basic journals. In Malaysia, which saw itself as an emerging economy, the financial firepower of Singapore was a constant reminder that the university was not yet a WCGRU:

Globalization [ideally] would be a world without borders. But we must always be aware that in the globalized world the field has not developed this way. The players are not the same size. What will be good for the bigger power may not be good for the smaller power…. What we are looking forward to in the globalized world is that things become freer and things become shared, but they must be shared… if it is rules of the jungle, best man wins, we are all dead. (Hashim Yaacob, Vice-Chancellor, University of Malaya)

Globalization affects differently each country and each group of countries. It has a completely different impact in the strongest economies, such as the United States and many of the European countries, and the newly developed Asian economies, than it has in countries such as Mexico, and the effect it may have in the least developed countries. It has an impact that really increases inequities. That has made it very difficult the dialogue at global and internal institutions, because the effects are perceived by government and society in one country as different from the effects that are perceived in another. (Juan Ramon de la Fuente, Rector, Universidad Nacional Autonoma de Mexico)

Relational Geographies

Nearly all presidents discussed the strategic significance of proximate neighbour countries. With respect to this, for the Dutch universities European developments were crucial. Leiden itself had initiated the League of European universities, a consortium of most of the strongest research-intensive institutions on that continent. At both Toronto and Universidad Nacional Autonoma de Mexico (UNAM) in Mexico, higher education in the USA exerted the main outside influence on faculty work. In the former, where there was always a choice in regionalization strategy between looking north and looking south, the rector felt that Latin America had been neglected, as very few UNAM students went to Spanish speaking countries,
apart from Spain. He was hopeful that a small scale regional scholarship scheme might start to shift the field of vision. All of the Southeast Asian institutions net-
worked within the ASEAN group. At Tokyo and at the Vietnam National University,
the presidents noted regular meetings of East Asian presidents. At the ANU one of
the four founding research and graduate schools had been the Research School of
Pacific and Asian Studies.

Internationalization is important for us because we’re a small country stuck at
the bottom of the world with many more populous neighbours around us and
if we don’t have good relationships with our region life it is problematic. (Ian
Chubb, Vice-Chancellor, Australian National University)

Beyond proximity, globalization was associated with a broadening of international
ties to include most world regions. Thus for example the University of Auckland
in New Zealand had traditionally related primarily to the UK. In the 1980s it broad-
ened to North America; in the 1990s it belatedly discovered Asia. However, all
four English-speaking countries in the study acknowledged that their personnel
and students were not sufficiently effective in working in studying in non English-
speaking contexts because of language factors. The mono-lingualism of those
countries prevented a more reciprocal pattern of people flows and retarded univer-
sity collaboration. The spread of facility in Chinese national language, especially,
was seen as a priority for development. However, no large-scale schemes to achieve
this were underway.

ACTS OF PRODUCTION

All of the presidents discussed research collaboration, staff exchange, foreign
student enrolment, local student exchange abroad, partnerships and networking.
But the other universities’ productive global activities were dwarfed by those of
the NUS. This university had more than thirty joint degrees, with 19 partner univer-
sities around the world and 220 student exchange agreements in 38 countries,
with over 1600 student places per annum. Moreover, the goal had been set to send
20% of undergraduates abroad for one semester each. There were also summer
programmes or field trips in China, Indonesia, Belgium, USA and Australia. Further-
more, there were five joint research laboratories as well as numerous research
collaborations.

People Mobility Issues

Most interviewees mentioned a recent growth in cross-border people traffic, which
applied to both official visits, and ongoing faculty activity at discipline level.

Individual level exchange has become much more intense and extensive.
(Hiroshi Komiyama, Executive Vice-President, University of Tokyo)

A diverse student body was universally seen as positive and nearly all the presidents
could name the number of countries from which their students had come. At Leiden,
the rector, Douwe Breimer, talked of creating “a mini global environment” inside
the university, which would expose the student to “different views and different opinions”, thereby becoming “more of a global citizen”. A similar concept was mentioned by Richard Herman, chancellor of the Urbana-Champaign campus of the University of Illinois. Sending local students abroad for part of their studies was considered to be much more difficult, except in the cases of Leiden and Twente in Europe and the NUS in Singapore, with NUS aiming to ensure that at least one fifth of all first degree students spent a semester abroad as part of their studies. Moreover, NUS had established a worldwide network of study centres and partners with WCGRU status. Elsewhere, the barriers to outward mobility were cost and in the English speaking nations, lack of student motivation and foreign language capacity.

Issues related to the global mobility of talent - how to stop researchers from leaving after graduation, how to draw high quality people from abroad, and how to keep them happy once inside the university - preoccupied all the presidents:

In today’s knowledge-driven global economy, talent, ideas and intellectual capital have taken centre stage…. The NUS has to compete in the global arena against universities with access to broader and deeper talent and resource pools. We believe that the quality of faculty is the single most important determinant of the quality of education and research. (Shih Choon Fong, President, National University of Singapore)

There were many unresolved issues in relation to people movement that affected global capacity. These issues absorbed a significant portion of the interviews. Lack of sufficient money for scholarships for international doctoral students was an issue cited by most presidents. Lack of student accommodation was mentioned at Tokyo and Leiden in the Netherlands. At Illinois there was concern about a recent slowdown in the supply of international graduate students from China - in engineering and the technologies foreign graduate students had become an indispensable component of the University’s staffing. At a number of universities brain drain and unequal inward/outward flows were burning issues. In Mexico a large proportion of the best doctoral and post-doctoral personnel were lost to the USA every year. The rector at UNAM wanted the government to introduce a “brain gain” program that would bring in high quality academic labour to compensate for the outward movement. In New Zealand, Auckland was losing staff to better paid and more globally metropolitan locations. There was no apparent solution to brain drain at Vietnam National University and Universitas Indonesia given the rates of pay; though some world-class researchers and professors stayed in the country, or returned from working abroad, because of their commitment to the nation and its educational development.

A principal problem was the difficulty of attracting and/or employing foreign researchers. Inward mobility was often retarded by national regulation and in some countries this was joined to traditional academic protectionism. When pay rates were fixed centrally presidents had little discretion. In most countries it was difficult for foreigners to obtain permanent employment. The other issue was relative salaries. For example at Malaya faculty were locked into public service salary levels and it was impossible to offer foreigners a permanent position. The best they could obtain
was a three-year contract. The salary level meant that Malaysian employment was attractive to staff from poorer nations such as Indonesia, and to some extent to staff from India, but has limited pulling power in the Middle East and none in Europe or the English-speaking world. Meanwhile neighbouring Singapore was paying US-level salaries, four times the level of Malaysia, and recruiting vigorously from everywhere including the University of Malaya. In Thailand pay rates were again too low to be globally competitive. In the Netherlands, there was political ambivalence about immigration. Visa delays were a key issue. In Japan the language factor inhibited potential recruits. This was an open concern at the University of Tokyo which wanted to grow foreign professors. Universities in the settler societies of Canada, the USA, Australia and New Zealand were more readily accessed by foreigners than were universities in low immigration countries, but the pulling power of the USA overshadowed the others.

Borrowing

However, global openness had an upside for Vietnam, and to some extent Thailand and Malaysia. It was seen to facilitate improvements in higher education quality. The National University of Vietnam sourced approaches to teaching, research and governance from across the world, particularly the USA.

The College of Science has requested the University of Illinois to assist with the teaching of chemistry. We submit the curriculum and subject requirements [for consideration for the Illinois science faculty]. Physics uses the Brown University teaching program. Mathematics has gone to Wisconsin. The College of Economics draws on the Haas business school. We adapt the curricula of the best universities for implementation here. Of course we adapt it to suit our conditions. We also use their teaching technology, with modifications - that’s very important. Also our staff go to the American universities to be trained and learn new ideas… every university has unique conditions and values/it is not so easy to follow a whole university. But it is possible to learn from part of their activities. For example, in relation to the links between universities and industry, we have learned a lot from the Taiwan universities. For information technology I visit Carnegie Mellon. For social sciences and law, Harvard. For applied technology, MIT. So each university has very specific value. By adapting all of these examples we can make our own pathway. (Mai Trong Nhuan, President, Vietnam National University Hanoi)

Global linkages thus utilized could enhance the university, if it worked out as planned, provided local strategic and organizational coherence were maintained.

ACTS OF REGULATION

From the viewpoint of national authorities, the global dimension of higher education creates a dilemma. All national governments want “their” universities to be outstanding on the world scale. Most governments believe that strong research
universities are essential to economic growth, because research powers innovation, and strong universities attract talent, build gravitational power of cities, and synchronize the nation with the global knowledge economy. But these economic payoffs are long-term and indirect. Further, good graduates and new research may leak offshore without being captured by local business. Most research becomes open global knowledge. It is impossible to target investment in universities for optimal national returns. Governments may feel that they can better achieve direct objectives by investing in schools or industry training. There is an ongoing tension between the national and global roles of universities.

In the interviews, relations between nation-state and university varied from case to case. The extreme case of close fit between government policy and institutional strategy was Singapore. NUS had been engineered as an instrument of national policy, with a principal role in shifting Singapore to a focus on knowledge-intensive products and services, which included the attraction of high skill global labour to the island. The national strategy was focused on global agendas, so that both parties shared an unusually strong focus on the global dimension.

I don’t see a contradiction between the global mission and our national mission…. We call ourselves a global knowledge enterprise… We have to be global and national. I see that as the destiny. (Shih Choon Fong, President, National University of Singapore)

Elsewhere there was a weaker fit between government policy orientation and university global strategy orientation. A typical concern across all universities in the study, except the NUS, was that government was insufficiently focused on the global dimension of university activity, and its regulation of higher education was some way from the optimal form for global work. The view was commonly expressed that national governments expected universities to perform but provide insufficient support or interfere and cut across the institution’s judgement about global priorities and strategies; or nation-centred regulatory requirements created barriers to global work, particularly in relation to foreign recruitment.

All of the presidents indicated a close knowledge of issues related to government politics, policy, funding and regulation. The national dimension was a natural home for them, one more closely defined and understood than was the global dimension because of their longer experience with it. But the problem was to reconcile and synergize the national and local dimensions of actions with action in the global dimension. This illustrates the point that universities are active at the same time in three dimensions, the local, national and global dimensions. We are in a glonacal era in higher education, in which imagining and production are global, national and local - even though regulation remains primarily national and local in form.

In the glonacal setting activity in one of the global, national or local dimensions creates conditions of activity in the others. Universities that effectively coordinate action in the three dimensions, so that each tends to produce the other, will benefit.
Thus WCGRUs have to be strong enough in the global dimension to participate in its circuits or flows of activity. They must be embedded in a local setting that enables stable activity and adequate levels of support. And they must sustain investment from national government in a regulatory and policy setting that both enable global activity and maintain and develop reputation and custom at home.

There was variation across the study in the degree to which the university and its executive leaders were free to act globally on their own behalf.

If the university has freedom it can develop knowledge without limit. (Usman Chatib Warsa, Rector Universitas Indonesia)

The capacity of the president (or rector or vice-chancellor) to act separately from the government was enhanced if the leader was not appointed directly by them, but was chosen by the university’s governing body or community. This was true for the NUS in Singapore and the interviewees from Japan, the Netherlands the USA, Canada and Australia. In Thailand, government appointment was a formality after the main recommendation is made at university level, whereas in Malaysia government exercised direct control over the appointment and this affected leader behaviour. The term of office in Malaysia was three years and although there was provision for reappointment, vice-chancellors regarded by the government as being too independent were not appointed for a second term. In Vietnam President Mai Trong did not question the process of government appointment, but focused on the need for executive autonomy:

When I met the president of Vietnam I said: “I do not ask you for more money. Give me more autonomy”. More freedom. More responsibility. More transparency. More flexibility to meet the requirements of our society and globalization. More autonomy. We have full autonomy in teaching and research. But not in staffing and finance. (Mai Trong Nhuan, President, Vietnam National University Hanoi)
All of the universities had been touched to some degree or other by New Public Management (NPM) reforms instigated by government. In Indonesia, Malaysia and Japan the university had been newly modelled as entrepreneurial and encouraged to seek private funds. At the time of interview in Indonesia and Japan the process of change was incomplete and still seen as in doubt. At Chulalongkorn in Thailand a reform to enhance university autonomy had stalled. New Public Management systems were well established at NUS in Singapore and at Auckland and the ANU.

