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The Intangibles of Excellence:

Governance and the Quest to Build a Vietnamese Apex Research University

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Table of Contents

Introduction

A. Overview	3
B. Peril and Promise	5
C. Vietnamese Government Policies	6
D. The National Debate	7
E. About this paper	8

PART ONE. Vietnamese Higher Education Today

I. Dimensions of the Crisis.....	10
II. Faculty Policies	15

PART TWO. The Modern Research University

I. Desirable Features of a Vietnamese Research University	16
1. Provide educational programs of the highest quality	17
2. Generate socially beneficial knowledge	17
3. Provide linkages to global knowledge currents.....	18
II. Governance.....	19
A. Academic Freedom	19
B. Autonomy	20
C. Accountability and Transparency	21
D. Stable funding	22
E. Merit-based selection mechanisms	23
F. Willingness to compare oneself to the best	24
G. Competition.....	25
III. State Control versus State Supervision	25
IV. Financing, Privatization, and the Public Interest	27
V. Role of International Cooperation	31
A. Traditional Exchanges	32
B. Transplant	33
C. Institutional Development.....	34

PART THREE. Case Studies

I. China.....	36
II. India	40
III. Republic of Korea.....	46

PART FOUR. Policy Recommendations

1. Finance the long-term participation of international academic partners ...	49
2. Take a “green field” approach.....	50
3. Focus on building one institution.....	52
4. Invest heavily in human capital	53
5. Start with undergraduate education	54

APPENDIX ONE. The African Institute of Science and Technology

APPENDIX TWO. Is more money the answer?

APPENDIX THREE. Methodology

The Intangibles of Excellence:

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“I do believe that it is necessary to stress that for most countries today, human resource development and human capital formation are either extremely important, absolutely vital, or a matter of life and death. In the case of Malaysia...we think it is a matter of life or death.”

Abdullah Bin Ahmed Badawi, Malaysian Prime Minister, 2006

Introduction¹

A. Overview

Knowledge and human capital are now the main drivers of economic development and the key determinants of national competitiveness. The role of research universities in the development process has changed as a result of the emergence of the knowledge economy. Research universities educate a country's most talented students, irrespective of socioeconomic status; their graduates serve society in important ways, as innovators, entrepreneurs, managers, civil servants, and political and civic leaders. In developing countries, apex research universities often play a critical role in adapting advancements in global knowledge to conditions in their own countries. The knowledge generated by research universities contributes to social wellbeing and prosperity. Research universities are increasingly viewed as symbols of national prestige. Having a handful of research universities benefits the entire national education system by producing highly qualified professors and teachers. For all of these reasons, countries have expended vast sums of money in an effort to build world-class research universities. The results of these efforts have been mixed. Economically successful countries like South Korea, China, and India, have found it easier to create world-class companies than world-class universities. Yet, countries

¹ This paper was written by Laura Chiro (laurachirot@gmail.com) a New School researcher based at the Fulbright School in Hồ Chí Minh City, and Ben Wilkinson (ben_wilkinson@harvard.edu) of the Vietnam Program at the Harvard Kennedy School's Ash Institute for Democratic Governance and Innovation. Funding from the United Nations Development Programme made the study possible and is gratefully acknowledged. The following individuals served as senior advisors to the study: Bob Kerrey (President of The New School), Ben Lee (Senior Vice President for International Affairs at The New School), Tony Saich (Director of the Ash Institute for Democratic Governance and Innovation), Tom Vallely (director of the Ash Institute's Vietnam Program), and J. Tomas Hexner (Science Initiative Group, Institute of Advanced Study). The authors thank the following individuals for their contributions to the paper: Ashok Gurung (India China Institute, The New School), Meredith Woo (University of Virginia), G.P. Shukla (Duke University), C.N. Rao (Jawaharlal Nehru Centre for Advanced Scientific Research), He Jin (Ford Foundation), Shi Jinghuan (Tsinghua University), Dwight Perkins (Harvard University), David Dapice (Tufts University), Craig Stenberg (Duke-NUS Graduate Medical School), Dana Hornbeak (Duke Medical School), and Steve Wheatley (American Council of Learned Societies). We owe an enormous debt of gratitude to the hundreds of people in Vietnam and elsewhere who took the time to share their knowledge and perspectives with us. Vũ Minh Hoàng, Hoàng Bảo Châu, and Christopher Behrer contributed to the research and production process at critical junctures.

that have successfully sustained long-term growth, including these three, have had at least a few high quality research universities.

Prime Minister Badawi's remarks, quoted above, are representative of the seriousness with which countries in Asia and around the world view higher education. The Vietnamese government has repeatedly expressed its desire to reform higher education and earn international recognition for its universities. In particular, Vietnam seeks to build several "new model universities" that it hopes will join the ranks of the world's leading higher education institutions. This paper is about translating these laudable ambitions into an actionable strategy. Of course, one necessary ingredient is money, for research-oriented higher education institutions are extremely expensive. Vietnam has asserted a readiness to spend heavily in pursuit of its goals. However, we believe that the Vietnamese government and its international development partners have focused excessively on inputs—money, land, buildings, technology, etc.—at the expense of other elements that are no less determinative of outcomes. For this reason, we have elected to focus on a second, less tangible element of excellence: governance. At a system level, without a fundamental reordering of the relationship between academic institutions and the state, no level of financial resolve will be enough. At the institutional level, a commitment to a core set of values—chief among them academic freedom and an affirmation of merit as the sole determiner of membership—must be encoded in a university's DNA.

The centrality of governance is certainly not an original insight: in its policy statements, the Vietnamese government has repeatedly recognized the importance of governance. According to a senior policymaker at the Ministry of Education and Training, the Higher Education Reform Agenda envisions a fundamental restructuring of state-university relations, calling for "the renovation of higher education management in the direction of increasing the autonomy, social accountability and competitiveness of higher education institutions."² However, the current direction of Vietnamese higher education policy suggests that there is a deep disconnect between the worthy sentiments expressed above and the actual substance of reforms, which continue to focus overwhelmingly on physical resources and inputs.

The element that may prove most elusive in Vietnam's pursuit of scholarly and scientific excellence, is the one about which we have the least to say: political will. Successful countries, including the three that we profile in part three, marshaled political will to break decisively with the status quo in their drive to acquire world-class institutions of higher learning. Since embarking on the *Đổi mới* reform process more than two decades ago, Vietnam has also demonstrated an ability to jettison entrenched paradigms, with historic results. To date, however, the caution and incrementalism that have characterized Vietnamese education reform stand in stark contrast to the bold policy shifts that brought about the decollectivization of agriculture in the 1980s or made possible WTO accession. Without a renewed sense of urgency and a willingness to embrace the principles that international experience demonstrates are essential to excellence, the government's ambitions for education will almost surely remain unrealized.

² Nguyễn Thị Lê Hương, "Vietnam Higher Education—Reform for the Nation's Development," p.10. Available at: http://www.unescobkk.org/fileadmin/user_upload/apeid/workshops/macao08/papers/3-p-7-4.pdf.

B. Peril and Promise

In recent years considerable international attention has been devoted to the subject of higher education in developing countries. One of the most important studies was undertaken by the Task Force on Higher Education and Society (hereafter referred to as the “Task Force”). Convened by the United Nations Educational, Scientific, and Cultural Organization (UNESCO) and the World Bank, the Task Force was informed by a belief that the study and practice of development had undervalued the importance of tertiary education as a driver of economic and human development. The Task Force sought to examine the challenges developing countries confronted in improving their higher education systems. It was composed of a distinguished panel of international scholars, under the direction of co-chairs Henry Rosovsky of Harvard University and Mamphela Ramphele of the University of Cape Town. The Task Force’s findings were published in a report released in 2000, *Peril and Promise: Higher Education in Developing Countries*.³

The Task Force argued that purposes and constituencies served by modern higher education systems are so varied that no single institutional model can fulfill a society’s demands for tertiary education. Accordingly, the Task Force stressed the importance of a stratified or “rationally differentiated” system composed of different institutions with complementary missions. The typology of higher education institutions offered by the Task Force consists of the following: research universities, regional universities, professional schools, and vocational schools. Among these, research universities occupy a particularly important place at the apex of the tertiary education system. According to the Task Force, “[research universities’] overriding goals are achieving research excellence across many fields and providing high-quality education.”⁴

Since *Peril and Promise* was written, the concept of the “world-class university,” a national apex research university that is also globally recognized as one of the world’s top tier institutions, has gained great international currency. Policymakers in developed and developing countries alike have fixated on global indices that attempt to rank the world’s best research universities. In this paper we will refer to the two most widely used of these, the *Times Higher Education Supplement (THES)* and the Shanghai Jiao Tong University (SJTU) rankings, particularly to demonstrate the attainment of universities in the three countries profiled in this paper: China, India, and South Korea. These tables measure international reputation and quality of research and teaching through a variety of subjective and objective performance indicators, including peer review, teacher/student ratios, numbers of publications, and citations in international journals. Vietnamese commentators frequently observe that Vietnamese universities are distinguished by their absence from these rankings.⁵ We

³ Hereafter *Peril and Promise*. The full text of the report can be downloaded at the Task Force website: <http://www.tfhe.net>.

⁴ The Task Force on Higher Education and Society. *Higher Education in Developing Countries: Peril and Promise* (Washington D.C: The World Bank, 2000), p.48.

⁵ Vietnamese universities are not represented in either SJTU’s ranking of the top 100 universities in Asia or QS’s ranking of the top 200 Asian universities. (QS compiles the *THES* rankings).

should be clear that when we discuss building an “apex university” in Vietnam, we are not specifically referring to breaking into the top 100 or 200 in these global indexes, but to building an institution that achieves high levels of quality in teaching and research, as measured by internationally-recognized standards.

One recent attempt to identify the key issues in the quest to build top quality universities was written by the World Bank’s Jamil Salmi, called *The Challenge of Establishing World Class Universities*.⁶ The study starts from the premise that policymakers around the world want “world-class universities,” and argues that while countries pursue different strategies toward this end, all excellent research universities require a core set of conditions: a high concentration of talent, abundant resources, and favorable governance. Salmi concludes that it is impractical, and even undesirable, for most countries to seek to join the top ranks of global research universities. More important than world-class universities are higher education institutions and systems tailored to national social and economic needs.

C. Vietnamese Government Policies

The Vietnamese government has made the development of high-quality research universities a cornerstone of its national education policy. This objective was explicitly embraced in Resolution 14 (14/2005/NQ-CP), adopted by Prime Minister Phan Văn Khải in November 2005. Resolution 14 called for the “fundamental and comprehensive renovation of higher education.” In the preamble, the resolution frankly acknowledges that Vietnamese higher education is failing to fulfill “the demands of industrialization and modernization of the country, the need of the people to study, and the demands of international integration in the new phase.”⁷ It calls for “concentrating investment, mobilizing experts inside and outside the country and [developing] an appropriate regulatory system [*cơ chế*] in order to build international-standard universities.” Resolution 14 has been followed by a raft of additional policy and vision statements. In 2006, the Tenth Congress of the Vietnamese Communist Party called for the “comprehensive renovation of higher education,” including “focusing on the construction of one or two Vietnamese universities of international standing.”⁸

Under the leadership of Minister of Education and Training Nguyễn Thiện Nhân, the targets set out in these documents have been made more concrete. The Ministry of Education and Training has announced a bold set of goals, including placing four

⁶ The entire report is available at <http://siteresources.worldbank.org/EDUCATION/Resources/278200-1099079877269/547664-1099079956815/547670-1237305262556/WCU.pdf>.

⁷ Resolution on the fundamental and comprehensive reform of Vietnamese university education during 2006-2010 (Nghị quyết về đổi mới cơ bản và toàn diện giáo dục đại học Việt Nam giai đoạn 2006-2010). 14/2005/NQ-CP (2 November 2005). Available at <http://vanban.moet.gov.vn/?page=1.4&c2=NQ>

⁸ Báo Điện Tử Đảng Cộng Sản Việt Nam. *Report at the ninth meeting on 10 April 2006 of the Central Committee on directions for economic and social development during 2006-2010* [Báo cáo của Ban Chấp hành Trung ương Đảng khóa IX ngày 10 tháng 4 năm 2006 về phương hướng, nhiệm vụ phát triển kinh tế - xã hội 5 năm 2006 - 2010]. Available at http://123.30.49.74:8080/tiengviet/tulieuvankien/vankiendang/details.asp?topic=191&subtopic=8&leader_topic=699&id=BT160635244

Vietnamese universities in the global “top 200” by 2020.⁹ As of this writing, the government has agreed in principle to borrow over \$500 million from the Asian Development Bank and the World Bank to finance the development of four new universities.¹⁰ According to MOET policymakers, two of these research-oriented apex universities shall be the Vietnamese German University in Hồ Chí Minh City and the Hà Nội University of Science and Technology.¹¹ The ministry has also announced a program to train 20,000 PhDs by 2020. This is a particularly ambitious but important objective; one of the central themes of this paper is that a corps of well-educated scientists and scholars is an important prerequisite for creating high-quality research-oriented higher education institutions. In recent years the Vietnamese government has also sought increased cooperation with the international community, reaching out to Japan, the United Kingdom, France, Australia, and the United States among others. At a meeting of Asian and European education ministers, Prime Minister Nguyễn Tấn Dũng expressed Vietnam’s desire to strengthen its linkages to international research and scholarship: “Vietnam wishes to attract investment capital as well as leading educators and scientists from abroad, to invest, teach, and research in Vietnam at the same time sending even more Vietnamese students abroad for undergraduate and graduate study in countries with advanced education systems.”¹²

D. The National Debate

Arguably no issue has attracted more intense discussion and debate in Vietnam than education reform. Participants in the debate are virtually unanimous in the view that Vietnamese higher education faces serious problems. The consensus ends there. Education has been a topic of heated debate in the National Assembly, with representatives grilling senior policymakers on various aspects of education policy. The media has served as an enthusiastic ally of the Ministry of Education and Training in its efforts to eliminate academic corruption. In an article published in *VietnamNet* in September 2007, national hero General Võ Nguyên Giáp wrote that, despite some progress, educational quality has remained uniformly low. He concluded that, “...Our education system in principle continues rely on the old model. In order for the country to develop rapidly with quality and sustainability, and keep pace in an era of information and intellect, we must implement a comprehensive, profound, and thorough renovation, in order to revolutionize education and training.”¹³

⁹ Tùng Linh. “Spending 400 million USD on building 4 universities will grant Vietnamese universities a place in the top 200” [“Chi 400 triệu USD xây 4 trường ĐH sẽ lọt top 200”]. <http://www.vietnamnet.vn/giaoduc/2008/12/818314/> (December 2008)

¹⁰ According to the most recent project documents, the World Bank will loan Vietnam \$270 million (with Vietnam contributing \$30 million directly) for two research universities in Hồ Chí Minh City and Cần Thơ, and the Asian Development Bank will loan \$250 million for research universities in Hà Nội and Đà Nẵng. These documents are available from the World Bank and ADB websites: <http://web.worldbank.org/external/projects/main?pagePL=64283627&piP=73230&thesitePK=40941&menuPK=228424&Projectid=P110693> and <http://www.adb.org/projects/project.asp?id=42079>.

¹¹ Nguyễn Thị Lê Hương, p.12.

¹² Lâm Nguyễn. Vietnam determined to have advanced education system: PM. [“Dự ASEMME 2, Thủ tướng Nguyễn Tấn Dũng: Mong muốn các nhà khoa học giới đến nghiên cứu, giảng dạy”], *Sài Gòn Giải Phóng*, 15 May 2009 <http://www.sggp.org.vn/giaoduc/2009/5/190631/>

¹³ Võ Nguyên Giáp. “General Vo Nguyen Giap writes about education” [“Đại tướng Võ Nguyên Giáp viết bài về giáo dục”]. <http://vietnamnet.vn/giaoduc/vande/2007/09/738921/> (September 2007)

Vietnamese scientists and scholars have been among the most influential voices in the national debate. In an effort to support the policy reform process, Vietnamese scholars and scientists inside and outside the country have organized seminars and produced white papers analyzing the roots of the current situation and proposing solutions. In 2004, a number of prominent Vietnamese intellectuals led by the mathematician Hoàng Tụy (see below) submitted a petition to the Central Committee of the Vietnamese Communist Party and the Vietnamese government.¹⁴ They recommended that the government “build a single new modern, multidisciplinary university that can be a ‘pilot’ for university reform.” Another group including prominent domestic and overseas Vietnamese intellectuals produced a “proposal for the reform of Vietnamese education.”¹⁵ Former Vice President Nguyễn Thị Bình has also been an influential advocate of sweeping reform. In our view, these contributions are important to understanding the nature of the challenges confronting Vietnam in higher education and the barriers to institutional reform.

E. About this paper

Achieving the government’s ambitious goals and fulfilling the aspiration of the Vietnamese people will be extremely difficult. At present, Vietnamese research universities are among the poorest performers in the region by any commonly used metric. This lamentable situation is the result of many factors, including a tragic modern history of colonial domination and war that held back the development of institutions of higher learning. More recently, the root causes of the crisis in Vietnamese higher education can be found most immediately in dysfunctional governance systems that remove incentives to improve quality and that fail to make universities accountable to students, employers or the community.

This paper does not offer a detailed blueprint for establishing an apex university in Vietnam. We will argue that there is no single quick policy fix to Vietnam’s education quandary—including increased spending. Through an examination of universities in other Asian countries we will show that though there is no single path to academic excellence, there are several necessary preconditions. The first is governance. One of the central premises of our study is that elite research universities, whether in New York, Beijing, Bangalore, or Seoul, operate according to a set of common core principles. The degree to which the governance systems of a university embrace these principles—including autonomy, academic freedom, merit-based personnel policies, and transparency—is determinative of quality. The second precondition is a sustained commitment to human capital development. We believe that Vietnam’s success in building a high-quality research university—an endeavor that many countries and individuals have undertaken in recent years and that few have realized—will come only after a serious examination of these fundamental issues.

¹⁴ Hoàng Tụy et al., “Petition on Education” [“Bản điều trần về giáo dục”]. Petition to the Central Committee of the Vietnamese Communist Party and government. Available at <http://www.vnids.com/vanban/002Dieutran2004.pdf>.

¹⁵ See “Proposal to reform education: analysis and recommendations for the Vietnam education research group” (Hồ Tú Bảo, Trần Nam Bình, Trần Hữu Dũng, Ngô Vĩnh Long, Trần Hữu Quang, Hồng Lê Thọ, Trần Văn Thọ, Hà Dương Tường, Vũ Quang Việt, Nguyễn Xuân Xanh, Võ Tông Xuân). Available at: http://www.tapchithoidai.org/ThoiDai13/200813_NhomNghienCuu.htm

This paper leaves a number of important issues regarding the Vietnamese higher education system unaddressed. Higher education reform at a system level is the subject of a second paper being written a team of international and Vietnamese researchers convened by The New School and funded by the UNDP. That study will focus on the policy mix needed to foster the development of a rationally differentiated higher education ecosystem, and will address issues such expanding access to higher education that are not treated in the present study.

The seeds for this paper were planted in 2007, when The New School organized a forum on higher education for a visiting delegation of senior Vietnamese leaders led by President Nguyễn Minh Triết and including Deputy Prime Minister Phạm Gia Khiêm and Minister of Education and Training Nguyễn Thiện Nhân. The forum, entitled “Universities: Engines of Development” was chaired by Bob Kerrey, President of The New School. The discussion centered on Vietnam’s stated goal of building a high quality research university. Discussants included Blair Sheppard, dean of the Fuqua School of Business at Duke University, Tom Hexner of the Science Initiative Group, Tom Vallely of the Harvard Kennedy School Vietnam Program, David Dapice of Tufts University, and Harvard’s Henry Rosovsky, co-chair of the Task Force. Since this event, under Bob Kerrey’s leadership, The New School has sought to continue its dialogue with Vietnam on higher education policy and reform.¹⁶ This paper was produced by a research team assembled by The New School, including individuals associated with The New School’s India China Institute, Ash Institute for Democratic Governance and Innovation at the Harvard Kennedy School and the Fulbright School, a center of public policy research and training in Hồ Chí Minh City.

This paper is informed by the work of many Vietnamese and international scholars. We owe an especially heavy intellectual debt to two individuals. The first is Professor Hoàng Tụy, former director of the Institute of Mathematics in Hà Nội. Professor Tụy is arguably Vietnam’s most accomplished living scientist. He is internationally recognized for his contributions to the field of mathematics, including but not limited to the theorem that bears his name. Professor Tụy is today a prominent commentator on and critic of Vietnamese higher education policy. He is chairman of the Institute for Development Studies (IDS) an independent think tank licensed by the Hà Nội Department of Science and Technology. He is by no means the only important thinker on education today, but his international reputation and trenchant criticism lend his views special currency in Vietnam. We believe that the analysis of Professor Tụy and his IDS colleagues is essential to understanding the challenges confronting Vietnamese higher education. In January 2009 IDS submitted a white paper on education reform to the leadership of the Vietnamese Communist Party, the government, and the National Assembly. The report expressed the fear that, “The crisis in education is above all else a crisis of quality, meaning that education has not only *fallen behind*, but is *heading in the wrong direction*, isolated and out of sync with contemporary global trends. This is the consequence of many years of *systemic management failures that have degraded education*.”¹⁷

¹⁶ New School Senior Vice President for International Affairs Ben Lee served on a bilateral education task force convened jointly by Prime Minister Nguyễn Tấn Dũng and President George W. Bush. The task force completed its work in January 2009.

¹⁷ Hoàng Tụy et al., “Proposal on Reforming and Modernizing Education” [Kiến nghị

We have also been profoundly influenced by Professor Henry Rosovsky. A former dean of Harvard's Faculty of Arts and Sciences, Professor Rosovsky has written extensively on higher education in American and international contexts. Professor Rosovsky's views on the central importance of university governance are particularly salient to the present study. Professor Rosovsky has advised the Harvard Vietnam Program since 2005, when he took part in a roundtable discussion of higher education organized at the Kennedy School for Prime Minister Phan Văn Khải and a delegation of Vietnamese dignitaries. He has since discussed university governance with several senior Vietnamese policymakers.

This paper proceeds as follows. The first section briefly assesses the current state of Vietnamese higher education. Part two discusses the key features of research universities. The issues of governance, the relationship between institutions and the state, privatization and financing, and the role of international cooperation are considered in detail. In three short case studies, part three examines how China, India and South Korea have sought to improve the institutions at the apex of their higher education systems. The final section advances a set of policy recommendations for Vietnam.

PART ONE. Vietnamese Higher Education Today

I. Dimensions of the Crisis

Vietnamese higher education is in crisis. This assertion may strike some as alarmist. It is based on the reality that higher education will be essential to achieving the ambitious goals and aspiration that the Vietnamese government and people have set for the country's future. At present there is a wide gulf between the demand for skilled labor and the current supply. This is frankly acknowledged by the Ministry of Education and Training's Higher Education Reform Agenda, 2006-2020: "The biggest weakness [in Vietnamese higher education], causing much concern in society and hindering industrialization-modernization and international integration, is the *inability of the higher education system to meet the human resource development requirements of industrialization-modernization and the demands of the people for education.*"¹⁸ The purpose of this paper is not to dwell on current conditions but to focus on policy responses. A few observations are sufficient.

Vietnam lacks even a single university of recognized quality. No Vietnamese institution appears in any of the widely used (if problematic) league tables of leading Asian universities. In this respect Vietnam differs even from other Southeast Asian countries, most of which boast at least a handful of apex institutions of internationally recognized quality. Vietnam's universities are largely isolated from international currents of knowledge, as the poor publications record displayed in Figure 1 reveals. While imperfect, citations in peer-reviewed journals are one of the most reliable

Cải cách, hiện đại hóa giáo dục]. Proposal by Institute for Development Studies, Hà Nội, p.3. Emphasis in the original. Available at <http://www.vnids.com/vanban/003KiennghiGiaoDuc.pdf>.

¹⁸ Higher Education Reform Agenda, 2006-2020 [Đề án Đổi mới Giáo dục Đại học, giai đoạn 2006-2020]. Ministry of Education and Training. Emphasis in original.

indicators of national science capacity.¹⁹ Some have attempted to explain Vietnam's woeful performance as a matter of language facility. This line of argument is unpersuasive; English is now the international language of science and scientists without a professional knowledge of English are almost certainly not capable of making meaningful contributions to their fields. Professor Võ Tông Xuân, winner of the Magsaysay Award, former National Assembly delegate, and rector emeritus of An Giang University, offers a different explanation:

The professors and scientists with leading positions [in Vietnamese science] today are largely products of Soviet education, so their methodology for engaging with international standard science is limited, therefore their approach to research and writing articles is far from international standards, especially in using statistical analysis to analyze data. Even at the agency that is the standard-bearer for Vietnamese science, the Ministry of Science and Technology, the format for registering scientific research does not adhere to international standards. Therefore professors and lecturers who conduct research or advise students often suffer from this substandard approach, making it difficult for articles to withstand international scrutiny. This is why articles are rarely accepted for publication by international scientific journals.²⁰

Vietnam is hardly alone among developing countries. A 2004 study by David A. King found that 31 countries accounted for 97.5% of the world's scientific citations.²¹ For King, the implications are stark: "sustainable economic development in highly competitive world markets requires a direct engagement in the generation of knowledge."²² In other words, the current state of Vietnamese science is a threat to the country's continued socioeconomic development. Figure 2 shows that Vietnam-based Vietnamese scientists lag behind their peers around the region in generating commercially viable innovations.

Professor Phạm Duy Hiên, a distinguished physicist with a lifetime of service to Vietnamese science, paints a bleak picture of the current state of scientific research. In an assessment of Vietnam's national science capacity written in 2008 for the Asian Development Bank, he concludes that "a vast gulf still separates Vietnamese universities from their peer institutions in the region."²³ In 2007 the number of publications in peer-reviewed journals produced by faculty at two Thai universities exceeded Vietnam's national total. Professor Hiên also found that publications attributed to Thai authors were cited with greater frequency and that Thai scientists were more likely to serve as corresponding (lead) authors than their Vietnamese counterparts. In analyzing research output by discipline, Professor Hiên observes that Vietnam's research capacity was concentrated in mathematics and theoretical physics, with very little output in applied fields such as medicine or agricultural sciences. Vietnam's achievements in the fields of mathematics and physics are strengths that can be built upon, but its continued economic and social development will clearly

¹⁹ David A. King, "The Scientific Impact of Nations," *Nature*, 430, July 2004.

²⁰ Võ Tông Xuân, "Vietnam: Higher Education and Skills for Growth" ["Việt Nam: Giáo dục đại học và kỹ năng cho tăng trưởng] *Thời đại mới*, 3/2008. Available at: http://www.tapchithoidai.org/ThoiDai13/200813_VoTongXuan.htm

²¹ Ibid. 314. Asian countries in this group included Japan, Korea, Taiwan, China, and India.

²² Ibid.

²³ Phạm Duy Hiên, "Vietnamese science capacity and higher education in comparative perspective: A survey of publications in international journals," 2008. ADB TA 7105 VIE: Preparing the Higher Education Sector Development Project.

require enhanced capacity in applied fields. These observations are reinforced by Figures 1 and 2 below.

Figure 1. Publications in Peer-Reviewed Journals (Science)²⁴

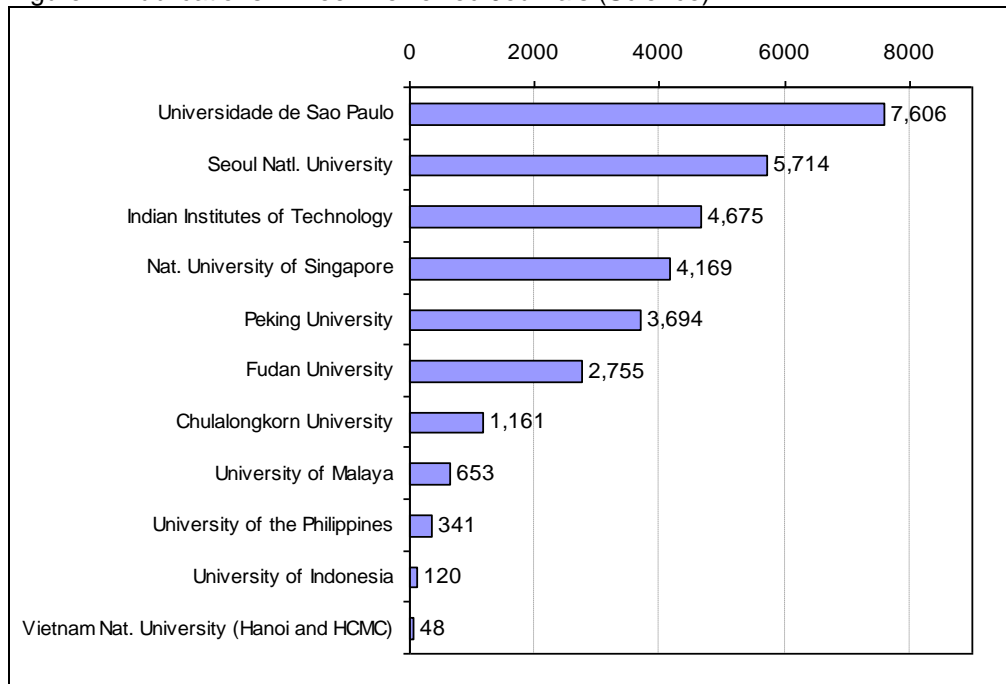
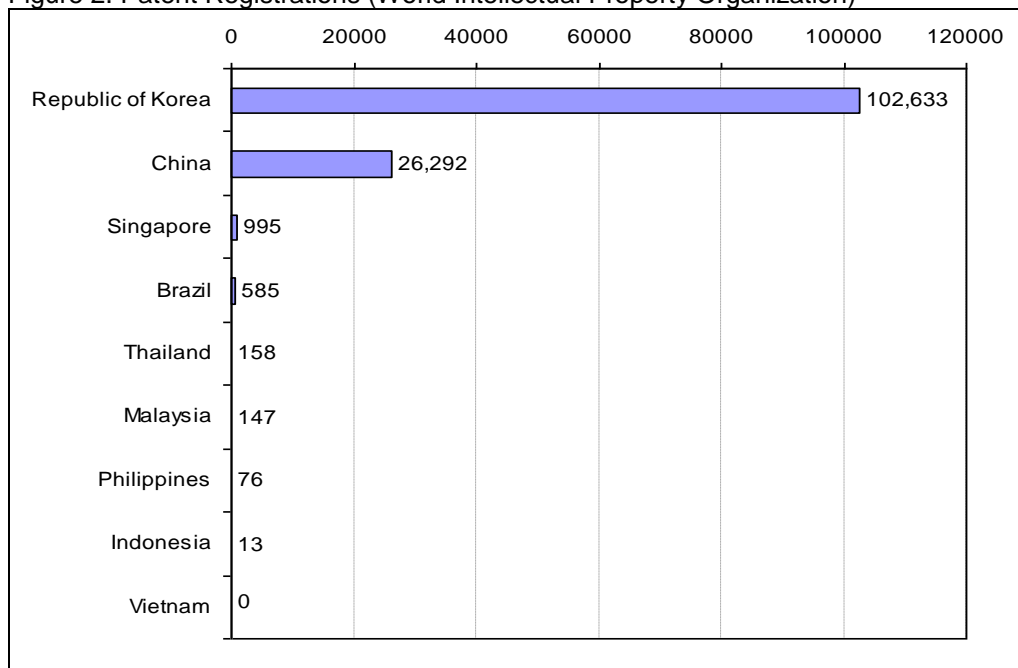


Figure 2. Patent Registrations (World Intellectual Property Organization)



²⁴ Source: Scientific Citation Index Expanded, Thomson Reuters. Accessed 11 March 2009. Due to idiosyncracies and inconsistencies in the manner in which the institutional affiliations of Vietnamese authors are recorded in this database, it is possible that actual publication totals are higher. Nevertheless, the implication is clear: Vietnamese universities are not yet dynamic centers of international quality research.

Despite efforts to modernize, Vietnamese science remains hobbled by a bloated and inefficient bureaucracy that is little changed from the era of central planning. The mechanism by which research funding is allocated is emblematic of this situation. The following description of science funding was written by a respected Vietnamese scholar at Vietnam National University, Hồ Chí Minh City. It reveals a degree of interference by administrative agencies in science that stands in stark contrast to the autonomy enjoyed by leading Chinese, Indian, and South Korean research institutes and universities.

At present, instead of putting a premium on a few research priorities like other countries, the Vietnamese government has monopolized the right to define research topics. Annually, the Ministry of Science and Technology announces the scientific topics that will be financially supported by the government (in 2006 there were 95 topics). Professor Hoàng Tụy commented, “No government exercises control by having the central office announce topics to be researched and by choosing individuals responsible for assigning work and providing financial aid either directly or through bidding.” The situation remains similar on a regional level, the only difference being, it is departments of science and technology that define and announce scientific topics.

According to Associate Professor Trần Đình Thiên, Vietnam practices “planned scientific development, in which there exists ‘asking-giving,’ and is still controlled by the government.” Professor Thiên also pointed out that the government has not placed complete trust in scientists. This concentrated, bureaucratic aspect in scientific development compels Professor Ngô Việt Trung to suggest the abolition of the concept of “controlled science”: “currently, many Vietnamese officials who are not scientists are implementing policies and regulating scientific activities.”²⁵

Until Vietnam breaks decisively with this system its science capacity will not improve appreciably. Many developing countries break the dead hand of scientific bureaucracies by adopting systems of international peer review, whereby research proposals are considered by panels that include international scientists. To the best of our knowledge such mechanisms have yet to be attempted in Vietnam.

The lack of research experience and graduate training among faculty has a corrosive effect on undergraduate science and technology teaching, which is weak in both pedagogy and content. According to a 2006 study of the current state of undergraduate education in physics and engineering conducted by the National Academies for the Vietnam Education Foundation, teaching methodology depends excessively on rote learning and testing, neglecting deep conceptual understanding and application to complex, real-world problems.²⁶ The MOET engineering curriculum, which dominates students’ first two years of study, demands too many core courses, utilizes out-of-date content, and draws few connections between related fields, contrary to standards in modern engineering courses. Meanwhile, global science and technology teaching have become increasingly experiential, emphasizing collaborative workshops, hands-on learning, internships, and faculty-student

²⁵ Trần Hữu Quang, “Scientific Research System: The Need for Foundational Reform,” [Hệ thống nghiên cứu khoa học: cần cải tổ từ nền tảng] *Thời báo kinh tế Sài Gòn*, 15 November 2007. Available at: [http://www.thesaigontimes.vn/epaper/TB-KTSG/So47-2007\(883\)/1848/](http://www.thesaigontimes.vn/epaper/TB-KTSG/So47-2007(883)/1848/)

²⁶ “Observations on Undergraduate Education in Computer Science, Electrical Engineering, and Physics at Select Universities in Vietnam.” We are certainly not suggesting that passive learning is unique to the Vietnamese classroom. See Jamshed Bharucha, “America Can Teach Asia a Lot About Science, Technology, and Math,” *Chronicle of Higher Education* 54, no.20, (January 2008).

interaction.²⁷ This has left Vietnamese students out of sync with their counterparts at strong apex universities in developed and developing countries alike.

Vietnamese universities are not producing the educated workforce that Vietnam's economy and society demand. Surveys conducted by government-linked associations have found that as many as 50 percent of Vietnamese university graduates are unable to find jobs in their area of specialization, evidence that the disconnect between classroom and the needs of the market is large.²⁸ Intel's struggles to hire engineers to staff its manufacturing facility in Hồ Chí Minh City are illustrative. When the company administered a standardized assessment test to 2,000 Vietnamese IT students, only 90 candidates, or 5 percent, passed, and of this group only 40 individuals were sufficiently proficient in English to be hired. An Intel representative in Vietnam confirmed publicly that this is the worst result they have encountered in any country where they invest.²⁹ Vietnamese and international investors cite the lack of skilled workers and managers as a major barrier to expansion.³⁰

The poor quality of undergraduate education has another implication: in contrast to their Indian and Chinese peers, Vietnamese often cannot compete for slots in elite graduate programs in the US and Europe. Professor Đàm Thanh Sơn, a well-known Vietnamese physicist at the University of Washington, has observed that Vietnamese students are at a disadvantage in applying for elite science graduate programs in the US due to their inferior undergraduate preparation.³¹ Signing ministerial-level accords on diploma recognition or announcing superficial reforms like introducing a module system will not make Vietnamese degrees universally accepted abroad.³² The difficult

²⁷ In a 1996 article, MIT physics professor John Belcher emphasizes that "Over the last decade, a number of studies seem to show that the lecture/recitation format in its traditional form is not very effective in getting conceptual material across. Although the format has some success in teaching problem solving, it leaves glaring holes in conceptual understanding." "Trends in Science Education," <http://web.mit.edu/tll/tll-library/teach-talk/trends.html>

²⁸ This statistic was reported in *Sài Gòn Giải Phóng* newspaper, the official press organ of the Party Committee of Ho Chi Minh City. See "Training human resources according to market demand: Lofty peaks, weak foundations." [Đào tạo nguồn nhân lực theo nhu cầu thị trường: Bài 1: Thừa "ngọn", thiếu "gốc"] <http://www.sggp.org.vn/phongsudieutra/2007/4/95364/>

²⁹ Lê Minh Nguyên, "Only 40/2,000 students qualified to work for Intel" ["Chỉ 40/2.000 sinh viên đủ điều kiện làm việc cho Intel"] *Tuổi Trẻ*, 4 April, 2008. Available at: <http://www.tuoitre.com.vn/Tianyon/Index.aspx?ArticleID=251762&ChannelID=7>

³⁰ The Vietnam Business Forum (VBF), an association of Vietnamese and international investors convened by the Ministry of Planning and Investment and the International Finance Corporation of the World Bank has consistently identified the lack of skilled labor as a primary weakness of Vietnam's business environment. In a report to the Consultative Group of international donors in June 2009, the VBF noted that Vietnam's education system is "beset by challenges that constrain its ability to provide valuable secondary and tertiary education and vocational training, and the economy is suffering from significant skills shortages." See "Vietnam Business Forum, June 1, 2009 Report to the CG Meeting" 4. In 2007 the VBF described the lack of skilled labor as a problem a problem requiring "urgent attention" that was "constraining the development and competition of enterprises." See "Review of Investment Climate, 2007." Available at <http://www.vbf.org.vn>. The position paper contributed by the European Chamber of Commerce to the December 2009 meeting of the VBF concluded that "[t]he main obstacles for European companies willing to invest into Vietnam remain infrastructure, human resources, weak enforcement of intellectual property rights protection, and lack of consistency and transparency in the regulatory decision-making process."

³¹ "An Interview with Dam Thanh Son", Đàm Thanh Sơn", *Tia Sáng*, 2 February 2007.

³² "Integration benefits higher education," *VietNamNet* 18 May 2009 and "Vietnam determined to have an advanced education system: PM," *Sài Gòn Giải Phóng*, 15 May, 2009. <http://www.sai-gon->

truth is that foreign institutions make admissions decisions based on individual assessments of student quality. If Vietnamese students cannot get into foreign universities, it is because they are not adequately prepared, not because their degrees are not recognized internationally.