The global freedom of the university was greater if it could generate its own resources at scale and was not wholly dependent financially on government. In all universities in the group, there had been an increase in private income in recent years. But in most cases this trend had been accompanied by constraints or reductions in government spending, and continued controls over government funded activity. In Singapore government funding continued to increase but that case was unique in the group. Cuts to the state budget were hurting in Illinois though this was less of an issue in Toronto. ANU and Auckland were sharply constrained financially. On the whole, private income raising was more strongly established in Australia, New Zealand and the United States than elsewhere in the case study group; though ANU in Australia was not a major player in the commercial international market in which most Australian universities were very active. ANU received special research funding from government.

All of the case study universities were partly or wholly constrained in their capacity to vary tuition charges to domestic students, which set a limit on their capacity to be a quasi-private university as imagined in corporatization reforms.

Overall New Public Management reform had left all but Singapore worse off in financial terms, especially given the expansion of subsidized global activities. It is ironic that the National University of Singapore, the one institution with especially strong public financing, was also the institution where imaginings of higher education as a capitalist economic market were more pronounced than elsewhere.

Global Public Goods

One manifestation of the national/global tension was that the university presidents often had a different notion of the contribution of higher education to public goods, to that held by national government. Public goods produced in higher education are goods that (1) have a significant element of non-rivalry and/or non-excludability, and (2) are made broadly available across populations; and are inter-generational in that they meet needs in the present generation without jeopardising future generations. Goods without attributes (1) and (2) are private goods (Samuelson, 1954; Kaul et al., 1999; Marginson, 2007b). Some public goods take the form of “externalities” or “spill-overs”, whereby an individualized good received by one person creates benefits for others who did not purchase the good in question. For example, the training of a technician can enhance the productivity and wages of other workers; the training is partly non-excludable. Other public goods include collective benefits, for example the joint value created by enhanced communication or knowledge systems, where the outcomes are non-rivalrous.
Generally governments, influenced by the economic policy constructs of the role of higher education, tend to emphasize the competitive aspect of university work more than the cooperative aspect. This includes activity in the global dimension, where universities are mostly seen as an extension of the nation-state as a competition state. Where public good outcomes are noted by governments, the public goods are mostly understood in nation-bound terms, circumscribed by citizen identity and geography, for example, the role of higher education in providing equitable social opportunities, or contributing to employment creation in local areas. However, the presidents interviewed for this study were aware that universities contribute to more than the mix of public and private goods within the nation, and to more than the competitive position of the nation offshore. For active as they were in research and cross-border people flows, they thus had the potential to contribute to global public goods. Global public goods are goods that have a significant element of non-rivalry and/or non-excludability and are broadly available across populations on a global scale (Kaul et al., 1999, p. 2–3). Examples of such global public goods are disinterested research focused on worldwide problems in relation to the: environment, water and disease control.

Several universities in the study - Tokyo, Leiden, Toronto, Illinois and the ANU among others - were extensively involved in producing collective global public goods, with the central element being mostly knowledge, its production and dissemination. Illinois’s contribution to capacity building in the National University of Vietnam, which was granted as being very helpful in Hanoi but generated few pay-offs for the American university, was another example of a global public good. More generally, research universities contribute to global relations and understanding by building bridges between nations and enhancing intercultural mixing, and several presidents referred to this.

Most presidents evidenced a strong normative commitment to their work in creating global public goods. For example, there was across-the-board support for research focused on monitoring and managing climate change, regardless of the level of resources of the university concerned. The presidents were personally attracted to the larger purpose embodied in the global role, and some were conscious that it helped to position their universities as players in the evolution of global civil society, thus moving beyond the limitations not only of their own nation-state and its priorities, but of the nation-state in general. But the question that arose was “how can global public goods be funded?”, for national governments are generally reluctant to support extensive work on activities that primarily benefit people in other countries. This means that unless the research university can fund global public good activity from its own resources much of its potential contribution will be unrealized.

CONCLUSIONS

Worldwide higher education and research is a relational environment in which all research universities both contribute to the environment itself, and work within the positioning options possible in that environment. They can also develop new options. Global perspectives in higher education and research, which are shaped in the
imaginations of university and system leaders, are continually evolving and further radical changes in global connectivity, capacity and activity are to be expected.

Global strategies have differing space-making effects and they create relationships of varying shape. Some open a new global zone of activity that anyone can enter, like open source publication (such as MIT’s open courseware initiative). Others build more bounded spaces within the global dimension, but spaces that multiply, as in the commercial market in degrees. Some global activities involve the same institution moving across or between different country sites, as in transnational education. Some create world-spanning networks with no intrinsic centre; others are grounded, working outwards from a single national location, such as the hubs. Some work with a small slice or corner of the global dimension, such as student exchange with proximate neighbours. A few global moves have been set out to reconstitute the whole of global higher education as a single space, such as e-universities, the process of WTO-GATS negotiations, and global university rankings.

The global dimension of higher education is a collective work in progress and there is much freedom for action and innovation, especially where universities act by themselves without direct regulation by governments. If universities are to fulfil their potential in the creation of global public goods, such freedom is essential. However, across the world there is a notable inequality in each of the three elements of university capacity, freedom to act, and national capacity in higher education. Universities need a minimum threshold capacity in resources and ability to act in order to be significant global players. Those with advanced capacity, many in North America, have more strategic options than do others. A primary issue of global public good is the need to develop WCGRUs in developing countries.

This is a “glonacal” era (Marginson and Rhoades, 2002) in which universities are simultaneously active in the local, national and global dimensions. That is, action in one dimension can affect the potential for action in the others. For instance, doing well in global rankings may strengthen the position at home with government and local students or a local restructuring of the curriculum might make the university more attractive to global partners. National governments can build global capacity, or strangle it in red tape. Government funding enables local modernization and augments global research capacity. Universities that effectively coordinate action in all three dimensions tend to benefit. In this study those universities include NUS in Singapore, the University of Toronto in Canada, and Leiden in the Netherlands.

Some global strategies have been more successful, and will have longer lasting and deeper effects, than others. Much global activity is superficial. Of the global strategies in the table, national capacity building in research can only lift the relative global position of when it is on a large scale, as has happened in China, Taiwan China, Korea and Singapore. Networks only have lasting effects when collaboration is embedded in longer-term arrangements such as combined degree structures. Of the three attempts to remake the whole global dimension, the WTO-GATS initiative to turn higher education into a world trading system has had only modest impact. Most nations retain policy control of their regulated and protected national systems, for these are expected to generate not just market (private) goods, but national public goods such as contributions to national economic capacity and
social equity. The second attempt, the global e-universities, failed spectacularly. Most students find virtual degrees unattractive. But the third attempt to remake the global space, global ranking and research comparisons, has changed everything.

Some global strategies in higher education are brilliantly imaginative. When they first emerge they can be as creative as works in the arts and sciences; though their originality is soon hidden by all the imitators. Examples are Singapore’s hub strategy, transnational education by Australia and the UK, the Shanghai Jiao Tong University ranking system which first appeared in 2003, the CHE web-based design-your-own university comparisons, and the Webometrics ranking. Leaders and organizations need certain skills for this kind of creativity, such as having imagination to see the “big picture” and reconcile the different trends, contexts and changes. They need to adopt a long-term view amid the short-term policy world and to hold onto their strategy without being distracted too much by knee-jerk markets. They need to be outstanding macro communicators and interpersonal networkers. They need a grasp of science, culture and business. They need to be cosmopolitan, whilst maintaining a strong sense of their own identity, agenda and goals. They need to be politically astute, because it is likely that national/global tensions will worsen. Good presidents need to be both dreamers and realists.

NOTES
1 Further studies are planned in the Philippines, Laos, Cambodia, Korea and one or two universities in China. A study in India is under consideration.
2 Goods are non-rivalrous when they can be consumed by any number of people without being depleted, for example knowledge of a mathematical theorem. Goods are non-excludable when the benefits cannot be confined to individual buyers, such as social tolerance, or law and order. Few goods are both fully non-rivalrous and fully non-excludable, but many have one or the other quality in part.

REFERENCES
GLOBAL PERSPECTIVES AND STRATEGIES


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2. THE ROLE OF ELITE UNIVERSITIES IN NATIONAL HIGHER EDUCATION AND RESEARCH SYSTEMS, AND THE CHALLENGES OF PROSECUTING THE CASE FOR CONCENTRATING PUBLIC INVESTMENT IN THEIR DEVELOPMENT IN AUSTRALIA

INTRODUCTION

Around the world there is an interest on the part of governments in the capacity and performance of elite research universities within national higher education and innovation systems (Salmi, 2009). However, the level of interest and initiative varies, and for many countries, the motives are mixed and the measures vexed (Altbach and Balan, 2007).

Some countries (notably England and the United States) have well-established elite (talent rich, asset deep, prestigious) universities and research institutes, founded centuries ago in the origins of their higher education and research systems, currently performing at international heights. Other countries (e.g. China, Germany, Japan) are looking to promote some among their existing (including longstanding) institutions to become (again in some cases) world leaders. A few are appraising the international standing of their leading national universities, with some (e.g. Malaysia, India, Vietnam) building at the pinnacle of their national systems new institutions designed to become internationally reputable. Elsewhere and mainly in second world economies (e.g. Australia, Canada, New Zealand, South Africa), a number of institutions are seeking to break out from national (or provincial) policy and financing frameworks that have levelled-down the performance peaks by distributing the available resources widely, in an effort to raise (or not let diminish in a period of participation growth) overall systemic quality, or for egalitarian objectives or, as in the case of South Africa, for historical redress of systemic discrimination. Another set of countries that have previously not participated at the forefront of knowledge advancement (e.g. in Latin America, and Africa) seek now to do so, alongside some former centres of intellectual and cultural distinction (and some newcomers) in the Middle East and former Eastern Bloc countries.

The divergent approaches being adopted between and within countries may reflect the interaction of several factors, including the economic strength and development position of nations, the balance of responsibilities between national and provincial jurisdictions, the general quality of their higher education systems.
and the international standing of their leading universities, and the political trade-offs that are necessary within specific national contexts, particularly around issues of equity. Hence, in some countries the state may be seen to reinforce institutional positioning strategies, and in a few cases may push for strengthening, whereas in other countries the state plays a retarding role, dampening institutional differentiation and holding back the aspirations of the national elite, or adopting the stance that the elite will prosper irrespective of the national policy settings.

A major purpose of the concentrating countries is to step up their international economic competitiveness through increased national innovativeness - not only to adopt and adapt the product of innovations developed elsewhere, but also to generate the breakthroughs that provide the foundations of competitive advantage. At the core of the interest in the relative strength of nationally elite universities, is an understanding that the bar has been raised for participation internationally in the advancement of knowledge at a level sufficient to sustain “national” economic competitiveness, or at least boost the performance of enterprises or sectors within nations. That understanding is based on some real lifters of a higher bar including the increasing complexity of research problems being addressed across disciplines on large scales with the aid of sophisticated and powerful technologies, the associated rising threshold of input costs, and the intensifying competition for intellectual talent, particularly in the aggregations often needed for big scientific breakthroughs.

Often the issues associated with raising the performance peaks of the leading universities in a nation are being played out amid unsettled higher education policy and financing frameworks, including disputation over the sharing of costs and degrees of tuition pricing flexibility, alongside the accommodation of changes in the volume of student participation, whether to undertake expansion in some regions or contraction in others. And these contests are taking place in a broader context of rising claims for public expenditures in health, environment, security and other areas, recently complicated in several countries by the imperative to rein in aggregate government spending over the future medium term, as a means of moving back to fiscal balance following the economic stimulus measures introduced during the 2008–09 global financial crisis.