Vietnamese students and their families are increasingly expressing dissatisfaction with the education system by exiting it. Vietnam is now estimated to be the eighth largest source of foreign students in the United States. Figure 3 shows the breakdown of Vietnamese students in the US by academic level, in comparison with China, South Korea and India. One is immediately struck by the high percentage of Vietnamese who are enrolled in undergraduate institutions (anecdotally, we know that the great majority of these are at community colleges). The distribution of Indian and Chinese students is almost reversed, with a significant majority pursuing graduate training. While caution must always be exercised when interpreting this kind of data, it is reasonable to infer that Vietnamese students and families have little confidence in the quality of undergraduate education within Vietnam. They recognize that employers and postgraduate programs prefer overseas degrees of any sort to Vietnamese qualifications.

Figure 3: Academic level of students in the US, 2007-2008³³

	China	India	South Korea	Vietnam
Undergraduate	20.2%	14.4%	47.6%	67.8%
Graduate	65.4%	72.0%	35.7%	18.8%
Other*	4.8%	2.1%	9.4%	10.5%
Optional Practical Training**	9.5%	11.5%	7.2%	2.9%
Number of students in the US, '07-'08	81,127	94,563	69,124	8,769

II. Faculty Policies

Policies relating to faculty hiring, firing, and promotion are so important that the subject merits special treatment. Without sweeping reform to its personnel policies, Vietnam is unlikely to realize marked improvement in its higher education system. This is especially the case with respect to research universities, which depend to a critical degree on attracting, retaining, and incentivizing faculty to strive for the highest standards and to embrace a shared vision for the institution's continued development. The Ministry of Education recognizes the severity of the human capital shortage: "Instructors and administrators are lacking, and are incapable of responding to demands of reform, in terms of both quantity and quality."³⁴

gpdaily.com.vn/Education/2009/5/70802/. "Links with European Education Receive Lift", *Vietnam News Agency*, 16 May 2009. <http://vietnamnews.vnagency.com.vn/showarticle.php?num=01EDU160509>.

³³ IIE Network. *Open Doors 2008 Country Fact Sheets*. <http://opendoors.iienetwork.org/?p=131583>.

*"Other" refers to students non-degree programs, for example intensive English programs. **"Optional Practical Training" refers to temporary employment in an area related to the student's degree.

³⁴ Higher Education Reform Agenda, 2006-2020.

The current situation in Vietnam is best captured by Hoàng Tụy’s notion of the “salary/income paradox,” referring to the condition in which formal salaries account for only a small share of a faculty member’s total income. Professor Tụy writes, “[T]he salary/income paradox dominates and distorts all relationships in the system. It’s so bad that increasing salaries to a living wage without fixing the errors will not improve the situation. This system error has produced relationships that over time have become a structural part of the system, thus even after fixing the error one will have to wait for some time, and perhaps fix additional errors, before the system begins to function normally again.”³⁵ Professor Rosovsky of Harvard agrees: “Faculty compensation...needs to be mentioned in connection with accomplishing institutional goals...The point is that the most efficient faculties are reasonably compensated, work full-time, and are subject to control of their outside activities.”³⁶

Of course, pursuing outside work such as research or consulting is not inherently undesirable. The point is that reasonable limits should be placed on outside work in order to ensure that scholars devote themselves first and foremost to their core teaching and research responsibilities. A condition for doing so is to ensure that base compensation is adequate to provide a minimum standard of living—only then can universities have the “right” to impose limits on faculty moonlighting. In part three we will see some examples of successful policies to reduce moonlighting from elite Chinese and Indian universities.

In sum, Vietnamese universities are not fulfilling any of the core functions of research universities that will be presented in the next section. They are not providing high-quality education to prepare students for employment and life-long learning, they are producing little knowledge of value to society, they lack meaningful linkages to global knowledge currents, and they are failing to attract the most talented, young faculty. Part two will examine in depth the qualities of a modern research university in order to understand in further detail the causes for Vietnam’s current crisis.

PART TWO. The Modern Research University

I. Desirable Features of a Vietnamese Research University

The phrase “world-class research university” is typically associated with institutions like Stanford, Cambridge, Harvard that are famous for attracting exceptionally talented students and internationally renowned professors. These institutions and their peers engage in cutting-edge research and scholarship. But beyond global reputations for excellence, what are the characteristics of a research university? In the context of Vietnam’s efforts to improve higher education, this basic question carries particular urgency. The IDS report argues that in Vietnam, where research has traditionally been the domain of a system of state-run institutes separate from universities, the concept of a research university is not well understood:

³⁵ Hoàng Tụy, “New Year, Old Story” [“Năm mới, chuyện cũ”] *Tia Sáng*, February 2007.

³⁶ Henry Rosovsky, “Some Thoughts About University Governance,” *Governance in Higher Education: the University in Flux (Glion Colloquium)*, ed. Werner Z. Hirsh and Luc E. Weber, (Geneva: Economica, 2001), p.100.

Most recently, the urgent pressures of international integration and competition have created a need for international-class universities. While justified, many people fear that without vigilance against the chronic vice of pursuing empty achievement, this impatient state of mind will lead once more to the pursuit of quantity over quality and fame over real achievement... That this worry is justified became clear when the government authorized MOET to borrow \$400 million [sic.] from the World Bank to build four high quality universities that by 2020 will rank among the top 200 universities in the world—even while the understanding of what constitutes an international class university remains hazy and problematic.³⁷

In the recent World Bank report on world-class universities, Jamil Salmi argues that elite universities are defined by three characteristics: “(a) a *high concentration of talent* (faculty and students), (b) *abundant resources* to offer a rich learning environment and to conduct advanced research, and (c) *favorable governance* features that encourage strategic vision, innovation, and flexibility and that enables institutions to make decisions and to manage resources without being encumbered by bureaucracy.”³⁸

It is important to consider in more detail the role of a research university in Vietnam, for only with a shared understanding of the institution’s mission can an appropriate set of policies be implemented to guide its emergence and to hold it accountable to that mission. A new apex research university should have the following four features.

1. Provide educational programs of the highest quality

Without discounting the value of research, achieving excellence in teaching must be the overriding objective of a research university in Vietnam. As described above, at present Vietnam suffers from a serious shortage of the highly skilled workers that research universities produce. We believe that Vietnam should place a strong emphasis on undergraduate education. For most people, an undergraduate degree is the last stop in their journey through the education system. The education they receive should therefore equip them with the knowledge and core skills needed for a lifetime of productive contribution to society. At the same time, for a sizable minority of students at research universities, undergraduate education is a steppingstone to advanced graduate training abroad. This is an important function of elite universities in India and China. As noted above, evidence suggests that at present Vietnamese undergraduate programs are not preparing students for entry into high quality graduate programs abroad.

2. Generate socially beneficial knowledge

Universities should engage in knowledge creation to benefit Vietnamese society. In the words of the Task Force, “[Research universities] are most closely connected to advances in knowledge, monitoring breakthroughs in many fields and investigating ways to exploit important results for social and private gain.”³⁹ Over time, a research university should aspire to achieve excellence in many disciplines. In practice, certain fields will develop more rapidly than others. These might include disciplines in which

³⁷ IDS report, p.6.

³⁸ Salmi, p.19-20. Emphasis in original

³⁹ *Peril and Promise*, p.48.

Vietnam has already realized some level of achievement, such as mathematics, computer science, tropical epidemiology, and archeology. Strong support for research is also necessary to attract young scholars and scientists educated abroad, who regard research as an integral component of their professional lives. Knowledge generation does not just take place in laboratories. In most countries, including the three that are the subject of the case studies in this paper, research universities occupy important positions in national intellectual and political life. Through independent, critical research and analysis, faculty members contribute to informed policy debates, providing an important counterweight to research produced by institutes attached to state agencies.

3. Provide linkages to global knowledge currents.

Research universities inhabit a global community of learning and innovation. Faculty members keep abreast of and contribute to ongoing developments in their field of specialization. While this may seem redundant we believe it is important in the context of Vietnam to emphasize the significance of encouraging meaningful international connections. Indian, Chinese and South Korean universities have adopted a range of policies to connect their faculty to the international community of scholars in their fields, such as by providing funding to attend conferences and inviting foreign scholars and scientists to spend time on campus. While this does not mean that every faculty member is producing cutting-edge research and publishing in the most prestigious journals—this would be an unrealistic expectation—a significant percentage of professors should nevertheless be attuned to international currents in their fields. It is the sum total of individual linkages that embeds the institution in an international context. This is not meant to discount institutional relationships with foreign universities, as such partnerships can be valuable, but it is faculty, not memoranda of understanding, that give meaning to international connections.

4. Attract the best and brightest

Research universities should strive to attract the most talented students and faculty. With respect to students, this means ensuring that admissions decisions are made on the basis of merit alone, and tuition fees should not be a barrier to entry. Another characteristic of top research universities in most countries, including those profiled in this report, is that they are national in scope. Beijing and Tsinghua universities compete to enroll the top students from around China, as do the Indian Institutes of Technology in India. In Vietnam, by contrast, even the “national universities” are in practice regional in character judging by their student admissions patterns.⁴⁰ Research universities are defined above all else by the quality of their faculty. It is telling that the aforementioned Chinese and Indian universities consider it a victory each time they lure a Ph.D.-trained Chinese or Indian professor from a top foreign university back to join their faculty. Recruiting the best faculty requires more than offering attractive compensation packages (although this is certainly necessary); institutions must also offer a professional environment and intellectual ambience that approximates the conditions found in leading universities overseas. While this may

⁴⁰ One rarely finds students from the southern half of the country in Hà Nội, and vice versa. This suggests that top universities in Hồ Chí Minh City and Hà Nội do not see each other as competitors for students.

seem obvious, it is of central importance to improving Vietnamese higher education. At many leading universities in developing countries, a significant percentage of faculty members received their postgraduate training abroad and in many cases spent time teaching or working overseas after completing their doctorates. This means that their expectations for an academic career have been shaped by these experiences. As a consequence, they are unwilling to accept working conditions—including lack of intellectual freedom and research opportunities—that are anathema to these expectations.

II. Governance

In assessing the efforts of developing countries to create quality universities, the Task Force concluded that governance is often the most difficult component to get right. We believe that this is especially true in Vietnam's case, so it is worth considering in some detail what "governance" means. The Task Force's definition of governance is deceptively simple: "the formal and informal arrangements that allow higher education institutions to make decisions and take action."⁴¹ Universities must be firmly embedded in the societies in which they are located, reflecting local values and cultural traditions. However, it is a core premise of this paper that certain central features of university governance are universal.

A. Academic Freedom

The goal of research universities is to expand the frontiers of human knowledge. This endeavor is incompatible with a governance system that does not permit a maximum degree of intellectual freedom. Faculty and students must be able to question received wisdom and take positions on issues that may be at odds with government policy or widely held popular attitudes. Fostering academic freedom requires more than embracing the principle. Policymakers and regulatory bodies must be comfortable permitting the internal checks and balances of an academic community—discussion, debate, peer review, etc.—to determine the merits of an idea. Personnel policies and incentive structures are also important. In countries such as Vietnam where a significant share of a faculty member's income does not come from his or her official salary, the ability of university or department level authorities to control access to income generating activities (such as participation in sponsored research or additional teaching) can be a powerful tool to discourage free thinking should it conflict with institutional or personal interests. Even policies towards hiring a university's own graduates can influence the openness of a department or faculty to new ideas. As the Task Force notes, "Academic freedom is not an absolute concept; it has limits and requires accountability."⁴² However, the limits should be determined by the members of the community, not by administrative fiat or by financially-motivated superiors.

We emphasize that restraints on academic freedom are for the most part not intentional but result from a debilitating mix of structural distortions that limit the ability of Vietnamese faculty to pursue independent scientific and scholarly inquiry. Faculty members who must moonlight or "chase gigs" (*chạy sô*) excessively to

⁴¹ *Peril and Promise*, p.59.

⁴² *Ibid.* p.60.

support themselves will not have time to stay current in their fields. Young faculty members may feel reluctant to engage in critical debate with senior colleagues. Many of the restraints on academic freedom stem from Hoang Tuy's "salary/income paradox." As long as this highly opaque system persists, it is unlikely that Vietnamese instructors will feel comfortable taking positions that may be unpopular with more senior colleagues.

B. Autonomy

There is a growing consensus that institutional autonomy is an important prerequisite for achievement. In its 2006 global survey of higher education, *The Economist* magazine attributed the success of American higher education in part to the limited role of government, and, of course, superior access to funding.⁴³ The United States has a long tradition of independent academic institutions. Many developing countries, including Vietnam, do not. For these countries, striking a balance between autonomy and accountability is one of the most delicate aspects of university governance. Universities must be empowered to make decisions over core aspects of their activities. Without such basic autonomy, universities will not have the capacity or incentive to compete with each other on the basis of the quality of their courses and research or the employability of their students. As we will see in part three, curricular flexibility has been one of the critical elements allowing faculty members at the Indian Institutes of Technology to keep their students abreast of global advances in knowledge and highly employable in engineering fields. Professor Rosovsky says, "Governance sets the parameters for management, and no mismanaged enterprise will flourish. Higher education is no exception. However, higher education does require its own special forms of governance, and should always place a premium on reasonable but minimal interference from the outside."⁴⁴

Vietnamese academic institutions remain subject to a highly centralized system of administrative controls. Essentially all decisions about core university operations are made by external actors. The central government determines how many students universities may enroll, and (in the case of public universities) how much university instructors are paid. The Ministry of Education and Training issues diplomas to certify that students have acquired a body of knowledge. Academic titles are also dictated from outside by national bodies such as the national professorial council. Perhaps most fundamentally, teachers and departments do not fully control their own curricula, making it difficult for them to prepare their students to participate in the knowledge economy. Centrally dictated curricula and exhaustive catalogs of core requirements quickly become out of date, particularly in scientific or technological fields. This system effectively renders universities and institutes administrative units of the state, discouraging competition and innovation.

Professor Võ Tòng Xuân, who has held leadership positions in Vietnamese universities for many years, believes that little progress has been made in increasing institutional autonomy:

⁴³"Secrets of Success", *The Economist*, 5 September 2008.

⁴⁴ Rosovsky, 2001, p.95.

[As for] the issue of managerial and financial autonomy as in Resolution 10/2002, in reality schools have very little autonomy, and must always seek financial approval from higher authorities...In practice, rectors do not have the power to dismiss anyone who is a state employee, and certainly do not have the power to recruit or promote leading faculty members. That is also the power of higher authorities. The situation is similar in all other respects, for instance in order to change a training curriculum or add a new text book...everything must be approved by higher authorities.⁴⁵

Vietnamese educational policies have acknowledged the importance of autonomy. The Vietnam National University (Hà Nội and Hồ Chí Minh City) was established in the mid-1990s under a special charter intended to afford the two schools considerable autonomy; they are directly responsible to the Prime Minister, and they receive a higher allocation from the state education budget than other universities. Yet, in practice, the VNUs seldom deviate from MOET curricula and, as shown above, they have not achieved academic quality that is comparable with other national universities in the region. Official policy statements reveal a strong ambivalence towards delegating substantive authority to universities, making comprehensive reform difficult. This tension is evident in the Education Law of 2005, which at once embraces institutional autonomy and asserts that the State must “exert unified management of the national education system with regard to the objectives, programs, contents and plan of education.”⁴⁶

C. Accountability and Transparency

Just as universities must enjoy freedom from excessive outside interference, so too must they be accountable to their stakeholders, especially their funders, including government, students and their families, and at the broadest level, the tax-paying public. One of the most effective means to achieve accountability is through transparency. Stakeholders have a right to know that their funds are being used responsibly in accordance with the university’s purpose and goals. Financial transparency is arguably the most crucial. Elite Indian institutions publish annual reports complete with detailed budgetary and financial data. By contrast, in Vietnam, it is doubtful if even a university rector possesses a complete picture of his institution’s financial situation. As many Vietnamese commentators have pointed out in response to MOET’s recent proposal to increase school tuition fees, without financial transparency it is impossible to determine whether more spending will lead to better quality.⁴⁷ But accountability is not limited to finances. University administrators, faculty and students must be held to the highest standards of accountability in performing their assigned tasks. Even the perception of favoritism,

⁴⁵ Ibid.

⁴⁶ Martin Hayden and Lâm Quang Thiệp, “Institutional autonomy for higher education in Vietnam,” *Higher Education Research & Development* 26, no.1 (2007): 73-85.

⁴⁷ Deputy Phạm Thị Loan of Hà Nội Hà Nội recently made this point in the National Assembly: “I am sad to read in MOET’s report that the Ministry does not have the ability to estimate the results of the investment in education [from raising tuition]. Then who can? I feel that this proposal just focuses on raising the income of teachers, but is it correct or not? In my opinion, if raising teachers’ salaries will improve the quality of teaching and learning, then it is alright. But while the problem of university quality still remains to be fully understood, finance is only one of the problems.” An Nguyễn - Xuân Toàn - L.Q.P “Financial reform does not only mean increasing academic tuition” [Đổi mới tài chính không phải chỉ là tăng học phí] *Thanh Niên* 4, no.6, 4 June 2009.

nepotism or corruption of any kind can be fatal to the functioning and reputation of the university.

Vietnam's public universities are arguably the least publicly accountable institutions in Vietnam today. Whereas even state-owned enterprises are increasingly expected to adhere to minimal performance-based standards, accountability structures in higher education have remained locked in a traditional, central planning mode. Funding is not tied to institutional or individual performance in any meaningful way; university rectors are rarely if ever replaced except for egregious violations of the norms of personal or professional behavior. Similarly, government research funding is distributed without reference to capacity or results achieved, and is thus primarily a form of salary supplementation. Because university slots are so coveted—only one in ten Vietnamese of college age is enrolled in post-secondary institutions—Vietnamese universities do not feel pressure to innovate. In a country where study abroad is an option for only a tiny minority, they enjoy a captive market. Nor are Vietnamese private universities accountable to the public for providing quality education, since they function like other profit-seeking businesses.

As discussed above, the establishment of “buffer mechanisms” such as boards of trustees is one way to promote accountability in the context of greater institutional autonomy. Vietnam has experimented with buffer mechanisms but, because the powers granted to these buffers are vague, they have largely been dismissed as formalistic (*hình thức*) attempts to adopt the appearance of new organizational structures without significantly altering existing dynamics between the central authorities and the universities. An example of the ineffectiveness of these reforms is the experiment with “university councils” (*hội đồng trường*). In the cases with which we are familiar, the actual authority granted to university councils is limited.

D. Stable funding

Research universities are expensive. The “hardware” investments alone—the laboratories, classrooms, and dormitories that comprise a modern university—are immense. Another expense is human capital; in a borderless competition for the best scientists and scholars, universities must accept the proposition that talent follows money. Vietnamese young people completing advanced programs overseas have a range of opportunities to choose from: the best can pursue academic careers at foreign institutions, others can seek opportunities in the private sector, either at home or abroad. Furthermore, there is no break-even point for research universities, beyond which external funding can be reduced. In developing countries like Vietnam, this means that the state must be and will remain the primary financier. While a diversified funding base is desirable, philanthropy has yet to develop in Vietnam to the point at which it could reasonably be relied on to provide predictable financing on a scale sufficient to guarantee the operations of a research university. Nor is commercialization the solution: the market cannot provide the quality or comprehensive education required of a research university (this topic will be further explored below). According to Professor Rosovsky, funding stability must be seen not as an ideal but as a necessity: “Institutions of higher education...require sufficient financial stability to permit orderly development. Financial uncertainty and budget

fluctuations all hinder the fundamental mission of learning and knowledge creation. Rational planning becomes impossible.”⁴⁸ Yet, in the face of chronic budget deficits and other pressing demands, policymakers often have difficulty maintaining stable funding, since higher education is a long-term investment without immediate and quantifiable payoffs.

E. Merit-based selection mechanisms

Membership in an academic community should be determined on the basis of individual merit. For students, this means selection through a rigorous and transparent admissions process, which in Vietnam and in many countries consists of national entrance examinations. It is also critical that hiring and promotion of faculty and administrators be based solely on merit. This paper will explore the ways in which universities in India, China and South Korea have attempted to ensure that personnel systems accord with this ideal. One common strategy for encouraging universities to cast a wide net in their pursuit of talented instructors is to adopt policies discouraging “endogamy”—hiring faculty from the ranks a university’s own graduates, a practice that is widespread in Vietnam. Endogamy is seen as a problem because it stifles innovation and creativity, especially in cultures predisposed to hierarchy. Studies have shown that universities with a high level of endogamy are less innovative: “Indeed, universities that rely principally on their own graduates to continue into graduate programs or that hire principally their own graduates to join the teaching staff are not likely to be at the leading edge of intellectual development.”⁴⁹

Vietnamese universities are succeeding in attracting talented students. Most cannot afford overseas education and must make do with local universities. The process by which students are selected for slots in the fulltime (*hệ chính quy*) system is generally regarded to be free of corruption and manipulation. This is due to the significant resources that MOET commits to ensuring the integrity of the examination process. An additional factor is that the national examinations are subject to a great deal of external scrutiny, by parents and especially by the media, which puts additional pressure on the government to ensure fairness. Indeed, the relative success of the entrance examination may offer lessons of relevance to other aspects of university governance such as faculty hiring and promotion.

“In-service” (*hệ tại chức*), long-distance, and graduate programs lack the integrity of fulltime undergraduate programs. Corruption is rife and it is well known that in some instances degrees and titles can be purchased.⁵⁰ We mention this problem in the context of the present paper because today many of Vietnam’s leading public universities participate in these low-quality programs, including schools in the VNU

⁴⁸ Rosovsky, 2001, p.95.

⁴⁹ Salmi, p. 21. Salmi goes on to cite a European study that found an inverse correlation between endogamy and research output. It reflects common best practices in the United States that a university should not hire its own doctoral students. The practice is more common in Europe, however. See Henry Rosovsky, *The University: An Owner’s Manual*, (New York: W.W. Norton, 1991), p. 31-32.

⁵⁰ On academic corruption, Professor Võ Tòng Xuân writes “When finalizing a dissertation, every graduate student must spend a lot of money in order to assemble the entire dissertation committee to approve it.” Ibid.

system.⁵¹ The consequences of the fulltime/in-service dichotomy cannot be overstated. Efforts to adhere to international standards of quality and governance will be rendered meaningless as long as students are selected on the basis of such widely different criteria.

Finally, university personnel systems are opaque and promotion is too often based on non-academic criteria such as seniority, family and political background, and personal connections. Remuneration is based on seniority and official salaries are so low that university instructors must moonlight excessively to support themselves, severely compromising teaching quality.⁵² Faculties and the upper levels of administration tend to be dominated by individuals trained in the Soviet Union or Eastern Europe who cannot speak English and, in not a few cases, are hostile to younger, western educated colleagues. In contrast to China, Vietnam does not yet offer incentives to foreign educated Vietnamese. Anecdotal evidence from Vietnam suggests that a lack of merit-based selection in faculty hiring and promotion is a frequent complaint of young scholars and scientists. To get ahead, young faculty must devote themselves to those activities that their seniors value most highly—such as teaching in outside programs—but that do not improve the quality of the university.

F. Willingness to compare oneself to the best

A prerequisite for achieving internationally recognized quality is a willingness to benchmark oneself against those institutions whose level one aspires to attain. This in turn requires strategic vision and leadership on the part of the institution's leaders. According to Salmi, "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."⁵³ The IDS report asserts that "An international class university [in Vietnam] must be unambiguously defined as one that is equivalent to a mid-tier university in a developed country in all essential respects" including infrastructure, quality of incoming and outgoing students, academic achievements, international cooperation and faculty connections, and so on.⁵⁴ It specifies that the best departments would need "three to four internationally recognized experts" in order to meet international standards.

Many Vietnamese scientists and educators believe that norms and standards in the Vietnamese academy are largely divorced from international best practices. According to the IDS report,

In an age of globalization, in order not to be eliminated from competition, at a minimum it is necessary to understand and respect the rules of the game, beginning with international principles, standards, and norms. But still, in most areas, from elementary standards relating to physical infrastructure and

⁵¹ See, for example, Phúc Điền-Công Nhật, "Alliance training in chaos" ["Loạn liên kết đào tạo"], *Tuổi Trẻ*, 23 February 2007. Available at: <http://www.tuoiitre.com.vn/Tiayon/Index.aspx?ArticleID=188145&ChannelID=13>

⁵² See, for example, Doan Truc *University Lecturers on the Run*, VietnamNet, 2 December 2008. <http://english.vietnamnet.vn/education/2008/12/816516/>.

⁵³ Salmi, p.52

⁵⁴ IDS, p.17.

teachers, the hiring and evaluation of professors and associate professors, selecting masters and doctoral students, evaluating scientific research, evaluating masters' and doctoral dissertations, etc. Vietnam doesn't adhere to international standards but instead relies on criteria of its own making, much lower and very different from international criteria, lacking objectivity, scientific rationale, and transparency, and easily abused for private gain.⁵⁵

Dr. Phạm Duy Hiền is a distinguished nuclear physicist who has written extensively on the moribund state of Vietnamese research. He expresses alarm at a widespread lack of concern within the scientific establishment, even when confronted with evidence (publications in peer-reviewed journals) suggesting that Vietnamese universities are being dramatically outperformed by their Thai counterparts. He attributes this indifference to exceptionalism: "We have our own way" is how he sardonically characterizes this attitude.⁵⁶

G. Competition

University quality is also improved when system level governance regimes promote healthy competition among universities for the best students and faculty. Competition for funding pushes institutions to strive to achieve higher standards in research and education. Universities compete on the basis of the quality and employability of their graduates. It is frequently observed that the high level of competition that characterizes the US higher education system helps explain why so many of the world's leading research universities are found in the US. Of course, the highly decentralized nature of US higher education lends itself to competition, but even in countries where the state plays a much more significant role, the importance of fostering competition (in quality, not in price) is increasingly acknowledged. The degree of competition is unrelated to the extent of private involvement in higher education. The system in the United Kingdom resides almost entirely in the public sector: nevertheless, universities compete for public and private research grants, to attract the best students and faculty, and to demonstrate to employers that their graduates are the best trained and most productive. A good indicator of competition is faculty mobility. In India and China elite higher education institutions increasingly compete with each other to attract talented faculty, not just from abroad but also from each other's faculties. By contrast, Vietnamese educators report that movement of faculty members from one institution to another within the system is exceedingly rare.

III. State Control versus State Supervision

In the case of Vietnam, modernizing university governance so that research universities can flourish requires a fundamental reordering of the relationship between academic institutions and the state. At present, Vietnamese higher education is characterized by an unusually high degree of state micro-management. As noted above, even core functions such as granting of degrees and decisions pertaining to curriculum are imposed from outside. The Task Force characterizes this as a process of transition from *state control* to *state supervision*. According to the Task Force, "state control of higher education has tended to undermine many major principles of

⁵⁵ IDS, p. 5.

⁵⁶ Phạm Duy Hiền, "Leading Universities in Thailand and Vietnam," ["Đại học hàng đầu ở Thái-lan và Việt Nam"] *Tia Sáng*, February 2007.

good governance.” By contrast, “State supervision aims at balancing the state’s responsibility to protect and promote the public’s interest with an individual institution’s need for academic freedom and autonomy.”⁵⁷

This should not be interpreted as diminishing the state’s importance in higher education. On the contrary, the state plays a central role in guiding the emergence of a well-designed higher education system. The role of the state at the system level will be explored in a second paper. For the purposes of the present study, it should be emphasized that with respect to research universities, in their role as generators of new knowledge, the state must have a particularly light touch.

The challenge for the state is to put into place mechanisms that ensure accountability to students, taxpayers and the larger community without stripping research universities of the autonomy they need to achieve and sustain excellence. The Task Force observes that many countries with traditions of strong state control accomplish this through the establishment of “buffer mechanisms” such as national advisory councils (at the system level) and boards of trustees (at the institutional level). These councils should be filled by internal and external stakeholders, including faculty, prominent scholars and scientists, business people, current and retired officials, and representatives of the community. In general, “insider” representation should be kept to minimum. Council members should have no vested interest in university management decisions, other than their overriding commitment to the institution’s success and well-being. Their sole purpose is to ensure that the university’s actions adhere its mission, as defined in the governing charter. This impartiality allows board members to assess the university’s strategy and contribute suggestions reflecting their experience and knowledge. The IDS report suggests that in Vietnam “the success or failure of education reform will depend to a great extent on the composition of these bodies.”⁵⁸

A few examples of governance help to illustrate the point. The charter of Imperial College London, granted by the British government, defines the purpose of the university: “to provide the highest specialized instruction and the most advanced training, education, research and scholarship in science, technology and medicine.”⁵⁹ In pursuit of this objective, the university is given complete autonomy to grant degrees, manage its finances and fundraising, apply for grants, and so on. The charter endows three governing bodies with oversight of the university, including a Council, composed of 19 members, which is responsible for finances and strategic direction; a Court, with representatives of international, national, and community interests, which provides a forum for discussion of any issues important to the university; and a faculty Senate to regulate academic work at the university. American colleges and universities are often governed by a board composed of several dozen members, including alumni, appointees of the state (and local) government, elected members, and a few ex officio members. At the University of Washington, a major public university, ten officers serve on a Board of Regents, all appointed by the state

⁵⁷ The Task Force, p.53.

⁵⁸ IDS report, p.12.

⁵⁹ London Imperial College, *Charter, Statutes and Ordinances of the University*, <http://www3.imperial.ac.uk/secretariat/governance/charterandstatutes>.

governor for staggered six-year terms.⁶⁰ Of the current regents, six are presidents or senior executives of major local companies and one is the co-chair of a major local foundation (the Gates Foundation). Several are alumni. Alumni are important board members because they have an interest in building the reputation of the university and can help mobilize financial support for the institution from their peers. The Board is granted with ultimate authority over the university's direction, as is laid out in the university's governing charter. In practice, the most important role of a US governing board is to hire and fire the president, based on its evaluation of his or her decisions vis-à-vis the university's effort to produce quality education and research. This is especially important in the early years of a new university, when institutional culture and internal regulatory mechanisms are still developing.

Policymakers must take a holistic view of university governance. They must appreciate the impact of specific policies while not losing sight of the overall structure of regulation and the interaction among instruments and objectives. In the realm of higher education policy there are no quick fixes or silver bullets. This is particularly true with regards to the important issues of decentralization and autonomy. The devolution of decision-making authority to individual universities must be accompanied by the creation of accountability structures to ensure that these newfound powers are exercised responsibly and professionally. Such structures are both internal—including boards of governors and faculty committees—and external—including accreditation bodies, which differ significantly across countries. However, we would emphasize that while formal external review mechanisms such as government or voluntary accreditation can help to provide minimum quality standards and ensure against fraud, they cannot operate in isolation. Writing about the increasing institutional autonomy in post-Soviet Russia, Johnstone and Bain observe that changes are needed both to “culture” (what Rosovsky calls the “informal” aspects of university governance) and formal processes. In particular, they emphasize the development of “trust” between regulatory agencies and universities. “Trust also requires the existence of, and a faith in, the systems, or processes that undergird trust such as audits, competitive bidding, independent judicial inquiries, and a free press.”⁶¹

IV. Financing, Privatization, and the Public Interest

One of the most hotly contested topics in the Vietnamese discourse on higher education policy is the role of market forces. In light of this debate, it is appropriate to consider briefly the differences between public and private universities, and the role of the government in financing research universities. Worldwide, the private share of education expenditure is on the rise, driven by booming demand. Individual returns to investment in higher education have risen as the speed of global technological change has accelerated. The gap in wages between skilled and unskilled workers has widened as the weight of knowledge-based industries in the global economy has increased. Young people around the world recognize that entry into these growing and lucrative

⁶⁰ University of Washington, *Board of Regents*, <http://www.washington.edu/regents/governance/standingorders.html>

⁶¹ D. Bruce Johnstone and Olga Bain, “Universities in Transition: Privatization, Decentralization, and Institutional Autonomy as National Policy with Special Reference to the Russian Federation,” in *Higher Education in the Developing World*, David Chapman & Ann Austin, eds, (Chestnut Hill: Center for International Higher Education, 2002).

industries requires a university degree. As demand has increased, governments have found it difficult to expand the number of university places to keep pace while at the same time maintaining or improving quality.⁶² The cost of supplying university education has also increased as basic science and technology have advanced at lightning speed, forcing universities to invest massively in new facilities and knowledge and information systems. Faced with growing demand and higher costs per student, many countries have come to rely increasingly on student tuition and private universities. This trend is apparent in Vietnam in the recent policies to increase student tuition fees and to equitize some universities, as well as in the burgeoning private tertiary education sector.

Investment in university education yields social benefits over and above the higher incomes captured by individuals. Skilled workers help companies to increase profits, which in turn leads to more investment, more jobs, and higher tax revenues for the government. Part of the workforce trained in universities contributes directly to the community through public sector jobs, for example as teachers and doctors. University-based research produces advances in basic science and engineering that spur productivity growth.⁶³ University-educated citizens invest more money in the education of their children, including daughters. For this reason, governments around the world have remained committed to a public role in higher education even as pressure increases to attract more private sources of financing into the college and university sector.

In most countries, research universities are public, meaning that they are funded by national and local government, and they are ultimately accountable to the government. The United States is arguably unique in that many—although by no means all—of its elite research universities are private. It is useful to point out, however, that the difference between public and private US universities relates primarily to the nature of the institution's relationship to outside stakeholders. Internally, governance processes are broadly similar. Most importantly, private research universities in the US are non-profit institutions. It is noteworthy that the US federal government makes research grants equally available to all research universities, reflecting the belief that all university research has a public benefit, whether originated at public or private institutions.⁶⁴ The Task Force suggests that the distinction between for-profit and non-profit institutions is more meaningful than that between public and private institutions.⁶⁵

⁶² Burton Bollag, "Financing for Higher Education Shifts to Private Sector Worldwide." *Chronicle of Higher Education* 53, no.50, 17 August 2007.

⁶³ For example, one of the early motivations for the investment in land grant colleges in the United States was the need to develop new agricultural technologies and to share them with the nation's farmers.

⁶⁴ The National Science Foundation, the National Institutes of Health, and National Endowment for the Humanities, the three major federal research agencies for research and education, do not distinguish between public and private academic institutions in their grant application guidelines. According to a 2000 study, federal grants accounted for 11 percent of the revenue of public universities and 14 percent of the revenue for private universities. Thomas R. Wolanin, 2000. "Financing Higher Education in the United States: An Overview," *International Higher Education*. http://www.bc.edu/bc_org/avp/soe/cihe/newsletter/News19/text5.html.

⁶⁵ *Peril and Promise*, p.27.

With the possible exception of certain applied fields, it is impossible to reconcile the mission and objectives of a research university with the profit motive. The for-profit private sector has a natural tendency to invest in the kinds of educational activities that lead to higher private returns while neglecting activities that yield high social returns. Certainly, commercially oriented training plays a constructive role: Vietnam is already experiencing shortages of skilled workers in banking, information technology, and mid-level management. However, a completely for-profit, private system would generate too many business administration and English language courses and not enough molecular biology or sociology.⁶⁶ Moreover, colleges and universities seeking to earn high profits favor students who can pay over students with greater potential but who lack the means to finance their education out of household savings or borrowing. The under-education of talented but poor students is a net loss to society as a whole, and perpetuates intergenerational inequality across households.

These concerns were echoed by the Task Force, which cautioned against over-reliance on private and particularly for-profit institutions:

Certainly, competition within the higher education sector can lead to higher standards and to significant benefits for individual students. In many developing countries, however, markets do not function well and this leads to a serious misallocation of resources. Access, for example, is limited by income, excluding potentially able students and diluting the quality of the student body. Poor market information dilutes competition, allowing weak, exploitative institutions—some of them foreign—to survive and even prosper, and lessening the chances of dynamic new entrants. Even when markets work well and students receive a quality service, private institutions may still fail to serve the public interest. For-profit institutions must operate as businesses, facing the market test and trying to maximize the return on their investment. It may not make good financial sense for them to invest in public-interest functions, and therefore they may under-invest in certain subjects and types of higher education, even if these are important to the well-being of society as a whole. The public sector thus retains a vital and, in our opinion, irreplaceable role in the higher education sector.⁶⁷

The basic point that higher education is subject to pervasive and serious market failures is missing from the debate in Vietnam over the respective roles of the public and private sectors. Vietnamese universities would like to charge higher fees to cover costs and expand programs. Equitization would free institutions from tuition caps and other financial regulations that limited their funding options. The government is also attracted to equitization as a means to reduce demands on public resources and perhaps even generate revenues through the sale of existing institutions. Yet much of this debate is marred by confusion regarding the nature of the problems facing Vietnamese universities and the range of solutions available to address these options. For example, there is no reason why privatization or equitization is required to give universities more financial autonomy, including the right to set levels of tuition. As

⁶⁶ The reality is that current trends in Vietnamese public education already favor these fields at the expense of the core sciences. A SUNY Buffalo study found that the expansion in higher education enrollment over the past two decades (from two percent of the university aged population in the early 1990s to 10 percent in 2007/08) is “a result of the dramatic growth of the number of students in some areas like economics, business administration, law, English, and computer science. Student enrollment in basic sciences has not increased very much, and in some specialties, enrollment has even decreased. This situation is considered evidence of the strong influence of market mechanisms on student enrollment behavior and the strategies of [higher education institutions].” *Higher Education Finance and Cost Sharing in Vietnam*. Available at: http://www.gse.buffalo.edu/org/inthigheredfinance/files/Country_Profiles/Asia/Vietnam.pdf.