The issues can be hotly contested. In circumstances of expanding tertiary education participation, for instance, central funders have to make broad trade-offs between scale and quality. In this context, skewed distributions for research-related functions can be seen to divert available resources, without guaranteed or proportional returns, and reduce the scope for achieving reasonable education-related compromises. With regard to the allocation of public funds for university research, the trade-offs are more narrowly contested, and the apparent tendency is for competition in a more market-like, yet prestige-driven environment, so as to emulate research universities (Van Vught, 2008). On the one hand, given the inability of any nation to afford an entire system of “world-class research universities”, emulation results in second rate imitation, where efforts are focused more on improving reputation than performance, and this diverts institutions from developing the programmatic diversity needed to accommodate varying student needs and circumstances (Meek, 2000).
On the other hand, the very suggestion of greater selectivity and concentration in the funding of university research meets with strong opposition from those institutions which do not see themselves as benefitting. Although this is chiefly a battle among contending higher education institutions, such opposition can be potent as, in real politics, the relative “losers” (in reputational relegation, even if they are not financially disadvantaged) are by definition more numerous than the probable “winners” and are likely to be located in politically sensitive electorates. Regardless of the complaints of governments about the perils of provider capture in prestige-driven higher education markets, their own actions can be captured by political demands to protect weak providers.

Consequently, notwithstanding demand pulls, including expectations of local communities for universities to serve their needs, governments can be reluctant to promote or support the strengthening of universities already seen to be relatively strong in the national arena, even if by various comparisons they are not strong enough on the international stage. For their part, the universities that understand how much they need to increase their capacity and raise their performance in order to stay with the international pace-setters, also know they cannot stand by idly wishing for a government to gather courage, because elsewhere others are not waiting for them to catch up.

This paper considers the policy tensions for governments and explores options for research universities. First, the paper scans the changing context for higher education and university research. Second, it reviews the traditional roles of elite universities and outlines the main characteristics of contemporary elite universities and expectations about their contributions. Third, there is consideration of the arguments for and against the main policy drivers of elite outcomes: system diversification, institutional differentiation and investment concentration. Finally, the options for government policy relating to system structure and steering mechanisms, and for university positioning are outlined.

THE CHANGING CONTEXT FOR HIGHER EDUCATION AND UNIVERSITY RESEARCH

Figure 1 depicts the range of relations that universities might have within national contexts (Clark, 1983). This is to regard higher education institutions as embedded in common frameworks of societal expectations, regulatory frameworks, and cooperative or competitive linkages (Guri-Rosenblit, Sebkova and Teichler, 2007). Notionally, the locus of power can reside in any of the four corner forces. The academy is here understood loosely as the forums through which scholarly leadership is exercised. The interaction of the academy with the locus of power may shift according to political changes, including through the alliance of different forces, such as state-civil society alliances of the traditional European bent or state-market alliances of the neo-liberal school.

A key point is that the university cannot be self-referenced, not merely because it is not self-sufficient, in that it cannot sustain itself entirely without external support, but also because its core functions require it to be socially interactive in
its efforts to make sense of the world. Palfreyman and Tapper (2009) argue, for instance, in relation to Oxbridge that it’s its “continuing ability to make itself indispensable to the dominant interests in state and society that accounts for its elevated status in the higher education hierarchy.” This reciprocity can be seen from the origins of early western universities in church support. The university has been a resilient institution, accommodating the shift from scholasticism to scientific method in the seventeenth and eighteenth centuries, embracing secular liberal education in the early nineteenth century, and accepting a responsibility to contribute to nation building in the aftermath of the Second World War. In contemporary terms, the relationships tend to be defined more pluralistically and include state-mediated expectations of university relevance to varying labour market and enterprise innovation needs, as a condition of continuing public support.

Various elements of civil society, including businesses and non-governmental organizations, are developing new and direct relations with universities, through joint identification and exploration of problems, community foundation funding of research, direct collaboration in research projects, and joint participation in matters relating to controversial areas of research, such as genetically modified organisms, stem cell research, climate change and research into aspects of terrorism.

Over recent decades, relations between universities and civil society have been mediated increasingly through markets for services, enabled by the state through regulatory and financial mechanisms. A preoccupation with economic contributions

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Figure 1. University relations in the national context.
has reinforced transactional relations and controls and tended to diminish the role of universities as social and cultural institutions that discover, transmit and preserve knowledge of value beyond the limits of immediate utility or preference. At the same time, universities have developed enlarged roles through the accumulation of multiple functions from state directives, market opportunities and social expectations.

Instrumentalist purposes of the state and consumerist interests of students appear to have both widened and narrowed the social expectations of universities. In this regard, contemporary universities are expected to enrol and graduate a larger and more diverse student mix in an expanding range of fields of study, so as to meet an increasing variety of occupational requirements, undertake research directed towards “national priorities” and demonstrable “end-user benefits”, with more exacting public accountability for the cost-effective use of resources, and satisfy larger expectations of tangible returns from investment in higher education - individual, regional and national returns.

Trends in public policy, including applications of “new public management” in a context of fiscal parsimony, prioritize competition as a driver of increased responsiveness of university supply to changing demand (student demand, labour market demand, and enterprise demand for applicable knowledge and know-how). Universities, however resilient they may be as institutional forms, necessarily shape themselves to survive in the conditions of their operating environment. But the political-economic environment for universities has not been evolutionary. Rather it has been subject to sudden shifts in sources of finance, alongside ambiguous policy intentions and inconsistent incentives. Indeed, the policy tendencies of governments present a set of challenges in themselves and several common contemporary tendencies can be identified, each of them cumulatively adding layers of homogenising pressure.

The first tendency is for governments to fund teaching and research at less than actual costs. As a consequence, there are risks to quality as evidenced by increasing student teacher ratios and class sizes, and pressures on institutions to diversify their sources of income. The greatest penalties are imposed on those institutions that win most of the competitive research funding. The result is that projects are pared back and infrastructure investments are deferred, including essential capital works to bring facilities up to standards required by health and safety regulators of scientific research. Moreover, internal cross subsidization of research from funds for teaching and infrastructure erodes the institution’s fabric and reduces its attractiveness in the competition for talent.

The second policy tendency is associated with a shift from elite to mass to “post-mass” or “near-universal” tertiary education participation. Public concerns about the maintenance of academic standards are raised in the communications media by parents and others, and governments are obliged to respond. Governments tend to regard the tertiary education sphere much as they regard the secondary schooling sphere: accountability for results; efficiency and productivity; quality assurance of minimum standards; an inclination to homogenization with little concern for different provider purposes. Areas traditionally regarded as matters of university autonomy are seen to be open for governments to intervene.
The third tendency, which flows from the sound policy principle of transparency and openness in decision making about the allocation of resources, is that policies and procedures are and are seen to be even-handed and non-discriminatory. A one-size-fits-all approach can be seen in the use of normative financing, such as through formulaic schemes, where all institutions receive the same unit of resource for similar activities, such as for teaching in a particular field of study. Qualitative differences are not taken into account normally, partly because they are not readily measurable or their assessment is contestable, or there is a reluctance to expose poor performance. Hence, the policy approach creates incentives for sameness (Van Vught, 2008), whereas differentiation requires discrimination, which in turn requires good information and the exercise of judgement.

The boundaries of Figure 1 can be extended to international relations, such as academic research collaboration, competition for international students, inter-governmental agreements, and university contributions to solving global problems. For centuries, international scholarly interactions have been a function of universities. However, the nature of such interactions has changed over the last couple of decades, owing to major developments in transport, communications and technology, but also driven by new purposes, including the desire of national governments to form ties internationally through trade, investment and knowledge flows, and the desire of university leaders to build scholarly relations for institutional strategic positioning. In the latter case, where universities seek to fulfil their missions in the international (and in some respects global) context, they move outside the boundaries of their national policies and regulations, and may not feel bound by them.

Ambiguity is the dominant contemporary context for universities in most countries. The ambiguities derive in part from a “turbulent, volatile and contradictory” operating environment (Scott, 2005). Uncertainties range across several dimensions, including levels and forms of demand for higher education; kinds and types of supply of higher education; influences of innovations in technology and communications on teaching and learning and research; amounts and conditions of public funding; incentives and disincentives for private funding and supply of higher education; national regulatory regimens and their interactions with international developments; expectations of university contributions and impacts socially, economically and environmentally; and the relationships between higher education and university research.

Figure 2 retains the sets of national relations discussed above but situates them in the international context, identifying the major drivers that have implications beyond national boundaries. It is necessary to see national developments within this wider international context, not least because a nation may be making considerable progress against the circumstances of its past, yet falling further behind other countries, whose efforts are much greater. At the same time, the new international dynamics pose new challenges and opportunities. Nevertheless, the context is ambiguous in several respects, in that there are conflicting signals and significant information (and communication) gaps; contradictions in the apparent developments; and there are disagreements about their manifestations, directions and causes. Hence the following tendencies are tendered (tendentiously) for consideration.
There is a Coincidence of Greater Community Needs, Greater Technical Capacities, and Greater Social Expectations (but not Necessarily Greater Resources)

Complex contemporary challenges require larger scale modelling and cross-disciplinary approaches to solving global problems, such as those relating to the world environment, the settlement and movement of people, pandemics, and terrorism. As the Association of Universities and Colleges of Canada has put it: “technological advances, which facilitate the development and exchange of knowledge and the generation and processing of research data, have created greater expectations that an increasingly wide range of problems can be researched and addressed in a more holistic fashion and at an accelerated pace” (Association of Universities and Colleges of Canada, 2008). As society becomes more knowledgeable, higher education comes under pressure to expand the kinds and types of knowledge it provides and to diversify the criteria by which it is judged (Bleiklie and Bvrkjeflot, 2002). The expectations are reciprocal, in that universities need to be resourced adequately...
to develop the capabilities they need to play the roles expected. However, there are limits to the economic capacity of nations to meet the expectations of all universities, and priorities need to be established. No single university can meet all the expectations equally well, and it becomes necessary to promote institutional specialization in a flexible and complementary way within a national system.

**Demographic Changes will Increase the Global Competition for Talent, Food, Water and Energy, while Requiring New Efficiencies in Education and Research in Developed and Developing Economies**

The world’s population is projected to grow from some 6.8 billion in 2009 to around 8 billion by 2025 (National Intelligence Council, 2008), with Asia and Africa accounting for the bulk of the growth. Population ageing in most of the advanced economies will coincide with youth bulges in less developed nations, predominantly in sub-Saharan Africa, the Middle East, the Caucasus and northern parts of South Asia. Through investments in education, the latter may be able to develop skilled worker bulges (*ibid*). However, the intensifying international competition for talent may lead to net drain from the poorer nations, exacerbating inequalities in development capacity. Given the population-driven growth in demand for food, water, energy and income in the third world, at a time of global environmental stress, the consequences could be disastrous. There arises a reciprocal responsibility on the part of elite institutions in advanced economies that grow stronger at the expense of weaker contributors, to assist in capacity building in the developing world.

Within developed economies where population ageing makes increasing claims on public and private resources, and where continuing investment in education, training and research is needed for underpinning the innovation necessary to sustain economic growth, there are likely to be rising expectations of improvements in learning productivity and the cost-effectiveness of research. Such expectations may give rise to incentives for specialization and collaboration, including through competitive and structural measures and performance-based funding.

**Long-Term Research (both Basic and Applied) is Moving out of Enterprises and into Universities and Clusters of Universities with Enterprises.**

In several industries, increasing pressure on companies to obtain revenue streams quickly, has led to declines or closures of research laboratories with capabilities for long-term research, with examples including Bell Labs, Lucent, Hitachi, HP, Exxon, IBM Research, RCA, GE Research, GM and Ford Scientific, and Westinghouse Research*. The short-term horizon of research in most of the remaining company labs effectively puts an end to their basic research (Natelson, 2007). At the same time, pharmaceutical corporations are maintaining significant in-house R&D capacity, whilst linking with universities and medical research institutes, globally. Leading pharmaceutical and biotech companies have undergone major R&D restructuring over the last five years, involving a consolidation of efforts through numerous acquisitions, both intra-pharmaceutical as well as purchases of biotechs by big pharmaceutical. Pharmaceutical companies are narrowing the focus of their research and development
units through a more strategic concentration on key chronic illnesses. They are also adopting a focused, streamlined global approach, which is increasingly reliant on offshore strategic partnerships, academic collaboration and outsourcing to established networks of scientific expertise (Pharmaceuticals Asia Product News, 2009).

For universities to pick up the slack or participate in the new networks, it is necessary for them to invest in major facilities and equipment, and to fund interdisciplinary research teams over blocks of time that exceed the normal 3–5 year terms of conventional national research funding schemes. In effect, there is competition between nations in making themselves attractive to the footloose R&D investment of corporations. Nations need to weigh up, prioritize and concentrate their own expenditures to achieve competitive scale and quality, without putting all their eggs in one basket. Moreover, it is prudent to allow some opportunistic investment in yet-to-be-realized areas.