⁶⁷ *Peril and Promise*, p.38.

stated above, greater financial autonomy is not inconsistent with public ownership. Meanwhile, little thought has been given to the deeper implications of equitization, most importantly the shift in institutions' core objective from public service to profit making. Because of the market failures that characterize the higher education sector, a greater reliance on for-profit institutions would result in more emphasis on private benefits and less on social objectives. The most likely outcome of equitization would be a highly commercialized university sector that offers no basic science, social science or humanities. The system would cater to wealthier at the expense of poorer households, regardless of student ability.⁶⁸

Another crucial element missing from the privatization debate in Vietnam is a deeper understanding of the microeconomics of higher education. Universities are subject to extremely high fixed costs in the form of classroom, libraries, laboratories, IT systems, and the like. So universities require huge amounts of start up capital, which, if amortized over time, imply high annual financing costs. In most businesses, high fixed costs drive companies to increase scale in order to reduce average fixed costs. But this strategy does not work in higher education because variable costs are also exceptionally high. For example, the University of Wisconsin at Madison, a large American public university, estimates that it costs on average \$1.2 million to hire a new professor, taking into account salary and benefits, support staff and other facilities.⁶⁹ The combination of high fixed and variable costs means that it is in most disciplines impossible to deliver high quality university education for profit. The fact is that good universities rely on public support and philanthropy to survive. On average, US families pay approximately one-third of academic operating revenues at public universities.⁷⁰ To take one specific example, tuition and fees as a share of total operating revenue at the University of Virginia—another leading public university—is only 28%, as shown in Figure 4 below. At Harvard, tuition payments only cover 22% of total annual revenues in the Faculty of Arts and Sciences (including both undergraduates and graduate students)—despite the fact that Harvard tuition approaches \$50,000 per year!⁷¹

Figure 4: University of Virginia Academic Operating Revenues 2007-2008⁷²

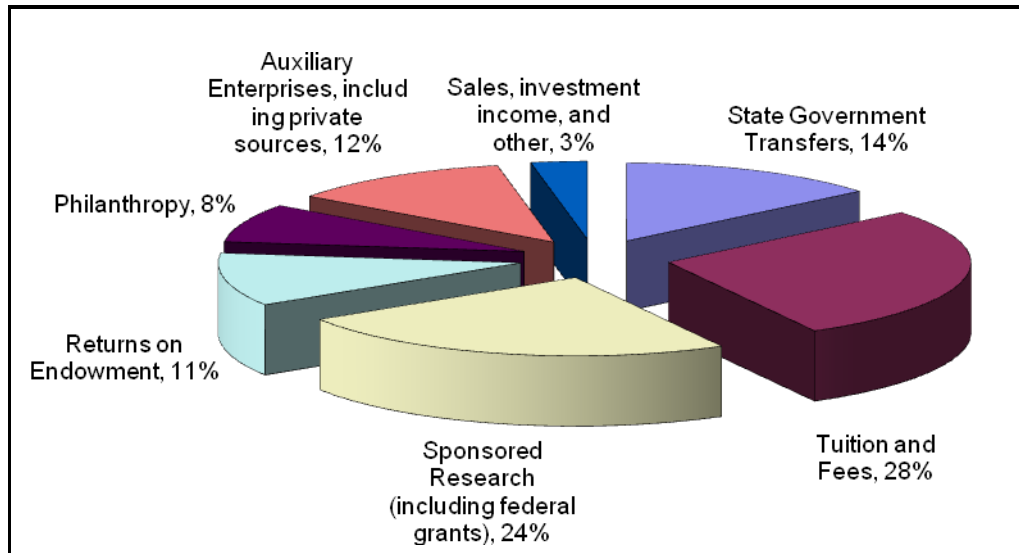
⁶⁸ Many Vietnamese commentators have convincingly argued that equitization fails to address the education sector's fundamental problems, while creating a new set of problems concerning the responsibilities of the state and social equity. For example, see Vũ Thành TỰ Anh, "Do not turn public universities into stock companies" ["Đừng biến trường đại học công lập thành công ty cổ phần"] VietNamNet 5 May 2009. Available at: <http://vietnamnet.vn/giaoduc/2009/05/845683/>.

⁶⁹ Wilson, R. 2008. "Wisconsin's Flagship Campus Is Raided for Scholars." *Chronicle of Higher Education*, 54 (April 2008): A1, A19, and A25. Available at: <http://chronicle.texterity.com/chroniclesample/20080418-sample/?pg=19>.

⁷⁰ NCHEMS Information Center, Family Share of Public Higher Education Operating Revenues <http://www.higheredinfo.org/dbrowser/index.php?submeasure=70&year=2007&level=nation&mode=graph&state=0>.

⁷¹ Annual Financial Report of Harvard University 2007-2008. Available at <http://vpf-web.harvard.edu/annualfinancial/>

⁷² University of Virginia, Budget Summary All Divisions 2008-2009. Available at: <http://www.virginia.edu/budget/Docs/2008-2009%20Budget%20Summary%20All%20Divisions.pdf>



Advances in science and technology make it more rather than less difficult to run universities as profit-making businesses. Both fixed and variable costs are rising. Remaining competitive in cutting-edge research means continual investment in new facilities. At the same time, competition for scholars with a proven research track record has increased, driving up faculty salaries at the top of the pyramid. But more public money must come with stronger governance and accountability structures to make sure that increased investment leads to better quality. The case studies will highlight strategies to do this. Recent Korean excellence initiatives have offered competitive grants to the best research proposals. The Chinese have poured money into their top institutions, while demanding higher levels of performance. India's independent governance mechanisms have ensured that the Indian Institutes of Technology transform high levels of state support into academic excellence. Salmi presents a sampling of recent "research excellence initiatives" from European, East Asian and a few US state governments.⁷³ The table shows that governments are committing large sums of money to ensure that their states stay at the edge of modern scientific and technological research. But they are doing so in ways that stimulate competition and promote higher standards of performance.

V. Role of International Cooperation

Research universities are increasingly globally connected. Industrialized country universities are partnering with foreign universities and governments to create exchange programs, joint degree programs, and professional schools. These partnerships can provide new opportunities for students and bring the experience and expertise of older, globally recognized universities to bear on higher education in the developing world. Beyond the benefits for building quality, there is also prestige—for both sides—to be found in these international partnerships. Vietnamese policymakers and educators are understandably keen to participate in this movement as they seek to transform the higher education system.

⁷³ Salmi, Appendix F.

Indeed, many foreign universities and colleges are, or could be interested in establishing programs in Vietnam, and some of them have explored opportunities for long-term partnerships with Vietnamese institutions. Some of the first movers are business and management schools that see a growing and potentially lucrative market for business degrees. But other kinds of institutions have entered into commitments in Vietnam as well. Dozens of “cooperation agreements” have been signed with foreign universities, and a few joint degree programs are offered. However, most of the memoranda of understanding have produced only symbolic relationships, not concrete programs; and many of the foreign enterprises that do materialize are for-profit ventures, some of which are of dubious quality, for example those that are unaccredited in their home countries.⁷⁴

Part of the problem is that the public discussion of “international cooperation” in Vietnam does not pay adequate attention to important distinctions that exist between different models of international partnership. There is a range of possible partnership models, and though all are in some way related to the globalization of higher education, they serve different purposes. We offer a simple typology of these various models that divides them into three categories: traditional exchanges, transplant, and institutional development. We recognize that these categories are not necessarily mutually exclusive, and that this typology therefore runs the risk of oversimplifying a complex situation on the ground. Nevertheless, it is useful to bring out the salient characteristics of these different forms of cooperation to contrast the motivations, objectives, and means specific to each group.

A. Traditional Exchanges

Universities exchange students, faculty, and, less commonly, administrators. The most common form of student exchange is a year or semester-long “study abroad” program allowing students from one university to automatically transfer credits from a foreign university toward the completion of their degree. The most sought-after exchange opportunities for Vietnamese students are in individual foreign study, as discussed in part one. Faculty exchanges are also important. Professors across universities and countries collaborate on research, write articles and edit books together, and share laboratories. These are ways for faculty to share new knowledge and stay current in their field. Foreign professors also play a governance role in research universities. Top US and Asian universities often involve outsiders in peer review mechanisms and on tenure review committees. External faculty members (both national and foreign) are more likely to be impartial, and bring a useful international perspective to internal deliberations. Since many universities evaluate their faculty on the basis of the international impact of their research, involving consumers of this research directly in the hiring, tenure, and promotion process has great advantages.⁷⁵ Finally, university administrators and presidents spend time at foreign universities to share ideas about governance and management.

⁷⁴ Martha Ann Overland, “American Colleges Raise the Flag in Vietnam,” *The Chronicle of Higher Education* 55, no.36, 15 May, 2009.

⁷⁵ *Peril and Promise*, p.65.

Vietnamese public universities have set up some programs for student exchange with foreign universities, though these are limited in number and scope and most are commercially oriented. Cross-border faculty collaboration also remains limited, although bilateral aid donors frequently support extended visits of Vietnamese academics to universities overseas. Vietnamese universities do not invite international scholars to participate in internal recruitment and promotion processes. Finally, “study tours” that provide Vietnamese academic administrators a chance to visit foreign universities are now fairly common. Yet is it difficult to imagine that these trips have much of a policy impact given that decisions relating to the governance and management structures of Vietnamese universities are in the hands of the central government rather than the institutions themselves. Individual university presidents may learn a great deal by visiting the world’s great universities, but upon return to Vietnam they lack the authority to do much to transform their own institutions.

B. Transplant

An increasingly common model, most evident in the Gulf States and Singapore, is transplant—foreign universities (most, but not all American) bring their curricula, faculty and degrees to new campuses, entirely financed by the foreign governments. Qatar and the UAE have sought to become international centers of higher education through massive investment—on the order of tens of billions of dollars—to encourage top-tier American universities to establish branches on new, purpose-built campuses. Qatar has brought Cornell, Northwestern, Carnegie Mellon, and others; Abu Dhabi has welcomed the Sorbonne and NYU, and is planning new endeavors with top technology, medical and business schools (MIT, Johns Hopkins, and INSEAD); and in Dubai, the list includes Boston University and Michigan State, as well as Harvard.⁷⁶ Singapore, meanwhile, has financed Duke Medical School’s plans to expand graduate medical training at NUS.

For leading international universities, such arrangements serve several purposes. Research universities always need to raise money, and some governments are willing to offer spectacular sums to attract a world-class institution. A recent *New York Times* article recounts the story of the president of NYU asking for a \$50 million gift to the university from a Middle Eastern investor who encouraged him to open a campus in the UAE.⁷⁷ But it is not just about the money. As higher education globalizes, university administrators are aware that only a handful of institutions will achieve truly global reach. A high quality branch campus can enhance the university’s global reputation and grant it access to groups of highly qualified students and academics who may not have been willing to come to the home campus. Whatever the motivation for these partnerships, it is clear that competition is fierce. In the same *Times* article, a University of Washington international programs officer commented that she receives one proposal for a new foreign campus or partnership every week.

⁷⁶ Zvika Krieger, “Build it and they will learn” in *Newsweek Special Report: The Education Race*, August 2008. Available at <http://www.newsweek.com/id/151680>.

⁷⁷ Tamar Lewin, “US Universities Rush to Set Up Outposts Abroad,” *The New York Times* 2 October 2008.

Vietnam has expressed interest in the transplant model, but there appears to exist an expectation that international universities will finance themselves. The predominant attitude seems to be that, while international universities are very welcome, the government will not fund a foreign project beyond donating land and a building or two. The results have been limited, as one would imagine given the alternatives available to the world's best universities. Even second and third tier international universities are unlikely to take on the significant risks of a transplant campus without considerable external funding and a more credible commitment from the host government.

For-profit vocational and professional training by foreign universities and colleges is another form of transplant, and one that has already taken root in Vietnam. Such programs play an important role in a rationally differentiated higher education system. Some of these commercial initiatives provide much needed and high quality vocational training for Vietnam's growing labor force in business administration, computer science, foreign languages and other practical disciplines. Others, however, are second-rate or even fraudulent.⁷⁸ In either case, these initiatives certainly do not offer a potential route to the establishment of an apex university in Vietnam, and they offer little in the way of institutional development or learning to existing Vietnamese universities. As noted above, it must be recognized that for-profit universities, whether foreign or domestic, are not in the business of conducting training and research in the basic sciences, social sciences and humanities.

C. Institutional Development

A third model that we call "institutional development" describes long-term, sustained commitment of expertise and human capital to developing an undergraduate or graduate program in the host country. The rationale for these partnerships is, in short, that it takes universities to build universities. Long-established foreign universities have the experience in administration and governance to guide a new institution through its founding and early years. Foreign universities help their local partners to put in place governance mechanisms, academic curriculum, and personnel systems, and play a limited role—for example, on the board of trustees—for some time thereafter. This sort of external governance and scrutiny is considered integral to maintaining competitive standards and ensuring quality, and accelerates the development of the host university's national reputation among students and employers. An excellent example of a successful institutional development partnership is the Indian Institute of Technology Kanpur, described below.⁷⁹ These initiatives are distinct from the "transplant" model because the institutions and faculty

⁷⁸ Mark A. Ashwill, "US Institutions Find Fertile Ground in Vietnam's Expanding Higher Education Market," 2006. Available at http://www.bc.edu/bc_org/avp/soe/cihe/newsletter/Number44/p13_Ashwill.htm.

⁷⁹ Another, more recent example of the institutional development approach is the International University Bremen (IUB). The German state of Bremen funded Rice University to build an American-style engineering college. Rice worked closely in every aspect of the new institution's development, seconding faculty and administrators. Germany invested more than \$300 million during the start-up phase.

are by and large national, curricula are tailored to the host country, and the foreign university is not motivated by profit, but by the desire to see a successful new university established in the host country. Institutional development can also take place in a more targeted manner with the development of specific disciplinary degree programs—for example, in electrical engineering, economics, public policy, and so on.⁸⁰

Another reason that institution-building partnerships make a deep and long-term impact on the host country and institution is that they change the home university, as well. Departments and research institutes within the home university incorporate study of the partner country into their programs, enriching their curriculum and research and ensuring long-term faculty commitment. Effective international partnerships are not formed by administrators alone—faculty members must also be involved, which is most likely to happen when they can integrate the new project into their own work. Effective partnerships require that the home university adjust its own policies to adapt to the needs of the partnership. For example, the American research universities that participated in the development of the IIT Kanpur took steps to ensure that faculty members who spent time in India would not be at a disadvantage to their peers in promotion and tenure decisions.⁸¹

The institutional development model has been applied successfully in numerous countries, and we believe that it holds some key advantages for Vietnam, namely that it leads to the creation of a truly national institution, and it allows for multiple partnerships, such that a Vietnamese apex university could work with a consortium of partners consisting of a number of foreign universities, each of which contributes expertise in a specific field. We will return to this subject in part four below.

PART THREE. Case Studies

Vietnam is not alone in its struggle to construct quality apex universities. In recent years developing and developed countries alike have paid close attention to international rankings as they seek to create universities that can be considered “world class” by some universally accepted standard.⁸² In the developing world, policymakers, businesses, and social entrepreneurs have made a strong push to upgrade tertiary education systems, recognizing the deep connections between research capacity, human capital, and economic growth.

In this section, we will examine the experiences of China, India, and South Korea, all of which have faced challenges similar to Vietnam’s current predicament. Though each country’s path was distinctive, we argue that two key themes are common to successful efforts to build apex research universities. First is governance, comprising

⁸⁰ The Fulbright School (<http://www.fetp.edu.vn>), a joint initiative of the University of Economics, Hồ Chí Minh City and the Harvard Kennedy School, is an example of the institutional development paradigm in the field of public policy and economics.

⁸¹ An earlier example of institutional development model is Harvard’s participation in the development of six Christian colleges in China. With funding from a private philanthropist, scholars from Harvard and China worked together both to establish higher education institutions in China, including Yenching University a precursor of Peking University, and to establish the foundations of a thriving East Asian studies program at Harvard.

⁸² Salmi, p.1.

strong institutional autonomy and accountability mechanisms. Though China imposed top-down accountability, while India and South Korea opted to create independent, non-state governance mechanisms, all three have given their apex universities nearly complete managerial and significant academic independence. Second is an overriding commitment to building the national stock of human capital, combining merit-based and competitive personnel practices with vigorous policies to encourage foreign graduate study and subsequent return. Early and sustained investments in human capital were critical to East Asia's development success, and specifically to first generation faculty development in new elite universities.⁸³ The differences that arise from this comparison are also instructive. Comparing governance arrangements in these three cases leads us to conclude that India and South Korea's strategy provides more useful guidance to Vietnam than China's because the top-down Chinese approach requires imposing strict discipline on apex universities, something that Vietnamese government has thus far been unable to muster the political will to do.

Finally, the case studies are by no means comprehensive. Educators from these three countries would be the first to say that their elite universities and wider higher education systems still have many problems ranging from governance to equality of access to international competitiveness. Elite Chinese universities are not paragons of academic freedom; the vast majority of Indian universities are chronically understaffed; and Korean students fiercely compete every year to exit the South Korean education system by gaining admission to US colleges and universities (Figure 3 above shows the disproportionately large number of South Koreans studying in the US). The following discussion draws selectively on these countries' policies and experiences in building apex universities in order to offer useful insights into Vietnam's current situation.

I. China

Over the past decade, China has made rapid improvements in the quality of higher education one of its key development priorities, focusing its energy on bringing academic excellence and cutting-edge research to a very top slice of elite Chinese universities. Driven by the recognition that all developed countries have some excellent research universities, this initiative, dubbed "Project 985", has redirected hundreds of millions of dollars to nine top universities, while devolving financial responsibility for most other universities to provincial or local governments.⁸⁴ The project's two focus universities, Tsinghua and Peking, were granted \$225 million each for the first three-year phase of the project. The increase in spending at top institutions has been accompanied by greater delegation of managerial authority to these universities and a focused commitment to competitive faculty recruitment that rewards good performance in research and teaching. In recent years, China's higher education system has been plagued by many of the same problems as Vietnam's,

⁸³ See *Choosing Success*, p.9. Also, see "How Diasporas Can Contribute to Development in Home Countries" in Salmi, p.62. Salmi shows that government policy can help to engage and attract educated expatriates home by tracking scholars and providing strong home institutions for them to return to.

⁸⁴ This project, launched by Jiang Zemin at the 100th anniversary of Peking University's founding, coincided "Project 211" to create 100 research universities in China, as well as a massive expansion of student enrollment and institutions. Yvonna S. Lincoln et al., "Context for Higher Education Reform in China: An Analysis of Faculty Issues", in *Higher Education in the Developing World*, David Chapman & Ann Austin, eds, (Chestnut Hill: Center for International Higher Education, 2002), p. 221.

including the absence of quality assurance mechanisms, insufficient financial transparency and indiscipline among academics and administrators, as seen for example in the common practice of taking on numerous teaching jobs outside of the university, or moonlighting. Yet the government's efforts to improve quality at the very top of the system have yielded results, bringing a couple of China's best universities within reach of "world-class."⁸⁵

The Chinese government has relied heavily on quantitative targets to measure quality. This in part reflects the government's fascination with international rankings, which compare universities in very different settings by relying on a number of simple indicators. Government resource allocation to universities is now based in part on metrics such as number of research grants and patent approvals received by the institution, and faculty publications in international peer-reviewed journals. This marks a departure from previous allocation rules that relied exclusively on student enrollment. Many individual university administrations also now rely on such metrics to assess the academic performance of lecturers and professors.⁸⁶ Indicators like these are transparent; they put pressure on universities and faculties to improve, and they reassure students, other faculty and the public that teachers are being evaluated objectively, instead of on the basis of family connections or political affiliations.

Vietnam also sees these indicators as trademark characteristics of quality universities, as demonstrated by the goals that it has set in each of these realms (publications per faculty member, number of Ph.D.s, etc.). However, the resources and governance reforms required to achieve these targets are lacking. The Chinese government has recognized that achieving such goals requires talented people, so it has placed a priority on attracting top overseas scientists and scholars, as well as some foreign scholars, to teach at the country's elite universities. Because the market for knowledge and talent is global, Chinese universities must offer competitive incentives, including but not limited to salaries. Overseas Chinese scholars are people with many attractive career options, and they are unlikely to leave their foreign university posts—a risky career move—to return to a system that is unable to provide them with the facilities, intellectual environment, and global links that they need to conduct their research. Chinese universities do not necessarily have to match salary levels on offer at the top US universities given that many Chinese scholars are strongly motivated to return home, and that the prestige of working in an elite institution is attractive in and of itself. Yet the universities cannot expect talented individuals to take up positions in China if this means that they will not be able to provide a reasonable standard of living for their families. Moreover, universities must offer young scholars a career path that promises higher salaries in the future based on good performance and a demonstrated commitment to the institution.

China has followed the Taiwanese example of investing heavily in laboratories, research facilities, and research funding as a precondition for attracting scientists to its universities, while at the same time aggressively recruiting young Ph.D. graduates of top US universities. These young Chinese scholars are offered reasonable salaries,

⁸⁵ The Times Higher Education Supplement now ranks Peking and Tsinghua Universities respectively at 50 and 56, worldwide.

⁸⁶ Gerald Postiglione, "Chinese Higher Education for the Twenty-First Century: Expansion, Consolidation, and Globalization," in ed. Austin & Chapman, p. 159.

good working conditions, research funding, funding to attend international conferences, support staff, and access to the global literature. The Ministry of Education began setting up special professorships in 1999 that paid eight times the average professors' salary. This initiative also created 500,000 to 2 million yuan research fund pools for the new professors. The highly competitive positions were widely advertised and attracted applications from many young, overseas scholars, including decorated scientists. By 2004, Peking University had dedicated \$12 million to adding 1,000 Ph.D.s to its ranks, one-third of whom had been trained abroad.⁸⁷ Such programs have allowed Tsinghua University to hire Nobel-prize winning physicists and Princeton computer scientists. The same principle of amassing human capital has been applied to students: the two premier universities are given the first pick of the country's best students.⁸⁸ Developing countries rightly lament the "brain drain" that often comes with investment in overseas education; but it is only through personnel policies like these that they have a hope of slowing, stopping, or reversing it.