Higher Education Graduates Need to be Prepared as Generalists and Specialists for National Labour Markets and Global Citizenship

The earlier functional specialization of higher education systems, involving a diversity of institutional types, can be seen to reflect the needs of occupationally segmented labour markets, particularly when skilled workers were required for clearly specialized roles (Bleiklie, 2007). Demand for specialized graduates continues in traditional professional fields (e.g. medicine, engineering), in new graduate occupations (e.g. paramedical, marketing), and in niche areas of specialization within parts of the services sector (e.g. sports, hospitality) (De Weert, 2009). However, developments in management and administration across various industries require a broad set of generic competencies including team work skills, communication and language skills, project management skills, adaptability, problem solving, and creativity. Academic competence interacts with these other competencies, through disciplinary and cross-disciplinary knowledge and understandings, reasoning, analytical and reflective abilities.

Future higher education graduates need to be able to deal with complex challenges facing the world and have the requisite skills and understandings to exercise global options for gaining employment anywhere they choose. Ramsden (2008) sees the need to improve the preparation of future graduates, including through curriculum overhaul: “we require curricula that are transdisciplinary, that extend students to their limits, that develop skills of inquiry and research, and that are imbued with international perspectives” (Ramsden, 2008). Ramsden suggests that only such qualities will ensure graduates who are able to “embrace complexity, climate change, different forms of citizenship, and different ways of understanding individuality and cooperation”.

Horizontal Differences among Higher Education Institutions are Blurring, and Vertical Differences are becoming more Stratified

More generic occupational competencies, greater upskilling of the workforce involving people re-entering education at varying points from different backgrounds, and
cross-national mobility of students, are requiring more porous boundaries between institutional types and programmes in higher education. Increasing vertical divergences develop as the horizontal diversity reduces, giving rise to stratified systems, and “the realisation that success at the top of the system is determined in the international league of champions not the national league” (Teichler, 2006). However, concerns to provide equitable access require ladders enabling student mobility within a national system, through articulated programmes, credit transfer arrangements, and collaborative initiatives.

Higher Education Institutions are Becoming Overloaded with Multiple Missions

Universities are facing multiple expectations: producing knowledge and workforce for the needs of modern society, playing a central part in the innovation system, contributing to regional development, increasing social inclusion, and participating in the development of solutions to global problems. Governments tend to translate these expectations into roles and responsibilities, backed by specific-purpose funding or conditionality attaching to general grants. In the UK, for instance, the injection of “third stream funding” has given greater prominence to the development of university relations directly with civil society, through “engagement” as a reciprocal benefit, as distinct from “outreach” as a supply-driven “service” (Brink, 2009). Universities themselves take on wider activities, partly through societal pressure and partly in response to market opportunities. The accumulation of missions blurs strategic vision and can distract from core business and thus it becomes necessary to reassess and clarify mission goals and priorities.

Leading Performance Requires Group Capacity as Well as Individual Brilliance

In higher education and research, as in elite sports (whether golf, tennis, cycling or motor racing), individual excellence is necessary, but not sufficient, for success in the contemporary competitive environment. Aided by high technology and communications capacity, fields such as nanotechnology, biosciences, geosciences and environmental sciences, require major investments in interdisciplinary centres and related infrastructure. Concurrently with a need for highly creative individuals it is suggested that “big science of the “top-down” type (e.g. genomics and proteomics) is overshadowing individual research” (Arai, 2007). In the quest for innovation it is the ability to marshal resources, including intellectual capability, to achieve “significant advances” ahead of the competition that counts. In this regard, group productivity may be far more important than individual productivity: “scientific recognition is based on group output and the ability to capture significant attention based on quality and quantity of output, rather than output per researcher” (National Board of Employment, Education and Training, 1993).

Mass Higher Education Enables Customization

Enlargement of higher education participation increases the diversity of demand for services, in terms of curriculum content and orientation, study modes, places
Sophisticated supply technologies, including powerful, ubiquitous computing and networking, allows for a university’s teaching and research functions to be distributed in space, and possibly in time (Wulf, 2008). Markets for higher education services can provide a premium for niche services that reflect customer segmentation and the tailoring of programmes to meet the particular needs and circumstances of individual firms, public sector bodies, and groups of learners. The scale and diversity of demand, alongside the capacity of available technologies, allows for varying combinations of physical and virtual provision and, thereby, greater differentiation among providers in their value propositions. In mass higher education systems a significant differentiating feature is the quality of the student university experience that bonds graduates belonging locally, even when they are globally dispersed, especially the capacity of some institutions to provide learning intimacy.

In the Distributed Knowledge Society Universities are Permeable and Stable Organizations

The boundaries between universities and the external world are becoming more permeable, as knowledge is produced and disseminated by multiple players in diverse environments (Nowotny, Scott and Gibbons, 2001). One aspect of increasing porosity relates to education and training, and another relates to research and innovation. With regard to higher education, much depends on the breadth of view taken about purposes and expected outcomes. A broad view would include aptitudes, proficiencies, skills and understandings developed in workplaces and social as well as educational contexts. Issues arise regarding the extent to which education programmes build in or recognize relevant learning experiences outside the formal environment of the university. With regard to research and innovation, much depends on the breadth of view taken about purposes and expected impacts of research, there is increasing collaboration between universities and other public sector and community bodies and private firms, often involving a two-way flow of knowledge and know-how. Research problems may be defined in various contexts, and solved by participants working together in different places and from different perspectives. Some suggest that this porosity in mass higher education makes a structured national “system” and solid hierarchies out of place, requiring “soft diversity” - more fluid structures, more flexible and adaptable institutional missions - rather than “hard differentiation” (stratification), in which institutions at different levels have different missions. In this view, “increasing research selectivity relates back to neat structured hierarchies in which the position of the elite universities is strengthened” (Scott, 2005). However, while complex interrelations with civil society and markets might make classification of institutions difficult, in terms of simple, unambiguous functional or hierarchical principles (Bleiklie and Byrkjeflot, 2002), the extent to which sources of knowledge within innovation systems have become more diverse need not imply any decline in the role of universities as fundamental research centres (Mowery and Sampat, 2005). Not only are more distributed modes of knowledge production and dissemination shifting functions out from universities
to the wider society, universities also are absorbing (selectively or otherwise) the distributed capabilities and connections, thereby functioning on a wider scope. The university must remain relatively stable to continue producing the next generation of researchers and the reproduction of cultural norms (Henkel, 2002). The new challenge is in the global context where the world’s leading universities “operate in an environment in which traditional political, linguistic and access boundaries are increasingly porous” (Mohrman, Ma and Baker, 2008). In that environment top universities seek out partners that have distinguishing sets of complementary capabilities.

**Competitive Success Requires Strategic Collaboration**

Very few institutions have sufficient capacity to compete alone in the contemporary environment in any industry. The most successful organizations collaborate with others, including their competitors, at different points along the supply chain, where they do not have distinctive competitive advantages, and can share common costs or work together to expand the scale of the market (Brandenburger and Nalebuff, 1996). The alliances within the airlines industry illustrate the advantages that accrue to the companies and their customers, through cross-travel and shared services. Advances in communications and technology offer new possibilities for university specializations and course-sharing in cyberspace - global hubs & spokes - along with cross-national institutional alliances. Partner selection involves consideration of multiple factors, including complementary capacities, reputation for reliability, and prestige.

**Local Support Sustains Global Standing and Global Connections Advantage Local Communities**

Simultaneously, research universities must keep up with the global pace-setters in knowledge advancement, attend to the quality of the student experience, and engage with their local supporting communities. It is the strength of local support that ultimately sustains a university, and it is a responsibility of the university to flow through to the benefit of local communities its advantage of global access to the world’s knowledge networks. The means of transfer are numerous and include contributions to public policy consideration, evidence and argument; translation of research to application in practical settings; continuing development of practising professionals; and awareness raising through public communications.

**ELITE UNIVERSITIES PAST AND PRESENT**

In exploring the role of elite universities in the contemporary context, it is worthwhile to reflect on prior understandings of their roles and on the changing relations between them and the state, markets and civil society.

The predominant Western notion of a university derives from the nineteenth century writings of John Henry Newman in England and Wilhelm von Humboldt
in Germany. In his 1852 essay *The Idea of a University*, Newman saw the university as “a place... in which the intellect may safely range and speculate... where inquiry is pushed forward...discoveries verified and perfected, and...error exposed by the collision of mind with mind” (Newman, 1852). Humboldt envisaged learning as a mutual process between students and teachers within institutional environments, whose characteristic was that “they always treat learning in terms of incompletely-solved problems. They are engaged in a process of continuous inquiry” (Humboldt, 1810). Contemporary research universities have evolved more along the lines of the Humboldtian model of education embedded in research, following the American research university, pioneered by the University of Michigan and Johns Hopkins University in the late nineteenth century, through the incorporation of graduate education and research along with liberal education in a single institution. In Australia and elsewhere, the research function of universities did not develop until the mid twentieth century on the base of elite undergraduate education.

The second half of the twentieth century, at least for developed economies, radically redefined formerly understood roles of universities and their external relations. These redefinitions reflected the imperatives of the times, ranging from a broad nation-building agenda in the immediate post-Second World War period, through an extensive period of accommodation to demographically driven growth in demand for higher education, involving increased reliance on private financing, alongside more deliberate investment in human capital and R&D, as a perceived source of productivity growth and enhanced economic competitiveness.

When we look back at conceptions of university roles around fifty years ago, we get some sense of the extent of shift and the limits of the current discourse. In 1956, the Committee on Australian Universities, chaired by Sir Keith Murray, assessed the condition of a then elite university sector, whose primary role was seen to be the education of “the able young”, with a secondary but connected role for research. The committee observed in its 1957 report that “when the student enters the university he should be entering a community with an intellectual and social climate of its own...universities have not only to teach subjects; they have also to be equipped to give young human beings an opportunity to stretch their mental powers and to learn something of their fellow human beings” (Parliament of the Commonwealth of Australia, 1957). In contrast, a current review of the Australian Qualifications Framework starts from the narrow premise that the purpose of a Bachelor degree is “to prepare individuals for professional work who apply a body of knowledge in a range of contexts and/or as a pathway for further learning.” (Australian Qualifications Framework Council, 2009)

With regard to research in universities, the Murray committee understood the role of “patient capital”, in terms of practical benefits arising from discoveries from research that was not necessarily undertaken for practical purposes, and the stimulation for learning that it affords:

Advances in knowledge have come because free inquirers have been pursuing their own ideas and insights, devotedly and with great persistence, in pursuit of enlightenment for its own sake...Such men have double value. In the first place, they are necessary to keep the march of human knowledge on the move;
and in the second place they are the men from whom ambitious and energetic students wish to learn, and from whom they should be given the opportunity to learn. Without them human discovery of basic truth would grind to a standstill, and the teaching of the able young would become stale and unprofitable.

This view echoed the advice of Vanevaar Bush in his report, *Science the Endless Frontier*, to the President of the United States in 1945:

> Scientific progress on a broad front results from the free play of free intellects, working on subjects of their own choice, in the manner dictated by their curiosity for exploration of the unknown. Freedom of inquiry must be preserved under any plan for Government support of science. (Bush, 1945)

The Menzies government, which introduced federal funding for universities, accepting the advice of the Murray committee, effectively entered into a social compact with the then established group of universities. The rationale was one of mutual dependency and responsibility, expressed in the following terms:

> No independent nation in the modern age can maintain a civilized way of life unless it is well served by its universities; and no university nowadays can succeed in its double aim of high education and the pursuit of knowledge without the good-will and support of the government and the country. Governments are therefore bound to give to universities what assistance they need to perform their proper functions; but in their turn universities are bound to be vigilant to see that they give the services to the community that are required by the necessities of the age. (Parliament of the Commonwealth of Australia, 1957)

The Murray committee also recognized that universities require a high level of independence and flexibility to fulfil their role, including where necessary revealing errors and deceits, and being critical of taken-for-granted views and policy assumptions. At the same time, the committee was clear that the public recognition and support that enables universities to prosper thrusts on them a heavy responsibility to play their part in meeting the nation’s legitimate needs.

This appreciation of mutual dependency and responsibility remains valid today, but its rationale and expression are necessarily different from that of fifty years ago. On the one hand, mutual responsibility is even weightier in the contemporary era of complex global challenges. That is, contemporary universities need to draw upon their various strengths and connections in creative and vigorous ways, to help build the capacity of communities to tackle unprecedented challenges. On the other hand, there have been two major changes affecting the two core functions of universities. The first is that student participation in higher education has expanded beyond the elite “able young”, and the employment destinations of graduates have extended into a wide range of areas. Consequently, society needs to find ways of accommodating the diverse growth in the best possible ways, and higher education institutions have to provide education and training appropriate to diverse student and labour market needs. The second change involves the orientation and funding of research, with a focus on ways and means of promoting direct industry access to scientific knowledge, know-how and instrumentation and an emphasis on research commercialisation and
national research priorities. This more comprehensive view than that of Vannevar Bush recognizes that the course of scientific progress is driven not only by basic research, and that elite research universities are only one source of new knowledge. Problems set outside the university also define the research agenda, and they can be no less challenging or fundamental or important than those of intellectual interest to a university professor. Hence, the notion of a national compact between government and universities, as a group, can no longer be predicated only on the roles of the elite research universities; it must be broader or it must be replaced by a range of compacts related to varying institutional roles.

A particular difficulty is that in accommodating the enlargement of higher education, and in seeking more direct access to the tacit knowledge of researchers to solve commercial and community problems, a narrowly instrumentalist view of the contributions of universities has crowded out other views, including appreciating the need for a balance of plural capabilities to meet diverse needs. In particular, there has been an over-correction with an anti-elite sentiment, because the apparent assumption is that an elite role is no longer appropriate or useful and therefore it should be replaced or absorbed. The redefinition of the purpose of a bachelor degree in Australia is a case in point, in that if the degree is seen to be solely for the purpose of preparing individuals for professional work, where does a generalist arts degree fit? What is the worth of a degree in literature or history or philosophy under such a limited view? In a similar vein, the predecessor to the current Australian government refused funding for several research projects which had been recommended through peer review, on the grounds that they served no demonstrably useful purpose, following a campaign by a section of the media against alleged academic indulgence.

Relevance may well serve as a guiding principle for a large part of contemporary higher education and university research - whether through curriculum orientations to graduate “employability” or immediate commercial applications of research. However, relevance in the sense of demonstrable utility has swamped the policy discourse in a dangerously reductionist way. It would be an intellectually impoverished country, and one that risks limiting its capability to sustain itself, that places no value on the pursuit of knowledge in areas that have no obvious immediate usefulness. There has to be a place for the exploration of curiosity and uncomfortable thoughts, not everywhere but at least somewhere and even there not exclusively. Public policy needs to comprehend the less obvious, subtle and indirect ways and means by which some universities make their social contributions. Australia’s Productivity Commission in its 2007 report on Public Support for Science and Innovation showed some understanding. Similarly, in Canada a broad view has been taken about research, including basic research which is seen to serve as “a national strategic reserve” - making available the expertise needed to address unexpected events when they occur. The Canadian view is a balanced one, analogous to a financial investment portfolio.

In their reflective essay of 2008, What are universities for?, published by the League of European Research Universities, Geoffrey Boulton and Colin Lucas offer a corrective to the narrow and immediate instrumentalism of government policies
in many countries. They note a “growing tendency to see universities as sources of highly specific benefits… particularly marketable commodities for their customers, be they students, business or the state.” They suggest that research universities are able to make such contributions, because they deal with the universality of knowledge:

They seek to understand that which we do not understand; they seek to explain complexity; they seek to discover that which is hidden from us. They seek to establish what is common to all of us and what distinguishes us each from another or each group from another. These things are common to the whole of university endeavour whatever the discipline. They are not “academic” in the pejorative sense of the word, but are of profound, practical utility. They are the foundation upon which the university enterprise rests and upon which its significance for society is built. (Boulton and Lucas, 2008)

Hence they argue that governments should respect the essential core of the research university and not act to erode or circumscribe it. This is not a novel reminder, for as Derek Bok observed in 1990, universities “help in but do not determine” outcomes such as effective corporate governance, sound financial regulation, competent government, effective schools, improved health or reduced poverty. He cautioned that “we will debase our academic institutions and the work they do if we think of them merely or even primarily as means rather than ends.” (Bok, 1990)

The capacity of universities to undertake long-term research is fundamental to their direct and indirect contributions to national innovation. The research literature indicates that basic research is an important source of (i) the skills (particularly those based on tacit knowledge) required to translate knowledge into practice (Salter and Martin, 2001), (ii) an enhanced ability to solve complex technological problems, and (iii) the “entry ticket” to the world’s stock of knowledge, providing the ability to participate effectively in networks and absorb and exploit the resulting knowledge and skills (Martin and Tang, 2007). Additionally and importantly, basic research, or long-term research whether “curiosity-driven” or “use-inspired” which explores underlying issues, underpins disciplinary advancement.

To sustain economic competitiveness, countries like Australia must be able to generate new knowledge and understand and interpret that generated elsewhere; they cannot rely on a strategy of passive absorption of foreign technology. To benefit from the public good of world knowledge, nations have to be actively engaged in cutting edge research. Free riding on the rest of the world’s research is not a realistic option - because the links between researchers are personal and they are based on informal trading in ideas, techniques and devices. To access and make sense of basic research you have to be a contributing insider to the community of international researchers in a field. Moreover, the capacity to understand and use the results of basic research performed elsewhere requires a considerable investment in institutions, skills, equipment and networks (Pavitt, 2001).

Characteristics of Contemporary Elite Universities

Today we might define a research university, in its ideal type, as a community of intelligent people, new and experienced, together searching for knowledge in a culture
THE ROLE OF ELITE UNIVERSITIES

of discovery and in systematic ways that are open to scrutiny and contest. Elite research universities are structured to enable intellectual conversations across the generations and across various academic disciplines (Shapiro, 2001). They are places where “the able young” can and do challenge orthodoxy and complacency, and where they learn not only content knowledge and technique, but also how to think analytically and independently. They are actively engaged with their communities, and have a special capacity to connect expert and lay views in tackling problems (Kerr, Cunningham and Tutton, 2007).

Input characteristics. Elite universities may be distinguished by five sets of inputs, that is, the quality of the students they attract; the expertise of academic faculty and administrative staff; the depth of research capability; institutional asset strength and revenue diversity; and high-cost needs.

Generally, elite universities attract concentrations of young talent through student admissions, typically the top attaining cohorts of recent school leavers, most-promising doctoral students and top tier post-doctorates. Within national systems, Moodie (2009) distinguishes between “selecting” and “recruiting” universities, noting that recruiting universities operate in a buyers’ market, whilst selecting universities operate in a sellers’ market (Moodie, 2009). However, within the global environment, nationally selecting universities face stiffer competition and become recruiters, needing to offer inducements to attract talent, especially graduate research students.

It is in these universities that the leading professors in their fields are typically found. These institutions also attract high-quality academic and administrative staff, through recruitment processes that are open to national and international competition.

Within nations, elite institutions are the key nodes of research capability (infrastructure + expertise). They are typically the most successful in winning competitive research grants and industry research sponsorships, and they have greater diversity than others in their sources of income through donor support and returns from research commercialization. Nevertheless, they have higher cost needs arising from the complexity of their undertakings, including interdisciplinary centres, integration of research elements in student education, and greater technological infrastructure for discovery and translation.

Activity and output characteristics. Elite research universities may be distinguished also by the nature of their activities, notably the ground-breaking work they do; their role in underpinning basic research; their leadership in the development of disciplinary knowledge; their contributions to educational innovation; their public policy inputs, analysis and critical commentary; and the conduits they provide for international scholarly dialogue.

Within the Australian higher education system, Group of Eight (Go8) universities are characterized by the emphasis they give to research and research training performed with reference to leading international standards; substantial time devoted to advanced hands-on undergraduate and graduate training in scientific theory and research methods linked to cutting-edge research; hosting of major research infrastructure and instrumentation; and strategic efforts to commercialize useful knowledge and intellectual property.
In terms of outputs, elite universities produce highly regarded outcomes, including graduates who take up leadership roles in the professions, business and public service. They supply the bulk of the nation’s future academic workforce. Elite universities are home to the major producers of high quality research publications, exhibitions and performances. Moreover, they source the major contributors to policy debates and the formation of solutions to national and global problems.

How Valid is it to Treat the University as a Whole Institution for Evaluation or Comparison?

Many universities in Australia, as in Europe and other parts of the world, are characterized by a coexistence of departments of different quality in their teaching and research. Some may claim broad parity across institutions, notwithstanding differences in specific areas, but that is a questionable view based on several assumptions, including the perspective that weaknesses in one area are offset by strengths in others. The evaluative criteria applied to “professional” fields, such as engineering, law, accounting and medicine, are specific to those fields; they differ from one another, and from those, also varied, criteria applied to the humanities and natural sciences. One university may be regarded highly for its philosophy and physics but not well regarded for its psychology. Moreover, a university may be highly regarded for the quality of its research in a particular field, say mathematics, but score poorly on measures of student satisfaction with teaching in the same field. Conversely, student satisfaction with teaching may be reasonably high in a university whose research performance in that area is relatively low.

However, acceptance of scattered mediocrity is a complacent view, and a dangerous one in a highly competitive international environment, which no longer suffices, especially where major problems call for contributions across multiple disciplines, all of which need to be strong. In universities with large shares of strongly performing areas, through the institutional culture of expectations, especially when performance is subject to rigorous evaluation against international benchmarks, there is possibly greater pressure on weaker areas to improve or be bolstered or removed. Clearly, there are many institutions with some strong areas of expertise. The distinguishing feature of elite research universities is the concentration of their expertise and the institutional culture that drives and derives from the quest to excel. One of their functions in national systems of higher education is to increase the pressure on other institutions to raise their performance, including by opening up their facilities to others and working in collaboration with them.

Thus, it is both valid and invalid to compare universities on a whole of institution basis and a mix of university-wide and field-related indicators is likely to be most informative.

THE NEED TO CONCENTRATE RESEARCH CAPABILITIES IN ELITE UNIVERSITIES

Among the various motives attributed to the movement for building up elite universities is that associated with national pride. It is argued, for instance, that relatively
low rankings on global league ladders have induced some governments to skew their investments in favour of “nation positioning institutions” (Hazelkorn, 2008). Moreover, the rankings are seen not merely as a reflection of actual drivers but as drivers themselves, defining what quality means and shaping university mission and balance of activity (Marginson, 2007), inflating the “academic arms race”, inducing universities to chase ever more resources (Ehrenberg, 2004), intensifying competitive pressures, establishing as a worldwide norm the science-strong research university of the Anglo-American tradition, and giving emphasis to institutional stratification and research concentration (Marginson, 2007).

More purposefully, the movement can be understood to be driven by concerns to (a) strengthen and integrate capabilities, in order to address complex and pressing national problems; (b) increase the international visibility of national strengths for attracting talent and inwards investment; (c) open up opportunities for collaboration with universities in other countries that have a similar reputation for excellence; (d) and ensure sufficient capacity for cutting-edge research for the nation through access to world knowledge developments. These motives reflect a view of contemporary universities as engines of innovation and economic development and sources of solutions to social and environmental problems. One of the drivers of innovation is the clustering of talent and the production of new knowledge. In this regard, large research-intensive universities are among the most effective aggregators of highly qualified personnel (Usher, 2009).

In many fields of research in the natural sciences there is a “critical mass” or threshold effect, and “large, well-funded and well-led research groups produce more publications, of higher impact, and receive much higher international recognition than do smaller groups.” (National Board of employment, Education and Training, 1993) There are several advantages of scale in research, as noted in a HEFCE (2000) review of research funding policy:

A larger group of researchers adds to overall vitality, through peer stimulus, the opportunity to exchange and develop ideas, and to be spurred by visible achievement. Second, the per capita marginal costs of research (administration, clerical support, etc) are reduced when a larger group contributes to infrastructure. This factor is significantly accentuated by the high cost of major equipment and facilities in the experimental sciences. Third, larger groups make possible the simultaneous and parallel development of research themes, leading to an overall acceleration. Fourth, group size contributes to diversity of thought and of sub-discipline, increasing the likelihood of cross-fertilisation and fruitful development. Fifth, larger groups of research students provide a more supportive atmosphere for research training. (Higher Education Funding Council for England, 2000)

Concentration involves targeting new funding to build the capacity to sustain new heights of excellence. Typically, new funding is allocated on the basis of proven performance judged against international benchmarks, wherever it is to be found, and where there is genuine potential to scale-up. Additionally, concentration is one dimension of a differentiated system, and differentiation is necessary to create the diversity needed to accommodate, cost-effectively, an enlarged population of learners.
and to support a wide spectrum of innovation, whether in hi-tech manufacturing, mining, agriculture, or services, including the public sector. However, achieving diversity through differentiation in higher education is a difficult challenge.