Faculty mobility within China has also increased. Elite Chinese universities now compete vigorously with each other for professors. Top universities have also worked to minimize faculty inbreeding, a practice widespread in both Vietnam and China. For example, in Tsinghua's applied mathematics departments only one of the twenty-one professors under 45 years old is a Tsinghua graduate.⁸⁹

A university's teachers are its heart and soul, and strong universities demand faculty commitment. In China, as in Vietnam, many universities run shadow, parallel programs for large numbers of students to generate extra income, although this practice has been eliminated at the elite universities over the past ten years. Besides providing shoddy services and second-rate degrees, these practices impose an unacceptable burden on regular students by reducing the amount of time that teachers are available for classes and consultation, and by sapping teachers' time and motivation to do research, as well as their commitment to the university. While they have not eradicated the problem, China's elite universities have been successful in fighting "moonlighting" by aligning professors' incentives with institutional interests. Universities devote special funds to keeping professors' income-supplementing activities *inside* the university—for example, to subsidize research, publications or improved teaching.⁹⁰

The Chinese have pursued a governance strategy that combines managerial autonomy with strict state-imposed accountability. Unlike the Indian institutes examined in the next case study, apex Chinese universities are directly responsible to the central government. Their presidents are appointed by the State Council, on the

⁸⁷ One example is a Chinese psychologist who was teaching in Canada; he was attracted back to Peking by a \$15,000 salary, \$250,000 in research funding, and free housing. *Ibid.*

⁸⁸ Jiang Xuequin, "China's Top 2 Universities Try for 'World Class' Status," *Chronicle of Higher Education* 48, no.17 (2001). See also Salmi, p. 39.

⁸⁹ Jen, Lin-Liu. "A Chinese University, Elite Once More," *Chronicle of Higher Education* 50, no.44 (2004).

⁹⁰ Yang Gu, "Ph.D.s Who Have Studied Abroad Vie for Jobs," *Chinese Education & Society* 33 Sep/Oct2000. See also Postiglione, p.157.

recommendation of the Chinese Communist Party.⁹¹ We can take Tsinghua University as an example. Tsinghua's institutional goals are aligned with the government's national education agenda: it aims to become a "World-Class University" by 2020. However, Tsinghua's president pursues this shared goal in ways that he deems most effective; the university is *not* an administrative unit of the government. With the flexibility to choose its own textbooks, design its own curriculum and departments, and hire its own faculty, Tsinghua has transformed itself from a polytechnic institute into a comprehensive research university by improving its humanities and social science education; establishing new colleges and professional schools; and modernizing its research facilities. Tsinghua has excelled beyond the quotas set for it by the state, increasing its percentage of faculty Ph.D.s from 15 to 62.7 percent over the last fifteen years, far above the Ministry of Education's minimum standard of 30 percent for research universities.⁹²

In China, "autonomy" does not mean total independence from the state. Universities are allowed to make all of their own management decisions free from outside interference, while the state demands that universities meet certain international quality standards. Imposing accountability is different from direct management: in this case, accountability means ensuring that top universities' actions and accomplishments align with a set of shared goals and purposes, a vision for the future of the university and the country. These goals are deemed to be so important that the universities are largely shielded from the political interference typical at Vietnamese and lower-tier Chinese universities. It is revealing that Chinese educators assert that Communist Party membership is not a prerequisite for promotion to positions of authority. Furthermore, allowing top universities to manage themselves has not led to state divestment or privatization. The past decade has seen a doubling of Chinese state investment in higher education, disproportionately concentrated at top institutions.

Spending more on a few institutions as opposed to spreading the wealth around the system may seem both politically daunting and socially unjust. Indeed, we should note again that the vast majority of Chinese universities share the problems of Vietnamese universities: they are plagued by corruption, overcrowding, obscure financing, and teacher shortages. The quality of training is also highly variable: though China and India educate many more engineers annually than the United States, the quality is often not comparable outside of the top university programs.⁹³ And yet, over the past decade a few Chinese universities have achieved impressive results

⁹¹ Control over most other universities has been devolved to provincial or local management. Of about 700 four-year public universities in China, about 100 are under the central government.

⁹² JingHuan Huan Shi. "Combining the Vision, Mission and Actions: Tsinghua's Experience in Building the World Class University," (Institute of Educational Research, Tsinghua University, 2009).

⁹³ Two recent McKinsey Global Institute studies found that despite China and India's numerical advantage in producing engineers, multinational corporations deem only 10 percent of Chinese and 25 percent of Indian engineering graduates to be competitive candidates for outsourced jobs, as compared with 81 percent of American engineers. P.V. Indiresan, former director of the Indian Institute of Technology in Madras, has said of Indian engineers "Don't go by quantity...because the quality of engineers decreases rapidly when you go beyond the top-tier institutes. The standards are low, the faculty is bad, and the training is terrible. We have spread ourselves too thin." See Paul Mooney and Shailaja Neelakantan, "Foreign Academics Question the Quality of Their Countries' Engineering Programs," *Chronicle of Higher Education*, 53, no.3, 9 August 2006. See also Mixin Pei, "Think Again: Asia's Rise" *Foreign Policy*, 22 June 2009. Available at http://www.foreignpolicy.com/category/section/think_again.

through governance reforms; massive investment; and aggressive pursuit of talented faculty, driven by the understanding that a critical mass of human capital is the defining factor of an apex university.

The Chinese experience of holding universities accountable through top-down state direction is the exception rather than the rule. In most countries, including in the developing world, the governance structures of successful universities involve some level of accountability to the community—including local government, business leaders, alumni, faculty and students—rather than just to the central government. Central governments contribute by making large sums of money available for research, often through competitive grant making. The Chinese approach has succeeded in inducing rapid improvements at the very top of the system. Nevertheless, it is extremely vulnerable to changing political currents and bureaucratic personnel turnover. There is no guarantee that future leaders in China will not seek to interfere in the management of the universities in order to achieve some short term or particularistic political goals.

Also, while a direct causal connection should not be drawn between Chinese universities in the early 20th century and the success of contemporary reforms, it is certainly relevant that China had a strong institutional legacy in higher education to draw from. Many of the elite Chinese universities have their roots in Western-style institutions established by reformist Chinese intellectuals and European and American missionaries, educators and businessmen in the early 20th century. By 1949, there were twenty-one foreign run or foreign financed universities in China, enrolling ten percent of all university students.⁹⁴ Among these were the prestigious St. John's University and Yenching University, whose departments were later incorporated into today's Fudan, Peking and Tsinghua Universities.

Another specific characteristic of the contemporary Chinese approach is the decision of the government to build its elite universities from existing institutions instead of starting from scratch. This has been facilitated by the institutional legacy described above, and it has required considerable political will, given that it has meant fundamentally transforming the governance structures at these institutions and incurring the political costs of overturning longstanding patterns of rewards and privileges. The Chinese have largely succeeded in doing so in a few top tier universities. But it must be recognized that this experience is unusual. Both India in the case of the IITs and IIMs, and South Korea in the case of KAIST, opted to create new institutions to avoid the major obstacles and political costs that necessarily arise in serious efforts to reform existing universities.

II. India

The Indian Institutes of Technology (IITs) and the Indian Institutes of Management (IIMs) are arguably the best-known higher education institutions in the developing world. Their graduates can be found in senior positions in leading multinational

⁹⁴ Weifang Min, "Chinese Higher Education," *Asian Universities: Historical Perspectives and Contemporary Challenges*, ed. Philip G. Altbach and Toru Umakoshi,, (Baltimore:The Johns Hopkins University Press, 2004), p.57.

corporations. Alumni of the IITs are prominent in leading innovation centers such as Silicon Valley, where an estimated 25,000 Indian engineers are employed.⁹⁵ The remarkable success of the Indian high-tech sector, led by world-beating companies like Infosys and Wipro, can be attributed in large measure to the ability of the Indian higher education system to produce large numbers of highly skilled engineers, a factor which also explains why companies such as General Electric have established major research and development facilities in cities like Bangalore. These elite institutions have earned a level of international recognition that their Chinese counterparts have yet to match. In 2005, the *Times Higher Educational Supplement* ranked the IITs third behind MIT and the University of California Berkeley in its ranking of top engineering programs.

At first glance, however, the success of the IITs and IIMs appears unlikely. After all, India suffers from severe governance problems including widespread corruption within its public institutions.⁹⁶ Moreover, much of India's education system is hardly the envy of the world. India's primary education system is problematic, as evidenced by the country's stubbornly high illiteracy rates. Outside the elite institutions, Indian higher education is generally of low quality.⁹⁷ Even the IITs and IIMs are not entirely free from external interference and official salaries remain uncompetitively low by international standards. In this environment, how have the IITs and IIMs managed to achieve excellence?

This case study attributes the success of the IITs and the IIMs in large measure to two factors. The first is governance. In many important respects the systems by which these institutions operate embrace the core principles of effective governance described above. In particular they enjoy unfettered academic freedom. They also exercise control over student admissions and faculty hiring, adhering closely to the principle of "shared governance" identified by the Task Force as a critical element of good governance. Detailed information about their financial conditions and internal decision-making is provided to external stakeholders. This remarkable level of transparency has generated public support that enables them to resist pressure to dilute standards. The second factor is their ability to select students and faculty from large pools of human capital.

Although the colonial period in India saw the development of many public institutions, including universities, the IITs and IIMs are creations of the independence era. The IITs were initially conceived in a report on the future of technical education produced in 1945, just two years before independence. Known as the Sarkar report after the businessman who chaired the committee, the document recommended the establishment of four elite engineering schools. In the words of E.C. Subbarao, who has written a history of IIT Kanpur, "[e]ach of these institutes was to produce engineers of outstanding ability to reshape India into a modern

⁹⁵ Richard Waters, "Silicon Valley and the Flow of Asian Talent," *Financial Times*, 17 June 2005.

⁹⁶ According to Transparency International's annual Corruption Perception Index, India is the most corrupt of the three countries profiled in this section. See <http://www.transparency.org>.

⁹⁷ On the system-level challenges confronting Indian higher education see Altbach, "A World-Class Country without World-Class Higher Education: India's 21st Century Dilemma," in *International Higher Education* 40, (2005). Altbach notes that less than 1 percent of Indian university students attend IITs or IIMs.

society.”⁹⁸ The report emphasized that these institutions, while public, should enjoy autonomy from outside interference and should not be bound by existing academic practices. In 1961 the Indian parliament passed the IIT Act, which “provided a unique framework for the funding, administration and academic development of the IITs as privileged institutions conferring on them a high degree of autonomy and protecting them from extra-academic pressures.”⁹⁹ According to Subbarao, the Sarkar report explicitly identified the Massachusetts Institute of Technology as the model for the IITs. The first four IITs were established in Kharagpur (1950), Bombay (1958), Madras (1959), and Kanpur (1959).

The IITs and IIMs are closely associated with Prime Minister Jawaharlal Nehru, who made the development of high quality science and technology institutes a national priority. He believed that science would be critical to India’s economic development and modernization and that the IITs should be at the vanguard of this effort. At the graduation of the first class of IIT Kharagpur, he said “This fine monument of India represents India’s urges, India’s future in the making. This picture seems to be symbolic of the changes that are coming to India.”¹⁰⁰

Nehru’s nationalist vision was not incompatible with international collaboration. Within the strategic framework laid out by the Sarkar report, each of the original four IITs was assisted by a different international partner.¹⁰¹ The IIT Kanpur was developed in partnership with a consortium of leading American universities led by MIT, including the California Institute of Technology, the University of California at Berkeley, Purdue, Princeton, Ohio State, the University of Michigan, Carnegie Mellon, and Case Western Reserve. Because the Vietnamese government has expressed a desire to enlist the support of international universities in institutional develop projects, it is worthwhile to consider the IIT Kanpur story in some detail.

American support for IIT Kanpur was conceived at a meeting between Prime Minister Nehru and President John F. Kennedy. In response to Prime Minister Nehru’s request for US cooperation in strengthening technical education, President Kennedy asked the president of MIT to explore the feasibility of supporting IIT Kanpur. The result was the Kanpur Indo-American Program (KIAP). With funding from the US Agency for International Development and the Ford Foundation, KIAP coordinated the participation of the US university consortium. The result is one of the most successful examples of international cooperation in higher education in the post-war era. Several features of KIAP are particularly noteworthy.¹⁰²

First, from the outset it was recognized by all parties that the magnitude of the undertaking would require a sustained commitment. KIAP lasted for ten years, with a comprehensive review after five years. The Indian government strongly supported the

⁹⁸ E.C. Subbarao, *An Eye for Excellence: Fifty Innovative Years of IIT Kanpur* (New Delhi, Harper Collins, 2008) p.3.

⁹⁹ *Ibid*, p.4.

¹⁰⁰ *Ibid*, p.8.

¹⁰¹ International cooperation in the building of the early IITs was as follows: IIT Kharagpur (UNESCO, UK, US, Germany), IIT Bombay (Soviet Union); IIT Kanpur (US), and IIT Madras (Germany).

¹⁰² This discussion is based on Subbarao, especially chapter 4 “The American Connection.”

initiative, providing the project with broad latitude to depart from existing policies and regulations.

Second, international faculty members who participated in the program were required to make a serious personal commitment to the effort. American faculty spent an average of one to two years in residence at IIT Kanpur. Recognizing that faculty members would be reluctant to accept a prolonged international assignment if doing so would disrupt their own career paths, the US universities agreed internally that participating faculty would receive the same pay and other benefits as their colleagues in the US and that their prospects for tenure would not be jeopardized. Over a ten-year period 122 professionals from consortium universities spent time in Kanpur. Although a majority were academics, a number of administrative personnel also participated in the program, including laboratory technicians, librarians, and other support staff. Academic staff worked closely with their Indian colleagues to develop curricula and establish academic policies.

Third, capacity development was a central focus of the international partnership. Members of the KIAP consortium worked closely with the leadership of the institution to recruit faculty members from the ranks of Indian scientists working in the US. The American universities also accepted IIT Kanpur faculty members into their graduate programs. A second program gave Indian administrative and support staff the opportunity to work on the campuses of the American partners. That KIAP included administrative personnel in its capacity development program reflects a recognition of the importance of professional management mechanisms to the effective functioning of a university.

This intense, multifaceted collaboration helped the IIT Kanpur to quickly establish a reputation as one of the leading academic institutions in India. What is perhaps most notable about the KIAP initiative is that it was neither a simple transfer of technical know-how, nor an effort to impose an American model of higher education. The Indian and American participants clearly recognized that IIT Kanpur would be an Indian institution, not a branch campus, and that as such its governance mechanisms and traditions must develop internally. In the words of IIT Kanpur's founding director, "What distinguishes a first-rate institution from an indifferent one is the climate that exists there. This is something which cannot be brought from outside but has to be generated and sustained within the institution itself through conscious efforts."¹⁰³ At the same time, with appropriate modification, the governance and management practices of the international partners were not incompatible with the national character of the institution and indeed could be a source of strength.

The first Indian Institutes of Management were established in the 1960s. As with the original IITs, the first IIMs received support from international academic partners. The Ford Foundation provided funding to Harvard Business School and the Sloan School of Management at MIT to work with IIM Ahmedabad and IIM Calcutta, respectively. The Ford Foundation also provided support to the IIM Bangalore.¹⁰⁴

¹⁰³ Quoted in Subbarao, p.16.

¹⁰⁴ See "Forty Years: A Learning Curve, The Ford Foundation in India, 1952-1992." Available at <http://www.fordfound.org/archives/item/0136>.

Today there are seven IITs (with plans to develop six more) and seven IIMs. From their inception, the IITs have been focused above all else on teaching, especially at the undergraduate level. The curricula of the flagship four-year Bachelor of Technology (B. Tech) program consists overwhelmingly of science and engineering courses with coursework in the humanities and social sciences accounting for only 6-9% of the B. Tech program.¹⁰⁵ Although the 2004 review of the IIT system called for increased emphasis on general education, the IITs are decidedly not liberal arts institutions.

The IITs and IIMs possess much more formal autonomy than their Chinese counterparts. Each of the IITs and IIMs is an independent legal entity, chartered by the central government. They are overseen by boards of governors made up of national and local government officials, representatives of the corporate sector, and members of the faculty. Despite their legal status and the diversity of the boards of governors, however, many Indian educators believe that the central government continues to exercise too much control. Directors of the IITs and IIMs are appointed by the prime minister. Faculty compensation rates remain subject to government regulation, even at institutions such as IIM Ahmedabad and IIM Bangalore that are capable of financial self-sufficiency.¹⁰⁶ The government has occasionally acted to deter institutions from undertaking initiatives it deems undesirable, such as by effectively barring the IIM-Bangalore from participating in an institutional development project in Singapore.

Clearly, government interference in certain aspects of governance has not prevented the IITs and IIMs from achieving excellence. This is because they enjoy a high-level of academic and curricular freedom and control over key decision-making processes including student admissions and faculty selection. Faculty control over curricular matters is particularly important. As one prominent Indian scientist explained to the authors, engineering-related fields advance so rapidly that without maximum curricular freedom, the education offered by the IITs would quickly be rendered obsolete. This is an example of the principle of “shared governance” according to which decisions are made by those within the institution most qualified to do so. According to the Task Force, shared governance “ensures that faculty are given a meaningful voice in determining policy. This applies particularly to education policy and especially to curriculum development and academic appointments.”¹⁰⁷

A defining feature of the IITs and IIMs is their commitment to meritocratic selection. Each year 300,000 candidates take the IITs’ “Joint Entrance Examination” (JEE), competing for approximately 5,000 slots in the undergraduate programs.¹⁰⁸ Competition for entrance to the IIMs is similarly intense, with 195,000 individuals

¹⁰⁵ P. Rama Rao, et. al. *Indian Institutes of Technology: Report of the Review Committee, 2004*. Available at <http://www.iitk.ac.in/infocell/iitk/newhtml/reviewcom.htm>

¹⁰⁶ See Della Bradshaw, “India’s elite schools aim at full autonomy,” *Financial Times*, 14 October 2007.

¹⁰⁷ *Peril and Promise*, 60.

¹⁰⁸ The IITs’ reliance on the JEE, for which students prepare with a single-minded focus for years is not without critics within the Indian scientific community, who fear that the process has a “homogenizing” effect on the student body. See for example, P. Balaram, “Indian Institutes of Technology,” *Current Science*, 10 March 2003.

ving for 1,950 slots.¹⁰⁹ Statistically, it is far more difficult to gain admission to an IIT than it is to win a slot at Harvard, Yale, or Princeton. Indian professors with whom the authors spoke were unable to recall a single incidence of nepotism or corruption in the fifty year history of the IITs. A review of the IIT system conducted in 2004 asserted that the JEE was “singularly responsible” for international reputation enjoyed by the IITs.¹¹⁰

Despite government regulation of salaries, which undoubtedly deters some of the most qualified candidates, the IITs and IIMs have succeeded in attracting highly qualified faculty, a high percentage of whom possess advanced degrees from international research universities. As noted above, official salaries are set by the government and are not high. Junior faculty members at the IIM Bangalore earn less than \$1000 per month, although their compensation package includes free housing and funding to attend international conferences. Indian educators agree that the prestige associated with a faculty position at an IIT or IIM is also an attractive incentive. As the director of IIM-Bangalore explained to the authors, “we sell [to prospective faculty members] the opportunity to make a contribution to India.”¹¹¹

Like their colleagues throughout the world, faculty members at the IITs and IIMs supplement their official income through participation in externally funded research and consulting projects and, in the case of the IIMs, through executive education. In contrast to the situation in Vietnam described above, at the IITs and IIMs faculty participation in income supplementing activities is subject to institutional regulation and oversight. At IIM Bangalore, all externally funded projects are reviewed by a faculty committee chaired by the director. The purpose of the review is to ensure that proposals accord with the institution’s priorities and academic standards. Governance mechanisms like this help mitigate the deleterious effects of Professor Hoàng Tụy’s “salary/income paradox” by aligning individual and institutional incentives.