**The Difficulties of Differentiation**

One can consider differences among higher education institutions - what van Vught calls “external diversity” (Van Vught, 2008) and Teichler calls “horizontal diversity (different types of institutions with different functions)” (Teichler, 2004) and differences within higher education institutions - “internal diversity” and “vertical diversity (different levels of quality of inputs, processes and outputs)” . When a higher education system is structured on the basis of functional specialization (e.g. nurse education colleges, teacher education colleges, institutes of technology, research universities), there is a wider variety of institutional types but the variety of activities (e.g. range of educational offerings) within an institution is more limited than in the system of more comprehensive institutions (e.g. polytechnics or universities). Hence, “internal” or “vertical” diversity involves activity differences (what is done and how much), as well as qualitative differences (how well it is done). It does not necessarily follow that a wider range of internal functions result in a greater variety of ways and means of conducting those functions within a system, nor does it follow that the quality of particular functions is either raised or lowered. The apparent trade-offs between structural specialization and comprehensiveness, have been perceived differently in those countries that have opted for distinctive institutional types and those adopting unitary systems. However, it is not clear to what extent higher education systems are becoming more integrated or dispersed, convergent or divergent, homogeneous or heterogeneous.

As a useful guide to policy options, Frans van Vught and others have pointed to the range of drivers of sameness and difference in higher education systems (Van Vught, 2008). The strong drivers of homogenization include the power of academic norms that place most value on research-based prestige, reinforced by rewards in the academic labour market (Fairweather, 2009); normative policy settings of governments, financial incentives and regulations (including at the international level); and “market mechanisms” encouraging competition for similar rewards. However, some see greater competition in mass higher contexts creating opportunities for new institutions to enter the market with new products and services, and for established institutions to take up niche positions, and the growth of various private providers around the world gives this view support.

Some suggest a reduced need for functional specialization and the concurrent development of “more hierarchical and horizontally permeable systems” (Scott, 2009). The case for greater hierarchy arises from the intensification of international competition at the top, which represents recognition of the high costs of research, and an acceptance of prestige drivers. The case for horizontal porosity arises from a number of the changes discussed earlier, including changes in labour market requirements affecting the nature of graduate supply and the need for further learning, growth in international student mobility, changes in knowledge production affecting
the conduct of research, and the multiplication of the missions of higher education institutions.

However, there are countervailing pressures suggesting the need for greater heterogeneity of higher education providers, to accommodate growth in participation of people of diverse, such as backgrounds, talents, motivations and job expectations, and to do so cost-effectively. Some contend that we are witnessing “more and more vertical and horizontal specialization, far beyond the classical divide, between teaching only and research universities” (Laredo, 2007). This development is seen to be driven by the growth of private providers, developments in educational technologies, and the integration or non-integration of new missions with teaching and research. Mission multiplication involves some over-loading of institutional responsibilities, with risk to quality and efficiency, indicating some scope for separation or at least redefinition of roles.

In structural terms, there are several options, including unitary systems of comprehensive institutions, although this is a very expensive option in view of the high costs associated with quality research; articulated links across functionally specialized institutions; or institutional federations or alliances of institutions with complementary capabilities. In strategic terms, whatever the structural composition, there is a need for mission clarity and renegotiation of resources for activities linked to missions, with the flexibility to adapt to change.

Frans van Vught (2008) defines differentiation as the process by which higher education systems diversify through the emergence of new entities (Van Vught, 2008). However, it is useful to distinguish between diversification as creating and accommodating variety, and differentiation as enabling and declaring divergence. In business terms, a company may diversify its customer mix and its product range, such as by offering high-cost and low-cost options, but differentiates itself when it offers a unique value proposition (Feldman, 2009); when it does what others don’t or can’t, and when it makes itself unlike the rest of its type. Differentiation as an institutional strategy that allows for price premiums above those of institutions adopting a low-cost strategy, may derive from brand image, customer service, product uniqueness, technology, facilities or accessibility (Porter, 1985). A higher education system may be highly diversified in its student mix and educational offerings, but relatively undifferentiated in terms of institutional types and distinguishable characteristics of institutions within each type, including recognition of differences in the quality of degrees.

Australia, for example, has a diverse but largely undifferentiated university system. There is great diversity in the student body, whether domestic or international, preparatory, undergraduate or graduate, in terms of age, ethnicity, prior knowledge and experience, motivations and aptitudes and mode of participation (full-time, part-time, external, virtual or mixed). There are areas where efforts can be seen as being made by these universities to differentiate themselves from one another, which include diverse criteria for student admission, differences in degree structures and requirements, and in curriculum, pedagogy and means of assessment. Moreover, there are differences in institutional research capability and orientation, the integration of research and education, the extent and nature of engagement with
communities, the operation of commercial enterprises, and levels of international-
ization. For instance, the University of Melbourne with its “Melbourne Model” has
departed from the Australian practice of professional specialization for the bachelor
degree, and moved to a general bachelor’s degree with professional preparation
for the master’s degree. A number of technological universities have developed
graduate capabilities that align with the employability expectations of employers.
The University of Western Sydney has an extensive programme of community
engagement functions. Swinburne University has deliberately focused on a niche
set of research fields. Monash University has a global strategy involving offshore
campuses and internationalized curricula. Greater flexibility for universities to develop
these various differences, according to the missions they have set for themselves,
including the flexibility to offer special services at price premiums, would help
achieve a more diverse and differentiated higher education system that would be
more responsive and efficient than the current arrangement.

Nevertheless, Australia, like the German and Scandinavian systems, has a formal
framework of “parity of esteem” in the equivalence of qualifications, and govern-
ment policy and financing frameworks treat all universities on the same basis. This
approach can be seen to reflect a former period of horizontal specialization of higher
education institutions, before the closure of the binary divide, when the advanced
education sector was presented as “equal but different” in comparison with the
university sector.

Australia, in 1986, set out on the Dawkins’ agenda to collapse the binary divide
and create an undifferentiated “unified national system” of universities. Subsequent
allocations of public funding for teaching and research have been premised on the
basis of a “fair-go”: an Australian virtue of unimpeded opportunity for new players
who are willing to make an effort, alongside even-handedness and transparency in
the rules of the game. The Dawkins approach led to an evening-out and eventual
normalization of funding rates per student place by field of study, across old and
new universities. It provided targeted funds to encourage teaching staff to obtain
higher degrees and, through a “clawback” from established universities, provided
funds to promote research in the newer institutions.

The outcome has been flat. More specifically, the 19 pre-Dawkins universities,
which together accounted for 90.26% of total research income in 1995, had a
reduction in their share to 87.35% in 2005, a loss of 2.91 percentage points. This
2.91% shift went to the 11 smallest research performers of the post-Dawkins’
institutions, which together gained 1.91 percentage points, taking their combined
share to 3.8%. Four of the previous institutes of technology increased their share,
with the net rise for the five new technology universities being 1.11 percentage
points, and bringing that group to a combined share of 7.5%. The Go8 share stayed
at around 70%, notwithstanding some shifts within the group. The biggest declines
were among the pre-Dawkins post-1950s universities. This policy of spawning
tadpoles, while forgetting to feed the frogs, has bogged down the nation’s capacity
for making great leaps forward.

Subsequent policy implementation, across party-political boundaries through
the 1990s to the present, including the formulation of national protocols for university
status, has seen the continuation of an even-handed, non-discriminating approach. In the provision of government funds for scholarships, for instance, a “base” grant is made automatically to all universities, with additional numbers typically scaled to enrolment size. Where performance-related measures have been included in funding formulae, they have often been implemented with buffers and caps, in order to smooth the distribution of gains and losses. This was the case with the former block schemes for research infrastructure (IGS) and research training (RTS). Moreover, the smoothing approach has been continued with their replacement schemes: the SRE (formerly RIBG) provides a higher indirect cost rate for competitive research grants, but the JRE (formerly IGS) has removed competitive grants from the income metric in the allocation formula. Hence, the institutional shares of total SRE +JRE funds in 2010 are unchanged from the shares of total IGS +RIBG in 2009. With all boats rising this is perceived to be a clever domestic outcome politically.

Governments have difficulty in formally marking institutional differences and treating institutions differentially. Further, there are no readily acceptable ways for institutions to describe what they are if they are not a research university, that is, are they teaching-intensive, business-facing, regionally engaged, equity-dedicated, technological, innovative and/or regional? With respect to this, there should be status in teaching well, developing professionals, translating research, and contributing to regional community development and policy and financing ought to permit some institutions to do a few things very well rather than having to do a lot of things reasonably well.

Martin Trow identified, some time ago, that it is unreasonable, unfair and inefficient to place expectations on institutions to become what they are not set up to be:

A central problem for higher education policy in every modern society is how to sustain the diversity of institutions, including many of which are primarily teaching institutions without a significant research capacity, against the pressure for institutional drift toward a common model of the research university - the effort alone shapes the character of an institution to be something other than what it is - a prescription for frustration and discontent. (Trow, 2003)

The US and Japan have higher education systems, which are hierarchically differentiated, (e.g. within research institutions there are clear differences in prestige and quality). Interestingly, the German Excellence Initiative is seen to represent, in policy terms, “a termination of the longstanding fiction of a qualitatively homogeneous higher education system supported by de facto legal homogeneity” (Kehm and Pasternack, 2009). The question arises as to whether, or to what extent, non-structural and non-formal understandings of qualitative differences among institutions might promote differentiation.

Arguments against Special Treatment for Elite Institutions

Within national contexts, claims favouring elite universities can be contentious because their acceptance implies and may produce institutional differentiation within national systems. Several lines of counter argument can be identified.
The first institutionalist rejection of concentration is quibbling and it is that the advocates of concentration are simply self-interested in the promotion of their institutions, as if the opponents are indifferent.

A second line of argument, and one that is able to be tested to some extent against evidence, is that concentration is inherently unfair - it favours those institutions that have accrued advantage; if others were to be given equivalent treatment over time they would achieve (eventually) at least commensurately; and balanced investment should have regard to future potential as well as past performance.

At the time of debate about the closure of the binary divide in Australian higher education in the late 1980s, the then central institutes of technology argued that they were undertaking research of community value that was neither properly recognised nor funded, and that elevation to university status would enable them to develop their potential for the benefit of the nation. As it turned out, some twenty years later, the share of research performed by that set of institutions has increased only marginally, notwithstanding a major shift of government funding towards application-oriented research. However, the combined effect of a large number of small gains on the part of the many newcomer institutions has resulted in no change in the share of the top performing eight universities. They have much increased amounts of research funding, in absolute terms, but have not moved ahead in relative terms, whereas in many other countries the performance gap has been widening between the top universities and the system average.

Selectivity (supporting the best wherever they are found) and concentration (targeted funding to strengthen capability), were expressed in 1987 as the dual principles to guide the funding of higher education research in Australia. However, the subsequent course of policy development has been driven by selectivity alone. Some argue that concentration is an outcome of selectivity, but that is not the apparent outcome in Australia. A continuing reliance on a policy of selectivity alone would effectively hold back the leading universities, just as a reliance on concentration alone would thwart the emergence of new research areas. The combination of selectivity and concentration allows for a balance of opportunities.

Some will assert that provision needs to be made for new and emerging areas, and that institutions with the potential to build up strengths should be aided to do so. Moreover, some will add that a failure to enable new areas to develop effectively entrenches the privilege of institutions that were given assistance many years ago when they were at the fledgling stage. Without doubt, emerging strengths should be fostered, particularly in areas (both in fields of inquiry and in institutions) that promise national benefits. However, potential is more than promise and it does not grow without roots. That is, disciplinary and cross-disciplinary breakthroughs are normally not made by novices and new areas of strength have emerged in Australia, historically, on the back of a track record of performance validated by academic peers.

A third line of argument is that preferential treatment of internationally-referenced elite institutions undermines the dynamism of the system as a whole, leading to complacency, ossification and diminution of research of national, regional and local relevance that is highly valued by users. On the one hand, notwithstanding the benefits of agglomeration, there are off-setting benefits for a society
through having competition among talented researchers from different locations. In this regard, where resources and talents are too concentrated, inquiry can be subject to too much “group think” (Litan and Mitchell, 2008). On the other hand, there are inefficiencies associated with encouraging all flowers to bloom:

We are creating congestion in the pipelines of knowledge, and this has become a liability. It gets in the way of scientific advance. We have to become more selective about true knowledge creation. In fact, we need to devise a system of incentives that will promote self-selection and specialization, so that those with a comparative advantage in knowledge creation will not be crowded out by those with a comparative advantage in preservation and transmission (including, but not limited to, teaching), and vice versa. (Trajtenberg, 2008)

A fourth line of argument is that support of the elite is anti-egalitarian; it reduces equity of opportunity for students and reproduces inequality. This argument is sometimes put in the context of equating elite (best) with elitist (privileged), with all its connotations of snobbery and anti-democratic sentiment. Nevertheless, the problem of the reproduction of social disadvantage must be addressed, for it is both inequitable and inefficient to deny individual access to opportunity and bar society from the benefits of broader contributing capacity. Rothblatt (2009) has observed with regard to advanced western economies, the tendency to invest discriminatingly in elite universities stands somewhat at odds with “the long recent history of government efforts to promote more egalitarian educational opportunities and, with such actions, to mitigate the effects of social and historical privilege”. Moreover, the entrenchment of highly selective access to the top universities can mean that “the screening value of admission is likely to increase more than the intrinsic educational value”, with the perceived advantage of elite institutions becoming more exaggerated, with negative implications for democratic societies (Geiger, 2009).

Taking a long view, elite universities around the world have moved beyond places of passage for the privileged to the more academically talented. Contemporary elite universities are academically elite; they are no longer socio-cultural finishing schools for the modest performer, even if demonstration of merit reflects socio-economic background and opportunity (Palfreyman and Tapper, 2009). In this regard, Palfreyman and Tapper (2009) note the shift towards merit-based selection on the part of Oxford and Cambridge, and Geiger (2009) reports similar shifts for the US Ivy League, along with the shift from teaching to research, in determining institutional reputation. This is neither to accept that the status quo is sustainable nor Trow’s assumption that massification would lead to expansion and diversification of the system, thereby providing an automatic protection for elite institutions, resulting in them not having to change their values (Trow, 1973). Elite institutions have continuous responsibilities to seek ways of widening access, a matter that is considered further below.

Importantly, as Morhman et al. (2009) have noted, the predominant theme of policy discourse in recent decades has been the transition from domestic elite to mass participation in higher education. Less noted has been the imperative to participate internationally in the formation of research-based universities that provide knowledge
for all, not just for elites (Mohrman, Ma and Baker, 2009). The global community benefits through the public good contributions of high-end research that improves understandings and makes breakthrough discoveries. Individual nations also benefit from the ability of their leading universities to participate in this global advancement of knowledge.

Finally, it is argued that concentration of research capability relegates some institutions to “second-class” or inferior status, with resultant disservice to their communities. This concern is heightened by the prospect that elite institutions might only cooperate with one another, nationally and internationally, in such matters as research, student exchange, and recognition of qualifications. That is, in this line of advocacy there can be a conflation of institutional interests with student and social interests.

Nevertheless, a difficult issue that needs to be addressed is that of the mission and position of those higher education institutions that are not in the elite club. As noted earlier, academic norms and the structure of incentives prioritize research, and horizontally different institutional types are inevitably seen in vertical relationship to one another, at least by the academic community, even if not by the lay. Strengthening of the top implies that institutions elsewhere in the system will have to carve out what will be perceived as middle and lower positions, being defined as teaching-intensive, regionally-engaged, and variously contributing to expanding opportunity, second-chance learning, professional education, innovation take-up, or modification of existing knowledge solutions. This matter is also considered further below.

These various counter arguments may be rebutted in part, for instance, by reference to international imperatives, with other countries intensifying investment in their leading institutions, in the context of increasing international competition for talent and the need for scale for contemporary research into complex problems. That is, countries needing a step-change in their research competitiveness cannot afford a step-by-step dilution of their research investment. However, the counter arguments cannot be dismissed entirely and the question is not whether to sustain elite strength, but how to balance that purpose against other aspects of the national interest.

The elite institutions themselves have to be sensitive to that requirement. Indeed, they are by definition in the minority, and governments are bound to their political constituencies to have regard to the mainstream majority of institutional needs and aspirations, without being captured by them. Most important is the mutual responsibility that flows from the support the community gives to elite institutions. Sheldon Rothblatt, following Martin Trow, observes that elite legitimacy derives from the viability of other types of institutions serving important needs, and that they have an obligation to serve inclusively:

The world-class research university is underpinned by a great variety of other types of tertiary educational institutions upon which its legitimacy, indeed its very success, depends. They serve an immense variety of public needs and provide the opportunities for upward mobility that any generous-minded and decent nation requires. Those institutions possess talent - talent very often
originating within the famous universities. They are engaged in the noble task of uncovering student ability where it might otherwise be neglected. Universities that have scaled the heights in a new environment of fierce rivalries retain an obligation to give creative thought as to how an entire national system can thrive without being partitioned into haves and have-nots, and riven by ruinous jealousies (Rothblatt, 2009).

OPTIONS FOR GOVERNMENT POLICY

The policy challenge is to cater cost-effectively at an acceptable level of quality for education of the general population, while ensuring sufficient capability to participate at the forefront of knowledge formation. The policy objective is to achieve coherence within the national higher education system through a balance of complementary capabilities that work together, not apart, in meeting society’s needs. It may well be the case that the bulk of resources need to be dedicated to those institutions which serve the bulk of the demand, and that they should be resourced sufficiently to be good at what they do and build up distinctive strengths. Concurrently, without “cementing-in” any institution or accepting without evidence its claims for special treatment, it is necessary to achieve system-wide development of acceptable quality, without diminishing the outcomes of the elite performers.

What strategies and tactics might be adopted to ensure that countries can sustain and benefit from their elite institutions? In relation to governmental strategies for higher education expansion and university research concentration, ten broad options may be identified, ranging from soft to hard, or from “hands-off”, through “hands-hovering” to “hands-on” interventions. Some options can be combined; the magic option is the right combination.

Drift Option

Drift options involve letting concentration or dilution happen. They can be lazy, through avoiding the hard decisions, or they can be deliberate, without declaring any explicit intention or preferred outcome, in the context of other policies and incentives. Such deliberate approaches may be more or less overt (e.g. selectivity in research funding or open competitive funding for centres of excellence, or preferential funding for certain institutions as part of broader initiatives, such as in energy or health policy) in the expectation that things will sort themselves out eventually on the merits or otherwise. This “muddling through” (Lindblom, 1959) rather than “grand plan” approach, has the advantage of being low-risk politically and of leaving developmental options open rather than closed off, but has the disadvantage of low predictability of outcomes.

Increased Autonomy and Operational Flexibility for Institutions

In systems with high levels of central control, or where degrees of autonomy differ among institutional types, university responsiveness and adaptability may be improved through greater devolution of responsibilities. The assumption is that the
increased institutional flexibility will give rise to diversity of institutional ways and means, if not missions, given a relaxation of the state controls that produce conformity. However, as indicated earlier, autonomous institutions are free to mimic others, and in a culture of prestige-driven norms can be expected to pursue an emulation strategy. Hence, some boundaries need to be set and incentives established to encourage diversification. Nevertheless, without institutional autonomy, there can be no differentiation, because this is a strategy uniquely determined by each institution; autonomy is essential to any combination of policy options.

Specific-purpose Programme

In order to provide incentives for different institutions to focus on different areas and develop different strengths, governments may provide specific funds, such as for widening participation, regional engagement, translation of research, teaching excellence, collaboration or other activities. This approach is more likely to produce differential outcomes when the allocations (or, in a harder variant the eligibility to participate) for different funding streams, whether reward-based or improvement-based, are limited to a few rather than shared among all institutions. However, pressure typically mounts for such programmes to be systemic, and institutions can be creative in playing to the rules of the game, so the differentiating impacts of the measures are reduced. Nevertheless, there need to be incentives, other than research-related ones, to encourage higher education institutions to play to their strengths.

Competitive Funding

Competition for major grants (such as for centres of excellence, major equipment, research clusters) or tenders for the provision of services (such as contracts for professional development programs, or regional delivery of educational services) can help to promote diversification and differentiation. Competitive schemes have the advantage of being open to multiple contenders against transparent criteria. However, they can tie up institutional resources unproductively in bidding processes. The tiered competition approach of the German Excellence Initiative, alongside its openness, has several attractions - everyone knows the criterion standards; no institution is arbitrarily excluded; many can win something; but only a few can clear the height of the bar necessary for top-up funding for excellence. However, the bigger the competitive stakes the more attention needs to be given to options for the unsuccessful bidders (and non-bidders).

Performance-based Funding

Performance-based funding approaches reflect a view that institutions should be funded, not for what they are, but for what they do. They are typically related to a set of quantitative indicators measured over intervals of time, and funding flows in accordance with improvements in the measures. They may be used to encourage some institutions to expand their level of activity in particular areas, whether in
terms of student mix, types of community engagement or contributions to innovation. Their effectiveness in promoting differentiation depends on clarity of purpose and the selection of indicators.

**Quality Assessment**

Distinct from “quality assurance” - a process that encourages tick-a-box compliance and which itself promotes standardization - quality assessment is concerned with outcomes and how good they are. In terms of educational quality, assessments may affect accreditation to offer programmes, or funding for institutions and programmes. In terms of research, assessments may affect eligibility for funding of doctoral students or participation in particular programmes. Referencing qualitative assessments to international benchmarks can be difficult, and given the limits to available international metrics (relating predominantly to research), it becomes necessary to rely on peer judgements or other subjective indicators of esteem, about which there are predictable challenges, relating to cultural differences in respect of education, and perceived conflicts of interest through associations in respect of research.

**Classificatory and Reporting Schema**

Governments may seek to provide more nuanced signals to the community about the relative strengths of institutions (within a nation or group of nations) than those conveyed by rankings, against a single metric or limited set of variables. Such information might include comparative descriptors and ratings against multiple criteria, at the institution-wide and field of scholarship levels (e.g. student mix, progress and satisfaction, curriculum breadth and depth, amenities and services, graduate destinations, research performance). Nevertheless, too great a number of descriptors add to costs and confusion. Harder variants of this approach include placement of institutions into typological categories and rankings within typologies. The advantages of typologies are that they enable understanding of institutional orientations and characteristics, improve the information available to guide student choice, provide pointers for businesses seeking to collaborate with institutions, help identify possible partners, and assist the process of policy formulation. However, limits on the availability of comparable data sets, especially across nations, can reduce the meaningfulness of comparisons. Moreover, classificatory approaches need to be fluid rather than fixed, and revised periodically to reflect changes in institutional positioning. However, as with the US Carnegie classification, the modifications build extra complexity with implications for their usefulness to students and others. Point unclear Furthermore, typologies may expose similarities and differences but they do not reveal qualitative performance differences.

**Structural Designation**

Governments may create or designate institutions to function at different places in the structure of higher education systems. There is a range of possibilities, according to level of educational qualification awarded; breadth by field of scholarship;
balance between teaching and research; extent of research concentration; regional catchment and service; orientation of educational programmes; mode of educational delivery and provision for certain categories of learners. Many institutions cross several such categories, and should be permitted some flexibility to adapt to changing demands and opportunities. Rigid and static structural forms, as discussed earlier, can lead to ossification. It can be difficult to obtain the consent of established institutions to limit their scope and coercive use of accreditation and funding mechanisms, especially to force mergers or takeovers, can create strong resistance. Moreover, designation by government bodies carries a heavy political risk, particularly where institutions that feel they are relegated seek to exert leverage through political influence to advance their position.