Transparency is another hallmark of the governance systems within the IITs and IIMs. Each institution publishes an annual report that includes detailed financial information including data regarding the institutions revenues. The IIM Bangalore’s annual report also includes information about faculty hiring and provides a list of faculty publications. Transparency safeguards the integrity of the institution’s governance system by ensuring that key decision-making processes are subject to external oversight. A concrete example of transparency is the practice of publicizing the academic qualifications of short-listed candidates for faculty positions so that stakeholders can draw their own conclusions about a hiring decision. Candidates passed over for hiring or promotion may take legal action against the institution if they believe the process was manipulated. Indian scientists interviewed by the authors agreed that this high level of transparency helped ensure confidence in the system.

¹⁰⁹ Amy Yee, “Test ahead for India’s universities,” *Financial Times*, 18 February 2007. An exception to the meritocratic culture of the IITs and IIMs is the “reservation” system that requires publicly funded higher education institutions to set aside nearly 50 percent of their admissions slots to students from disadvantaged groups.

¹¹⁰ P. Rama Rao, et. al, p.3.

¹¹¹ Interview with Dr. Pankaj Chandra, 3 April 2009.

Despite the fact that only a tiny minority of Indian citizens will ever see the inside of an IIT or IIM classroom, the institutions' unwavering commitment to meritocracy and transparency has engendered a high level of support within Indian society. Their unabashedly elitist approach to higher education is accepted in part because of the widely held belief that the institutions are well-run and that the system is not rigged. As a senior IIM faculty member explained, Indian society has helped "built a wall around the IITs and the IIMs," shielding them from political pressures that hobble other public institutions.¹¹²

One of the great advantages enjoyed by the IITs and IIMs is that a significant percentage of their faculty members received their doctoral training abroad. Among this cohort, many spent time on the faculties of foreign universities or working in laboratories of multinational corporations. Herein may lie the "secret" of IITs and IIMs success: these institutions are composed of individuals who share a common understanding of the formal and informal mechanisms by which high quality academic institutions must operate.

III. Republic of Korea

Although now a rich country, it was not long ago that the Republic of Korea was a lower middle-income developing country much like Vietnam today. Gross domestic product per capita was less than \$2,500 in 1970 in purchasing power parity terms, less than the corresponding figure for Vietnam in 2007. South Korea's approach to developing an apex university in the 1970s and 1980s is therefore relevant to contemporary Vietnamese policymaking.

In the 1970s, South Korean policymakers set out to create an apex university within a highly centralized and bureaucratic system of higher education. Against the expectations of many observers, this initiative largely succeeded in meeting its objectives, and contributed to South Korea's revolution in science and technology. Two factors contributed to this success: namely, independent governance and long-term, substantial investment in human capital and scientific research capacity. The lessons of the Korean experience are directly relevant to Vietnam's current policy goals.

Korea emerged from Japanese colonialism in 1945 with the deep respect for education and learning common to Confucian societies but without any modern educational institutions, particularly at the university level and most especially in technical fields. The colonial government had begun investing in skills development and vocational training, but university education was reserved for the Japanese; few Koreans were given the opportunity to study beyond the secondary level. In 1936, a contemporary observer noted that there was not single Korean professor in a technical field;¹¹³ and in 1945, only 11 Koreans held doctoral degrees.¹¹⁴ After the Korean War, the

¹¹² The director of IIT Bangalore, Dr. Pankaj Chandra, credits this public support with enabling his institution to adopt potentially controversial policies, such as tuition increases.

¹¹³ See Carter Eckert, *Offspring of Empire: The Koch'Ang Kims and the Colonial Origins of Korean Capitalism, 1876-1945*, (Seattle: University of Washington Press, 1991), p. 149.

¹¹⁴ "The 30 year history of Korean Science and Technology," The Korean Federation of Science and Technology Societies, 1980.

Republic of Korea built a highly centralized university system under the direct control of the Ministry of Education. Under successive military-led governments, higher education policy concentrated on political control of faculty and students and the distribution of jobs through a system of patronage and political vetting. The central government determined student enrollment quotas, budgets, presidential appointments, the number of faculty positions, and curricular and graduation requirements.¹¹⁵ Personnel practices were opaque, and procuring a job at a university depended largely on personal and political connections. Universities could not, and did not, compete to hire the best professors and researchers or to recruit the best students. Academic departments tended to hire their own students rather than look beyond the campus or the country to recruit young talent capable of working at international standards.¹¹⁶ South Koreans began going abroad for graduate studies in the 1950s, but few returned to teach in South Korea.

In the 1970s, as the South Korean economy transitioned from light to heavy industry, Korea began to realize the crucial importance of long-term investment in science and technology. The country started to send large numbers of students abroad for technical and engineering training. For example, the South Korean shipbuilding industry was created by hundreds of students sent to study naval engineering at top international schools. The push corresponded with a newfound effort to bring back South Koreans with US Ph.D.-training. Two research institutes were created to provide a home for returning engineers, natural scientists, economists and social scientists to do research in their fields related to national development.¹¹⁷ These institutes paid higher salaries than standard university positions, and while they were never effective at commercializing their research for industrial purposes, they did attract many expatriates back to South Korea.¹¹⁸

The period also saw the creation of the Korean Advanced Institute of Sciences and Technology, or KAIST—an elite science and technology institution governed under a special law that made it distinct from the country's other public universities. The purpose was threefold: first, to develop South Korean science and technology; second, to establish a science and technology graduate program in South Korea; and third, to create a research environment that would attract Korean scientists and engineers back to South Korea.¹¹⁹ KAIST's relationship to the state was unique both in terms of its financing and its hierarchy. The Ministry of Science and Technology made substantial government resources available to KAIST to attract high-quality faculty and create a favorable research environment. Initially, KAIST faculty—many of whom were

¹¹⁵ See Kiyong Biyun, 'New Public Management in Korean Higher Education: Is It Reality or Another Fad?' *Asian Pacific Education Review* 9, no.2, (2008): p.190-205. Since the end of the military regime, these functions have largely been shifted to professorial councils called 'University Senates'; however, a system of highly bureaucratic government management persists in key ways, particularly in enrollment and financing.

¹¹⁶ Even at Seoul National University, it was hard to find a professor who did not have at least one Seoul National degree.. See Martin Kenney and Dong-Won Sohn, "Universities, Clusters, and Innovation Systems: The Case of Seoul, Korea," *World Development* 35, no.6, (2007): p.991-1004.

¹¹⁷ First among these were the Korean Institute for Science and Technology and the Korean Development Institute. The Ministry of Science and Technology was created at the same time.

¹¹⁸ Kenney and Sohn, p.998.

¹¹⁹ See Nam Pyo Suh, "Globalization of Research Universities in Korea," *The Globalization of Higher Education (Glion Colloquium)*, Luc E. Weber and James J. Duderstadt, eds., (Geneva: Economica, 2008): p.141-150.

aggressively recruited from American universities—were paid two to three times the average professor’s salary. KAIST students were also treated specially—their tuition and living expenses were paid and they were allowed to defer from national military service. Though KAIST received the large part of its funding from the central government, it was and is not managed by a ministry. Instead, KAIST was governed by an independent board of trustees. It has also developed two external advisory groups—one for the administration and one for academic departments—composed of international experts and notables.¹²⁰

This governance structure has been an essential component of KAIST’s effort to establish itself as one of Asia’s top universities.¹²¹ The president of the institution is empowered like an American university president to make major organizational decisions and act as CEO. The current incumbent, an MIT-trained scientist, aims to turn KAIST into the “MIT of Asia” by setting high standards for student achievement, developing research and internship opportunities for undergraduates, founding new interdisciplinary departments (for example, a College of Life Sciences and Bioengineering) and professional schools, and by instituting rigorous faculty hiring practices to promote creativity and innovation in research. Also like an American university leader, the president has launched an aggressive fundraising campaign.¹²²

A new Vietnamese research university will need far-sighted and dynamic institutional leadership endowed with the power and flexibility to pursue necessary reforms.¹²³ University leaders must be effective and farsighted managers with a focused commitment to the university’s mission, and a strategic plan for reform and implementation. Yet, policy environment is critical. No matter how intelligent, thoughtful, or motivated the university’s leadership, it is very difficult to create a good university—never mind a world-class university—when core functions, such as curriculum, budget and faculty policies are governed by external actors, based on political or personal ties rather than merit. KAIST’s experience shows that it is possible to set up independent accountability mechanisms within a centrally managed higher education system, given political willingness to endow an independent body with the necessary authorities.

Governance and personnel standards throughout the South Korean public university system have become increasingly rigorous, inspired in part by successes at KAIST. Today, the average professorial salary is competitive with a KAIST professor’s.¹²⁴ Government funding for universities, which had been granted based on predetermined student enrollment figures and faculty numbers, has become somewhat more strategic, including recently introduced competitive research grant programs aimed at

¹²⁰ Nam Pyo Suh, *KAIST Ready for New Takeoff for Global Prominence*, http://www.kaist.edu/english/01_about/01_president_02.php?pt=2.

¹²¹ In 2009, KAIST was ranked as the seventh university in Asia, and within the top 100 globally. Asian rankings available at <http://qsiiu.wordpress.com/2009/05/12/qs-com-asian-university-rankings-the-top-100/>.

¹²² David McNeil, “Science Institute’s New President Sets a Blistering Pace for Reform,” *Chronicle of Higher Education* 54, no.28, (2008): A24.

¹²³ Salmi, p.42.

¹²⁴ Suh, 144.

improving engineering and science programs.¹²⁵ These programs begin to replace a direct managerial relationship between the state and universities with a contractual relationship.¹²⁶

One other noteworthy aspect of the South Korean experience is the almost total disconnect between university research and industrial development during the period of Korea's most rapid growth. Contemporary wisdom holds that university research is extremely important in economic development, as university-industry research "clusters" are a main driver of technological innovation.¹²⁷ However, because of a non-competitive university funding arrangement, the academy's historic mistrust of the *chaebol*, and legal barriers to university-industry connections, university research was not the locus of South Korea's industrial development over the past half-century. During the hottest period of growth in high technology, the vast majority of patent applications filed in South Korea came from firms themselves, not from professors.¹²⁸ Though universities were not doing commercial research to fuel the *chaebols'* technological capacity, they did play a critical role in training skilled young scientists and engineers for employment in the private sector.

PART FOUR. Policy Recommendations

The Vietnamese government has made the development of high quality research universities an important component of its higher education reform agenda. This section offers a series of recommendations to translate this ambition into an actionable institutional development strategy. We have argued that governance is the single most important factor in building quality universities. Getting governance right is an absolute precondition to success. No matter how much money is invested, or how prestigious the international partnerships, any endeavor to build a research university in Vietnam absent the proper governance structures is futile.

1. Finance the long-term participation of international academic partners

¹²⁵ The two largest of Korea's competitive granting programs are called 'Brain Korea 21 Project', which makes \$1.17 billion available over ten years to universities in social sciences, humanities, science and technology, and regional development; and the 'Korea Science and Engineering Foundation' project which dedicates \$64 million per year to developing scientific research centers. See Salmi, Appendix F.

¹²⁶ Overall, however, critics say that the Korean public university personnel system still does not sufficiently support research, putting a strong emphasis on teaching hours and encouraging many professors to seek outside consulting contracts. Though it is not the focus of this case study, we should also note that private education is widespread in Korea; in 2000, 75% of Korean students enrolled in tertiary education were at private institutions. Sunwoong Kim & Ju-Ho Lee, "Changing facets of Korean higher education: market competition and the role of the state" *Higher Education* 52, (2006): p.557-587.

¹²⁷ Miner, A. S., De Vaughn, M., Eesley, D., & Rura, T, *The magic beanstalk vision of university venture formation*, 2000. Schmitz, H., & Nadvi, K., "Clustering and industrialization: Introduction," *World Development* 27, no.9, (1999): p.1503-1514

¹²⁸ Between 1982 and 2000, university professors submitted only 2.9% of Korean patent applications. In recent years, however, university-commercial links have increased, due to the high ratio of Ph.D. trained faculty in Korean universities (around three-quarters), relaxed legal constraints, and increased government investment in university research. Kenney and Sohn, 997.

We believe that Vietnam will not succeed in building an apex higher education institution within a politically or economically acceptable timeframe without the substantial involvement of international academic partners. We base this assertion on two grounds. First, the woeful performance of Vietnam's research universities to date must be read as an indicator that Vietnam does not currently possess the expertise to create an academic institution of quality. Building an institution that embodies the principles of good governance described in this paper will require the involvement of international universities at every stage from conceptual design through planning, construction, and management. Second, the participation of international stakeholders can safeguard a fledgling institution from external pressures to compromise governance principles. Critically, this will require that international participants participate in financial decision-making.

Because no single university will be able to supply the large numbers of international faculty and administrators that will likely be needed during the initial start-up phase, in practice a consortium of international universities will be required, not dissimilar from the IIT Kanpur's KIAP. However, one institution should be selected to assume a leading role in the endeavor and to assemble and coordinate the participation of the other consortium partners.¹²⁹ Although the Vietnamese government will need to finance this effort, it may be desirable at least initially to work with these partners through a multilateral institution like the World Bank.

Vietnam is no doubt sincere in its desire to work with international partners. However, Vietnam has yet to demonstrate a willingness to finance their participation. International partners will certainly not fund themselves, and it may be unrealistic to expect foreign governments to provide a sufficient level of funding for the extended time horizon required. Governments from Singapore to Saudi Arabia to Germany have recognized the need to pay international universities to support institutional development initiatives. Ignoring this reality will relegate Vietnam to the sidelines of the race to secure meaningful international partnerships with world-class partners.

It should be emphasized that the institutional development model can only succeed if the participating international universities demonstrate flexibility and a willingness to discard existing exchange paradigms. While the active participation of individual faculty members is crucial to ensuring lasting linkages, the partner universities must be willing to make a long-term institutional commitment to the endeavor, as did the universities in the KIAP consortium. In Vietnam, this will likely include not only intensive participation and stewardship on the academic side, but will also require a concerted effort to build administrative capacity as well.

2. Take a "green field" approach

¹²⁹ In light of the Vietnamese government's interest in involving US higher education institutions in institutional development initiatives, one approach might consist of assembling a consortium of smaller, US liberal arts colleges with strong science programs. Colleges tend to have fewer large-scale international commitments than universities, and so they may be interested in a long-term institution building partnership with Vietnam. This is particularly pertinent because of our final recommendation, that Vietnam focus on undergraduate education.

In our view there are two approaches to building a quality research university.¹³⁰ Vietnam can attempt to upgrade an existing institution, or it can create a new institution. For a variety of reasons, we believe that creating a new institution represents the best chance for success in the short to medium term. As the discussion in part one sought to demonstrate, the quality of existing universities is so problematic that there is little to build on. Academic institutions change slowly. As the criticism of Professor Tuy and his colleagues makes clear, the formal and informal governance mechanisms are deeply dysfunctional. They must be discarded, but breaking with deeply engrained practices will be a slow, painful process. The World Bank's Salmi agrees: "In countries where institutional habits, cumbersome governance structures, and bureaucratic management practices prevent traditional universities from being innovative, creating new institutions may be the best approach, provided that it is possible to staff them with people not influenced by the culture of traditional universities and provided that financial resources are not a constraint."¹³¹

The comparison of the Chinese and Indian strategies to build apex universities is pertinent. With remarkable prescience, India opted to start completely fresh, building the IITs and IIMs from scratch and setting up independent governance structures in order to create an entire new culture of transparency and academic excellence at these institutions. China took a different approach, choosing to upgrade existing universities. It was successful in imposing top-down quality assurance and accountability because it had the farsighted vision and political will to do it. The Chinese granted long-term, meaningful autonomy to a handful of top universities because they decided that a few world-class universities were absolutely critical to China's continued growth. In principle, it would be possible for the Vietnamese government to follow the Chinese route: investing very large amounts of money to a select few existing institutions while leaving them under the direct control of the central government. These institutions would have the ability to recruit talent, organize courses and select students, while Hanoi would set and enforce strict performance standards.

In practice, however, political pressure in Vietnam drives the government toward sharing out resources rather than concentrating them in a few elite institutions. This is both a strength and a weakness of the Vietnamese consensus-driven political system. On the one hand, resource poor provinces have considerable power in Vietnam to demand help from the central government. The more negative consequence of the consensus culture is that national objectives are often sacrificed to obtain the agreement of local authorities. This is evident in the distribution of public investment in Vietnam, which has suffered from an inability to prioritize the allocation of resources to projects with the largest economic and social impact.¹³² The difficulties that the government has encountered in imposing discipline on state-owned enterprises despite their track-record of profligacy and waste further suggests that existing governance mechanisms are incapable of imposing genuine accountability.

¹³⁰ A third approach, considered by Salmi, is to merge existing institutions. This has been attempted in Vietnam, most notably through the creation of the Vietnam National University system in 1995. In our view this strategy has not produced desired results, and is thus not worthy of serious consideration again.

¹³¹ Salmi, p.45.

¹³² *Choosing Success*, 24-30

This recommendation is in tension with the current direction of Vietnamese policy, which exhibits a preference for establishing new academic units within existing universities, as seems to be the case of the recently founded Vietnamese German University (VGU). The details of the governance arrangement at this new institution, intended to become one of Vietnam's new "international standard" research universities, are not entirely clear. However, MOET's planning document for the project states "Vietnam National University Hồ Chí Minh City is designated as the strategic partner, playing the core role in appointing personnel and professors, bringing together standards of specialized knowledge and foreign languages, and participating in management and teaching at VGU."¹³³

We do not believe that the governance system required to create a research institution of quality can comfortably coexist with current management practices in existing universities. While it may be theoretically possible to erect a sufficiently high wall around a new academic unit to shield it from the existing institution, in practice, the internal politics, competition for resources, and jealousies that are typical of academic institutions around the world will only complicate an already difficult job. Consider the issue of faculty remuneration: it would be a courageous university president indeed who agreed to compensate certain faculty members at up to twenty times the official salary level of others with more seniority, yet this is precisely what would be required to build an apex academic unit within an existing university. Starting from scratch will also enable the new institution to establish an independent brand that will aid in recruiting talented faculty and students; this will not happen if faculty members are borrowed on a part-time basis from an existing university. Finally, and most importantly, a new independent university will inject an element of much-needed competition into the higher education system. At present, Vietnam National University occupies the apex of the system. The prospect that their reputations may be eclipsed by a newcomer may spur Vietnam's existing universities to reform with more urgency. This type of healthy competition is surely desirable.

Designing a governance system is a critical first step. We recommend that a new institution be chartered as an independent, non-profit legal entity governed by a board of trustees. The board may be composed of currently serving government officials (for instance a representative of the Minister of Education and Training) but it should also include representatives of the anchor international academic partner. The board should be empowered to make all decisions regarding the new institution's activities, and to select, assess, and terminate the employment of the university president and other key administrators.

3. Focus on building one institution

Vietnam has announced plans to develop up to four universities with the hope of placing them within the global top 200 by 2020. We frankly believe that this is an unrealistic and counterproductive goal. This paper has demonstrated that by any commonly used metric Vietnamese universities are among the poorest in the region.

¹³³ Ministry of Education and Training, "Summary of the project to establish the Vietnam German University" [Tóm Tắt Đề Án Thành Lập Trường Đại Học Việt-Đức], 2008.

The exceedingly poor publications record of Vietnamese scientists strongly suggests that they are largely isolated from developments in their disciplines. In this grim context Vietnam should resist pressure to spread money across the system (and the country) and instead focus on building a single new institution, as was proposed in the Tenth Party Congress statement mentioned at the beginning of this paper. The IDS proposal makes a similar recommendation:

The issue of higher education is more complicated, and many years will be needed to clean up the current mess. It will be necessary to upgrade several existing universities, but this task will take time, because successfully upgrading a single university to an international level will require a minimum of 10-15 years (Vietnam National University Hà Nội was established more than 10 years ago and remains far inferior to good universities in the region). At the same time, work must begin on building one or two *new truly modern multidisciplinary universities*, in accordance with all international standards, that can play a trailblazing role in the larger effort to modernize higher education. This view was put forward in the 2004 petition, and was endorsed by Prime Minister Phan Văn Khải, but until now progress has been virtually nonexistent.¹³⁴

Creating a new research university will be very expensive. The \$100 million that the government has stated it intends to invest in each school is unlikely to suffice. It is difficult to estimate the exact cost of this endeavor in Vietnam, since it is such a complex and long-term project. However, Professor Philip Altbach, director of the Center for International Higher Education at Boston College, estimates that building a world-class university today might cost \$500 million.¹³⁵ We sought to show through the case studies that China, India, and South Korea initially spent heavily to upgrade or build a very small number of research universities. Considering proportionality, it follows that if Vietnam hopes to attract high quality faculty and finance research and laboratories, it must focus its resources. Moreover, the government will need to invest heavily in foreign study to educate the next generation of scholars and scientist (see below).

Vietnamese policymakers have objected to investing heavily in a single institution on equity grounds. We believe that the Vietnamese public would support such an effort subject to several caveats. First, the project should be transparent, with detailed financial information made available. Before ground is broken on the construction of the first building, a detailed financial plan for the new university covering the first ten years of operations should be made public. The financial plan should recognize that tuition fees will account for a small percentage of the institution's operating expenses and that there can be no "sunset" to the provision of state financing. Second, the institution should possess an explicitly national mandate and endeavor to recruit top students from around the country. Thirdly, the institution should be held accountable by regular assessment by independent, external reviews conducted by Vietnamese and international experts.

4. Invest heavily in human capital

Vietnam needs to build its stock of human resources in science and technology by investing heavily and strategically in Ph.D. training for Vietnamese students abroad. During their period of rapid development, East Asian countries pursued a

¹³⁴ IDS, p. 17.

¹³⁵ Philip G. Altbach, "The Costs and Benefits of World-Class Universities," *Academe* 90, no. 1, 2004.

comprehensive vision for the development of human capital, particularly in science and technology.¹³⁶ In India, China, South Korea, Taiwan and a number of other countries, foreign-trained Ph.D.s have played a critical role in economic development and the success of apex research universities. Foreign graduate study in science and technology is a long-term investment in Vietnam's scientific teaching and research quality. The Vietnam Education Foundation report cites lack of teachers with foreign graduate training as one of the root problems in science and technology teaching. We cannot stress the urgency of this enough: Vietnam is currently not training the corps of engineers and scientists that its economy and society demand.

In this regard, Vietnam is a generation or two behind China, India and South Korea, as it has only been sending students to the US and Europe since *Đổi mới* began. China has been sending students abroad since the late 1970s; India, since before independence; and Korea, for more than four decades. The volume of these flows has only increased: between 1998 and 2003, China sent about 35,000 students to the US for doctoral training in science and engineering fields; India and Korea each sent over 17,000.¹³⁷ Vietnam has certainly made progress in sending students abroad over the past decade; however, the volume of students going for undergraduate or English language training seems to far outweigh the numbers going for advanced graduate training.

It is worrying that the government's higher education investment plan for the period 2006-2020 does not appear to call for significant investment in foreign study. Vietnam intends to spend \$20 billion on higher education. Setting aside the issue of whether it is realistic to expect that \$10 billion of this investment can be mobilized from the private sector, the plan envisions spending \$18 billion on infrastructure "hardware," and only \$110 million on "developing teaching and management staff."¹³⁸ Vietnamese policymakers would be wise to recall the critical role that foreign study has played in all of the Asian success stories.

5. Start with undergraduate education

A new apex university in Vietnam should focus on undergraduate education. For most people, an undergraduate degree will be their highest level of educational attainment before entering the workforce. A quality undergraduate institution will offer more opportunities for a larger group of Vietnamese students, and could become a model of quality and best practice for other Vietnamese universities to emulate. We have argued that a key purpose of apex research universities is to train students who can gain acceptance to elite graduate programs abroad. Another reason for this recommendation is purely pragmatic. KAIST was originally envisioned as a graduate program; but an important difference between Vietnam now and South Korea in the early 1970s was that Korea already had a large, highly trained cadre of US-trained scientists and scholars. Given that Vietnam has not yet developed this wide network

¹³⁶ *Choosing Success*, p.9.

¹³⁷ "International flow of students – An analysis related to China and India," Naresh Kumar, *Current Science*, vol. 94, no. 1, 10 January 2008.

¹³⁸ Higher Education Reform Agenda 2006-2020. Cited in World Bank program document no. 47492-VN, p. 13.

of nationals teaching and studying at high levels abroad, and considering the current state of Vietnamese science and technology, it would be impractical for Vietnam to focus on graduate education before building a strong base in undergraduate studies.

Vietnamese policymakers and educators should consider the two primary models of undergraduate education to decide which is most suitable. The first of these models is liberal arts education, characteristic of US higher education. Whatever their particular specializations, all students study a range of subjects in the humanities, social sciences, and natural sciences. A general education has two purposes: to provide students with a wide breadth of knowledge and to instill strong writing, communication and analytical skills. Educators tailor general studies curriculums to accommodate national culture, politics, and history; they also seek to form a coherent program that reaches across disciplines to draw connections between divergent perspectives and fields. Elite Chinese universities have sought to develop a strong general studies curriculum that trains well-rounded students and facilitates life-long learning. The Task Force emphasizes the practical importance of general education:

A general education is an excellent form of preparation for the flexible, knowledge-based careers that increasingly dominate the upper tiers of the modern labor force. With knowledge growing at unprecedented rates, higher education systems must equip students with the ability to manage and assimilate greatly expanded quantities of information. A specific expertise in technology will almost inevitably become obsolete. The ability to learn, however, will continue to provide valuable insurance against the vagaries of a rapidly changing economic environment.¹³⁹

In the US and Chinese systems, students continue to postgraduate studies for specific professional training. By contrast, the Indian Institutes of Technology and Management and most British universities offer a specialized three to four year undergraduate curriculum where students begin their professional studies from a younger age, though these still contain some general education component. The Grandes Écoles in France combine highly specialized undergraduate training with a strong foundation in general studies. Most countries, including the US, offer engineering as an undergraduate specialization. Whether a new Vietnamese university implements a specialized undergraduate curriculum or a broader liberal arts curriculum, we believe that including a general studies element is advisable.

¹³⁹ *Peril and Promise*, 83.

APPENDIX ONE. The African Institute of Science and Technology

As this paper was finalized in June 2009 the Vietnamese government was in negotiations with the World Bank and the Asian Development Bank to secure financing for its higher education reform agenda. According to publicly available information and statements by Vietnamese policymakers, a portion of this funding will be allocated to the construction of up to four international standard or “new model” universities. As Vietnam continues to flesh out the details of these initiatives the lessons of international experience may prove instructive, especially with regard to the design of effective governance systems.

In the main body of this paper we described how effective university governance regimes evolved in China, India, and South Korea. There are many other potentially informative case studies, one of which is the African Institute of Science and Technology. Beginning in the early 2000s a consortium of international organizations led by the Nelson Mandela Institute (NMI) produced a detailed “business and implementation plan” for the creation of a new science and engineering university in Abuja, Nigeria. Multiple arms of the World Bank Group, including the World Bank Institute and the International Finance Corporation, were heavily involved in the preparation of this feasibility study. The Science Initiative Group (SIG) at the Institute of Advanced Study also contributed expertise. A number of internationally renowned scientists, including SIG President Phillip A. Griffiths and Professor C.N.R. Rao of the Jawaharlal Nehru Centre for Advanced Scientific Research served as advisors.

Three aspects of the original strategic plan for AIST are potentially relevant in the Vietnamese context. The first is its governance structure. The architects of AIST sought to ensure that the institution would enjoy a high level of autonomy while remaining accountable to core stakeholders. It was to be governed by an international board of trustees, with responsibility for hiring key personnel, including the president. An Independent Scientific Advisory Board composed of nine eminent scientists would advise the AIST on scientific and academic matters, including the development of quality control and peer-review mechanisms.

Second, an international academic partner, the Indian Institute of Technology, Bombay would provide support to AIST during the start-up phase. IIT, Bombay would participate in key areas including curriculum development and student admissions. The plan explains this choice: “A new institution such as AIST-Abuja has the best chance of success if an existing, reputable institution is standing behind it...IIT-Bombay is an ideal partner for AIST-Abuja for many reasons. It is a world-class institute that has existed for almost fifty years. Also, IIT-Bombay evolved in an emerging market environment.”¹⁴⁰

Third, detailed financial projections were developed in order to produce a realistic estimate of the cost of building and operating AIST. These estimates included the cost of hiring faculty members from European and North American universities. An

¹⁴⁰ *Business and Implementation Plan: African Institute of Science and Technology Abuja Campus*, p. 7.

equivalent level of foresight and transparency will be necessary to engender support from Vietnamese scientists and the general public.

We are certainly not advocating that Vietnam copy the plan for the AIST. The economic and social challenges confronting Africa are very different from those Vietnam faces. Moreover, AIST was conceived as a regional, rather than a national, undertaking. The grand plans set forth in the original planning documents have yet to be realized.¹⁴¹ Nevertheless, we suggest that the process by which the AIST concept was initially devised may hold valuable lessons for Vietnam and its international development partners. At the very least, a rigorous, consultative planning exercise that engages with the scholarly and scientific communities inside and outside Vietnam would surely benefit Vietnamese higher education policy.

¹⁴¹ For instance, IIT Bombay ultimately did not assume as large a role as was originally envisioned. The decision to reduce the scale of the AIST project appears to be due primarily to an inability to raise sufficient financing.

APPENDIX TWO. Is more money the answer?¹⁴²

The Vietnamese government's Higher Education Reform Agenda, 2006-2020 envisions a massive infusion of financial resources into the sector over the next ten years. Vietnam spends a lot on education and the amount has more than tripled in real terms since 2000. Public education spending was only 3% of GDP in 2000 and was 5.9% of a rapidly rising GDP in 2008.¹⁴³ The 2006 Living Standards Survey found monthly private education spending of nearly 30 thousand VND per capita or 3.1% of GDP. If additional amounts for overseas educational spending were included, then current total spending on education is in the 9-10% of GDP range.¹⁴⁴

Most middle income Asian nations spend 4-6% of GDP on education. One would think that since they spend so much less, they have either lower quality or lower quantity. Yet that is not the case. If we add secondary and tertiary enrollment rates together, we find Vietnam is not very high compared to several of its neighbors, and indications of university quality are not encouraging either, even relative to its Asian neighbors.

The following table suggests just how out of line the relationship is:

<u>Nation</u>	<u>Total Education Spending/GDP</u>	<u>Secondary + Tertiary ERR</u>	<u>ERR per % of Spending</u>
China	5.3%	98%	18.5
India	5.6%	67%	12.0
Indonesia	4.3%	83%	19.3
Malaysia	6.4%	98%	15.3
Thailand	4.8%	133%	27.7
Vietnam	9.0%	91%	10.1

Sources: See notes at end of piece

Of even more interest, while the tertiary enrollments in Vietnam are soaring in part because of distance learning programs of uncertain quality,¹⁴⁵ there has actually been a sharp decrease in junior secondary students – the number dropped 12% from 2004 to 2007 while those in the age group fell only 7%. Those in the senior secondary classes rose 9.5% from 2004 to 2007 while those in the age group rose slightly (2%), but since upper secondary students are only about half as numerous as junior secondary, the total number of secondary students has dropped by over half a million. In other words, there was almost no change in combined secondary and tertiary enrollments from 2004 to 2007 while educational funding was soaring.

¹⁴² This appendix was written by David Dapice of the Harvard Kennedy School Vietnam Program and Tufts University.

¹⁴³ These figures are supplied by MOET and found in the World Bank Higher Education Development Policy Program-First Operation loan document (Report No. 47492-VN; June 23, 2009)

¹⁴⁴ There are no official figures for the costs of overseas study but discussions in Hà Nội have the figure at well over \$1 billion. For reasons of internal consistency, it is unlikely that the Living Standards Survey picked up much of this expense. This “extra” amount is not reflected in the table.

¹⁴⁵ Total college and university enrollments rose 608 thousand from 2004 to 2007, of which 394 thousand were full time students and 214 thousand were part-time. (GSO Statistical Yearbook, Table 267)

	(Trillions of 1994 VND)		
	<u>2000</u>	<u>2004</u>	<u>2008</u>
Public Education Funding	8.2	17.8	28.9

Notes to Table 1: There are not consistent data on private spending for education across nations. A UNESCO document (“Background Paper prepared for the Education for All Global Monitoring Report 2009”; 2009/ED/EIA/MRT/PI/25) had information for China, Malaysia and Indonesia. An OECD study (“Challenges for China’s Public Spending”) had 2001 data for India and Thailand. Vietnam’s private data came from the *2006 Living Standards Survey*. Public education spending is mostly from the *2009 World Development Report* (2009 WDI), Table 2.11 though the UNESCO document was used for China. Enrollment ratios are gross ratios for secondary and tertiary added together. These are mostly from the 2009 WDI, Table 2.12 except for Vietnam which did not report them. For Vietnam, enrollment numbers as reported in the GSP Statistical Yearbook were divided by the appropriate age groups estimated from the 1999 Census, assuming zero mortality.

APPENDIX THREE. Methodology

As the title of this paper implies, one of the challenges the analyst confronts when grappling with questions of governance is that it belies quantification or codification. The Task Force on Higher Education and Society's definition of governance as "the formal and informal arrangements that allow higher education institutions to make decision and take action,"¹⁴⁶ captures the elusiveness of the subject. Governance at the institutional level is the result of formal rules and regulations as well as unwritten norms and practices that evolve in the shadow of formal policies and are shaped by many factors including culture, politics, and the world views of faculty and administrators. The intangible aspect of university governance is important, because without an understanding of how universities operate *in situ*, efforts at reform are unlikely to bring about desired outcomes.

In order to determine how Vietnamese universities are governed in practice it was necessary to go beyond official policy statements and planning documents, as informative and important as they are, and mine the rich and ever-deepening seam of written work—including policy papers, journalistic accounts, and individual testimonies—on the challenges facing Vietnamese higher education. This literature is a product of the vibrant public discourse on higher education policy that takes place daily in the press, the National Assembly, and online forums such as the Ministry of Education and Training's website. Participants in this discourse include students, academics, policymakers, social commentators, and employers. While some of this literature is in English, it is primarily produced in Vietnamese. Given this broad-based participation in the on-going discussion of higher education, we believe that a nuanced reading of this discourse is the best guide to the state of governance in Vietnamese higher education. Since this discussion is constantly evolving, we draw primarily from articles and accounts written between 2007 and mid-2009. It is a credit to Vietnam's commitment to higher education that such a dialogue exists; as the Task Force observes a "transparent and informed dialogue"¹⁴⁷ that brings together all stakeholders is a crucial component of the policymaking process. Vietnamese policymakers, and their international development partners, would be wise to listen carefully to these voices.

In addition to written materials, we have also benefited from many direct discussions with Vietnamese stakeholders from the academy, government, and business. Highlights of this consultation process included visits to the Harvard Kennedy School by two large delegations of Vietnamese university administrators and leaders during the fall of 2008. These visits provided an opportunity for the research team to engage in a spirited and wide-ranging discussion of university governance in Vietnam and the trajectory of reform. The research team continued this dialogue in Vietnam with many members of the delegations. A research trip to Vietnam with a member of the Science Initiative Group in December 2008 provided an opportunity to engage with a number of scholars and university leaders representing research-oriented universities as well as private and vocational institutions. Our analysis and recommendations were "road-tested" with a number of Vietnamese scholars and current and former academic managers and policymakers.

¹⁴⁶ *Peril and Promise*, 59

¹⁴⁷ *Ibid.*, 95.

The Vietnam portion of the research was benefited from the Harvard Vietnam Program's experience jointly operating, with the University of Economics, Ho Chi Minh City, the Fulbright Economics Teaching Program (FETP). Established in FETP is a leading center of public policy research and training. More than 2000 Vietnamese women and men, including many from the academy, have attended FETP programs. The knowledge and perspectives of this alumni body and FETP's Vietnamese and international faculty contributed invaluable to the research.

The comparative component of the study drew upon primary and secondary source material and interviews with scholars and policymakers from the countries on which we elected to focus. India, China, and South Korea have faced or are facing development challenges similar to those Vietnam confronts today. Like Vietnam, these countries have identified the development of elite higher education institutions as critical to their development. India was selected because it has succeeded in creating a cluster of higher education institutions that enjoy world class reputations. The achievements of the Indian Institutes of Technology are the result of a concerted effort by the Indian government dating back to the early post-independence effort. Many factors have contributed to their success but their governance, especially at the institutional level, has in our view been decisive. China is an instructive example for Vietnamese policymakers in part because China has faced the challenges of the past three decades with broadly similar institutional structures. However, as our discussion of the Chinese case makes clear, despite these isomorphic similarities China's apex institutions have achieved a higher level of quality than their Vietnamese counterparts. South Korea's industrialization over the past four decades looms large in the minds of Vietnamese policymakers. As our analysis should make clear, we believe that they offer positive and negative lessons for Vietnam. In all three cases there is a wealth of published information about higher education reform efforts. Our engagement with this literature was supplemented by consultations with experts from these countries. The insights these individuals shared with us were invaluable in shaping our understanding of how apex institutions in these countries are governed, and how policy innovations have helped or hindered the quest for excellence. Institutions visited by members of the research team in India include the Jawaharlal Nehru Centre for Advanced Scientific Research (Bangalore), the Indian Institute of Technology Delhi, the Indian Institute of Science (Bangalore), the Indian Institute of Management (Bangalore); and in China, Tsinghua University, and Peking University. Two members of the research team also visited Singapore to meet with faculty and students at the recently established Duke-National University of Singapore Graduate Medical School. The purpose of this visit was to gain a better understanding of the partnership between Duke and NUS, one of the most ambitious and noteworthy institutional development initiatives in tertiary education to be launched in the region in recent years.

Throughout the research and writing process the research team engaged in a vigorous internal discussion and debate that benefited from the rich and varied experiences of its members. The New School President **Bob Kerrey** offered his experiences as both an elected official involved in the formulation of higher education policy as well as the president of a major American university. **Professor Ben Lee** contributed both his knowledge of higher education in the US and China and his experience as a senior academic officer at The New School. As we acknowledge in the opening section,

Professor Henry Rosovsky's advice, based on long and distinguished career as an educator and scholar of universities, was invaluable. **Professor Meredith Woo** of the University of Virginia helped us to understand higher education policy in South Korea and, as academic dean of UVA, shared her knowledge on operations at a major US public research university. **J. Tomas Hexner** of the Science Initiative Group (SIG) at the Institute for Advanced Study helped facilitate the team's dialogue with the Vietnamese delegations that came to Harvard and contributed his experience working with fledgling centers of excellence in Latin America and Africa. Among his many contributions, **Tom Vallely** of the Harvard Vietnam Program, who has led academic exchange programs with Vietnam for twenty years, offered a perspective on the politics of institutional innovation in Vietnam.

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