**Market Mechanisms**

Governments may move the higher education industry, including public institutions, into a more demand-driven, competitive environment. This might involve funding (government subsidies and loans) that follows student choice, in respect of teaching, along with institutional tuition pricing flexibility. This approach assumes that competition will stimulate differentiation and innovation in product range and service. It has the advantage that structural outcomes are seen to be the result of market drivers rather than government decisions, although that does not mean that government will be exonerated and thus saved from claims for compensation. As discussed earlier, competition in status markets may not result in significant institutional differentiation, but can lead to loss of diversity through closure of offerings in areas of low student demand. Further, deregulated approaches, particularly involving tuition prices, typically meet with organized community opposition.

**Mission-based Funding Negotiations**

Market failure may be mitigated and institutional differentiation promoted through mission-based funding compacts between government and individual institutions, and perhaps involving other community interests. Such compacts could extend beyond performance-based funding agreements and cover mission diversity, educational profiles, research focus and linkage, community engagement, collaboration with business and industry, differential funding rates and pricing flexibility, regulation proportional to risk, and performance levels related to standards. An advantage of the compacts approach and its focus on mission is that it can act as a complementary mechanism to aligning institutional goals with the incentives provided through the use of some combination of the other options above. In contrast to the option of structural designation by government, or the use of principal-agent models of service purchasing, the compacts approach allows for mutual agreements. However, much depends on the authority and flexibility of the negotiators.

In contemporary circumstances, the most coherent combination of options for public universities are autonomous institutions operating in a market environment, with mission-based funding compacts as a means of safeguarding public good interests. This combination allows the universities the flexibility they need to be
competitive and responsive, noting that the competition nationally and internationally involves private institutions and public-private partnerships.

POSITIONING OPTIONS FOR ELITE UNIVERSITIES

Today, there are great expectations that research universities will help the community address many complex economic, social and environmental problems, whether on a local, national, regional or global scale. It is crucial that universities contribute actively, and it is essential that they preserve the conditions that enable them to do so. Elite universities are unlikely to gain the support they need to that end, if they do not demonstrate their benefits to the communities that sustain them and contribute visibly to broad national objectives.

The foregoing considerations suggest seven imperatives for the sustainability of elite research universities:

**Integrity**

The first relates to the essence of being a research university, and involves safeguarding the things that matter to a culture of free inquiry. In the continuous search for sources of revenue, and the too frequent tendency of funders to attach compromising conditions on their contributions, the important thing is for a university to be true to itself, to know what it stands for and to stand up for truth. To some this may sound old-fashioned, and it is, but no less relevant today than in the past.

**Intensity**

The second requirement relates to the combination of focus, persistence and scale that enables knowledge advances in the contemporary research environment. This involves concentrating on those things a university can do best, dedicating sufficient resources to build and sustain strength (critical mass of expertise and high-capacity technology as required by the field), and being able to devote time to task (capacity for long-term research).

**Contributing to Inclusiveness**

Elite universities have the responsibility to play their part and pull their weight in the social inclusiveness agenda of a nation. For instance, the Group of Eight universities recognize they have a distinctive role to play in ensuring Australia’s higher education system meets broad community goals and needs, and provides opportunities for all those with academic potential. The universities aim to reflect in the student and staff bodies the different educational and cultural backgrounds of Australian society. Based on the key capabilities of Go8 universities, the main ways in which they can contribute to a more socially inclusive higher education system are to:

- Increase aspirations and readiness for those with the capacity to succeed in higher education;
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– Provide multiple pathways for access, including through structured arrangements with other post-secondary education and training institutions;
– Improve access to graduate level courses for those from under-represented groups to facilitate better outcomes in research, the academic workforce, and professional pathways;
– Contribute to the body of knowledge on improving educational attainment, retention and success, and social inclusion of people from disadvantaged backgrounds; and
– Undertake research that reflects the broader needs of the society and looks to find solutions to current and future issues facing all Australians, in particular indigenous Australians.

Contributing to Innovation

Societal expectations are that leading research universities will have significant constructive impact on national and regional economies. The major contributions of research universities, in this regard, are through the production of highly capable graduates and the generation and translation of knowledge that is useful for private firms and public sector agencies. Research universities need to be open to and accessible by business and initiators of cluster relations with enterprises and other mechanisms to enable entrepreneurial firms to obtain the know-how necessary for them to respond competitively to market opportunities.

Intra-national Collaboration

Elite universities are likely only to gain the ongoing support they need when they contribute to the wider social benefit and are seen to do so, by such actions as enhancing the capacity of other educational and research institutions. In this regard, in the contemporary world of plural higher education systems, some very good performance is to be found in multiple places. Thus, concentrations of expertise and infrastructure should be accessible by researchers in other universities of a country, and elite universities should be inviting others to share in and contribute to their work.

International Partnerships

Few countries alone can afford the scale of infrastructure that is needed for big science. Australia, for instance, as a southern hemisphere continent, is very aware of the expanding research capacity across the northern hemisphere and its inability to replicate it. Hence, it becomes necessary to network with the world’s major centres for high-end research, and collaborate in the management of the huge datasets generated in an instrumented world, whether down on the seabed or up in a spacecraft. However, entry tickets are distributed primarily through the recognition of academic performance and thus it is essential to ensure that the nation’s leading researchers are internationally reputable, as the hi-tech centres are themselves expertise-seeking.
The last decade or so has seen an expansion of research university networks, e.g. the Association of Pacific Rim Universities (APRU); Canada 13; the Coimbra Group; the Committee on Institutional Cooperation (CIC); the Consortium of Nine Research Universities of China (C9); the Group of Eight (Go8), the International Alliance of Research Universities (IARU); the League of European Research Universities (LERU); the Russell Group; Universitas 21 and the Worldwide Universities Network (WUN). These networks provide complementary bases of capability. More recently there is the development of networks of networks (e.g. Go8/C9) opening up collaborative opportunities for students and academic staff, internationally, within prestige frameworks. Some strong universities (e.g. Harvard) stand outside such groupings and collaborate bilaterally.

**Independent Verification of Performance Quality**

Finally, research universities need to have robust evaluative processes, so they know how good they are and for maximum credibility, their own evaluations need to be subject to independent, external validation against international benchmarks. These seven pillars may be regarded as the foundation needed by a nation’s elite research universities in contemporary circumstances, but the institutions have to adapt continuously, as many have long done.

**NOTES**

1. The views expressed in this paper are those of the author personally and do not necessarily represent the views of Go8 University Vice-Chancellors.

2. The following countries have specific policies and measures for building ‘world-class universities’ or centres of research excellence that meet international cutting-edge performance criteria: Botswana, Brazil, Canada, Chile, China, Denmark, England, Finland, France, Germany, India, Indonesia, Japan, Korea, Malaysia, Portugal, Russia, Singapore, South Africa, Sweden, Thailand, Vietnam.

3. Exponential growth in knowledge, increasing cross-disciplinary research, internationally co-authored articles, and expanding use of digitization and computational capacity are not recent developments, but the pace and scale of their expansion raises the participation cost threshold in many fields. The expansion of high performance computing has facilitated the processing of larger and more complex data in various fields of inquiry, such as: particle physics, astrophysics, biochemistry, nanotechnology, climate modelling, aerospace, genomics, proteomics and financial markets. Universities around the world are experiencing an increasing emphasis on the need for effective data management and stewardship to underpin the changing research environment, as research becomes more dependent on data in digital form, as computers and networks proliferate. Electronic networks provide the infrastructure by which researchers are increasingly able to communicate, access data, information and software in cyberspace, allow them to share and control remote instruments, and link distant learners to virtual classrooms and campuses. [Revolutionizing Science and Engineering Through Cyberinfrastructure: Report of the National Science Foundation Blue Ribbon Advisory Panel on Cyberinfrastructure. (January 2003) ES 2. Available at http://www.communitytechnology.org/nsf_ci_report/]. Enabling greater access to information of all kinds: published and unpublished, text and non-text, the Internet and the Web, have also greatly enhanced collaborative, inter- and multi-disciplinary research, and access to large shared datasets. These developments simultaneously enable more distributed research and require larger nodes of capacity and talent. [OECD (1998), The Global Research Village: How Information and Communication Technologies Affect the Science
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5 “In western Europe (following the collapse of the Roman Empire) the only people left with any of the skills to run society in an age of huge political instability were the priests of the Christian Church… university, in the middle ages, referred to a universal course of studies recognised throughout the Christian world. You would learn what a pagan Roman would have learned about logic and music and mathematics, about good and bad arguments and about the nature and proportion of harmony in different contexts, but then you would move on not only to philosophy but to theology, in which you were shown how to trace the connections and harmonies in the text of the Bible, so as to defend the consistency and rationality of doctrines taught by the Church…Anyone emerging from the courses of a “university” institution was regarded as competent to teach in any other institution.” Archbishop of Canterbury (Dr Rowan Williams) (2006). “China - what is a University?” Speech given in Wuhan. http://www.archbishopofcanterbury.org/698.


“Responsibility for long-range research has been defaulted to America’s research universities. Back in the 1960s, when I graduated in physics, essentially all the consumer electronics companies, all the telecommunications companies, all the auto manufacturers, most of the basic materials companies - probably most of the Fortune 500 companies in general - had basic research laboratories and hired scientists, engineers and mathematicians to conduct long-range research. Today almost none of those private sector research laboratories exist anymore. The few that have survived are pale shadows of their former selves, and are tightly focused on near-term goals. Most of today’s economy was born in those earlier research laboratories. Most of tomorrow’s economy is being born today in university research laboratories.”


“Universities’ core role remains the provision of teaching and the generation of high quality, openly disseminated basic research. Even where universities undertake research that has practical applications, it is the transfer, diffusion and utilisation of such knowledge and technology that matters in terms of community wellbeing… Apparent cultural barriers between universities and businesses may reflect, in part, the preferences of researchers, who can be more motivated by curiosity and excellence than commercial opportunities. Addressing any cultural ‘barrier’ requires prudence because it poses risks for the research functions of universities and some of the motivations for science career choices”.


“Insofar as investments in university research can be considered a university ‘R&D portfolio for Canada’, investments in ‘blue chip’ basic research across the full spectrum of disciplines essentially provide, collectively, assurances of dependable and stable returns of research outputs that are less susceptible to market and other fluctuations and more likely to provide longer-term gains. Conversely, strategic investments in highly targeted research entail greater risks, given the potential for failure due to scale or global competition, but the returns, when successful, can potentially be secured more quickly. Using this analogy, one can pursue a dialogue to assess what level and mix of investments in university research will yield the
desired level of risk and returns, given governments’, universities’, research funders’ and the public’s shared goals for and expectations of university research.”

9 HEFCE (1999), “The role of selectivity and the characteristics of excellence”, HEFCE review of research policy and funding.

“In the past ten years the degree of selectivity has increased: the proportion of HEFCE funding going to higher rated departments has increased relative to that going to lower highly rated departments. At the same time, because of the aggregation of highly rated departments in a relatively small number of higher education institutions (HEIs), research funding overall has also become increasingly concentrated. However, this has occurred as a consequential effect of the policy of selective funding, rather than as the result of a deliberate policy of concentration. International comparisons suggest that the UK research base is not less selective or less concentrated than in the USA. In fact the USA has become less selective in the last decade.”

10 HEFCE (1999), “The role of selectivity and the characteristics of excellence”, HEFCE review of research policy and funding.

“We recognise the danger that a major increase in selectivity could reduce the number of research-led institutions to a level that would be inconsistent with the general health of the UK research base, in terms of both its economic and its social contribution. In supporting excellence, we believe that a significant increase in selectivity would undermine the dynamism of the system as a whole, leading to complacency and ossification. It could also undermine research of national, regional and local relevance that is highly valued by users, and the removal from many institutions of the beneficial effects of research on teaching and other activities that have been identified by the sub-group investigating teaching, research and other activities. We conclude that for the benefits of HE research to have the greatest impact on the life of the nation, it is not only peak performance that should be supported, but also the ‘average’ quality of the system. This should be as high as is reasonably possible and well distributed geographically. Excessive attention, either to peaks or to average performance, could undermine effectiveness. This does not necessarily imply different funding and assessment mechanisms, but means that the roles and requirements of good research and the best research should be considered separately.”

REFERENCES


HEFCE. (1999). The role of selectivity and the characteristics of excellence. HEFCE Review of Research Policy and Funding.


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Pavitt, K. (2001). Public policies to support basic research: What can the rest of the world learn from us? Industrial and Corporate Change, 10(3).


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