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PAPER

Transformation of the Arab Gulf Economies into Knowledge Economies: Motivational Issues Related to the Tertiary Education Sector

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Introduction

Over the past ten years, Arab Gulf states have made it an explicit aim to transform their economies into Knowledge Economies.¹ Former Minister of Economy and Trade in Qatar Sheikh Mohamed Ahmed Jassim Al Thani defined the motivations for this transition precisely, when he said: “[i]n recent years, the ‘knowledge economy’ concept has become an essential part of the Gulf states’ strategic vision and plans for economic diversification.”² However, changing economic platforms is no easy task for a state, and the success of a Knowledge Economy rests on the intricate relationship between knowledge, entrepreneurship, motivation, enabling economic and institutional regimes, and a great deal of other factors. The most common mistake for those transitioning (or aiming to transition) into a Knowledge Economy is the belief that the education of a state’s population will be sufficient to make the switch. The successful realization of a Knowledge Economy means fostering a special mindset among target societies, a mindset that focuses on building, on winning opportunities, on visions, and on creating a vibrant home base for globally competitive business.³ As Stiglitz spells out, successfully establishing a Knowledge Economy requires a broader change in culture that focuses on citizens’ participation (in economic activities), ownership of processes and active learning so that motivation, aspirations and entrepreneurship will become

¹ This article is an edited version of an article titled: The State and the Knowledge Economy in the Arab Gulf countries: Structural and motivational challenges, forthcoming in *The Muslim World* and which is an outcome of the working group on “The State and Innovation in the Gulf” hosted by the Center for International and Regional Studies (CIRS) at the Georgetown University School of Foreign Service in Qatar, 2013/14.

² Mohamed A. J. Althani, *The Arab Spring & the Gulf States: Time to Embrace Change* (London: Profile Books, 2012), 51. Also see: Govt. of Bahrain, *Our Vision: The Economic Vision 2030 for Bahrain* (Manama: Bahrain Economic Development Board, 2008), 20, http://issuu.com/economicdevelopmentboard/docs/bahrain_vision_2030; Govt. of UAE, *UAE Vision 2021: United in Ambition and Determination*, (Abu Dhabi: Government of United Arab Emirates, 2010), section 3.1, <http://www.vision2021.ae/home-page.html>; GSDP, *Qatar National Vision 2030*, July 2008 (Doha: General Secretariat For Development Planning, 2008), p. 6, http://www.gsdp.gov.qa/www1_docs/QNV2030_English_v2.pdf.

³ Jean-François Rischard, *The Knowledge-Based Economy: Worldwide Trends and New Ideas*, Presentation November 26, 2007 at (Dubai School of Government, 2007).

intrinsic ethos of the individual.⁴ The crux of the issue, and the focus of this paper, is on the individual as the key to this transition. Since the individual holds the key, any realization of a Knowledge Economy depends on the willingness of individuals to participate within it. Accordingly, this paper will analyze the challenges faced by the GCC states in transforming into Knowledge Economies.

In order to carry out its analysis, the sections of this paper are laid out as follows: First, the concept of the Knowledge Economy will be defined and quantified. Second, the performance of the GCC states on the Knowledge Economy Index will be ranked. This ranking will show that the GCC states perform relatively poorly when it comes to the indices of education and innovation. After these initial sections, the paper will go on to discuss and analyze the reasons for GCC states' dismal performance on two major indices. This discussion will begin with an assessment of structural issues, in particular the quality and performance of the educational system at primary, secondary and tertiary levels. Finally, the paper will turn to examining the individual as a key resource in building a Knowledge Economy, and turn to an analysis of what are identified as a lack of incentives to pursue learning and innovation, as the major stumbling block for Gulf Arab youth specifically, and a Knowledge Economy more generally. The paper uses for its analysis a combination of critical texts and interviews, which were undertaken in the region over the last decade, from the vantage point of a professor of Emirati students at Zayed University in Dubai.

This paper is exploratory in nature as a consequence of the lack of solid data around performance measurements of graduates from Gulf universities or in-depth studies of incentive structures as they pertain to young Gulf Arabs. As such, the aim of the paper is less to document the issues at hand, but rather to stage a nuanced discussion of

⁴ Joseph E. Stiglitz, *Public Policy of a Knowledge Economy* (London: Department for Trade and Industry and Center for Economic Policy Research, 1999), 6-8.

what I view as the basic challenges the Gulf countries face in transforming their societies to Knowledge Economies.

What is a Knowledge Economy?

The concept of the Knowledge Economy was introduced in 1966 by Peter Drucker and later popularized by the same author in his 1969 book *The Age of Discontinuity*. The latter work analyzed how knowledge became a central form of capital and the most crucial resource for the economy of the United States in the decades after the Second World War.⁵ The concept was built on, and twenty-five years later Florida and Kenney observed:

Capitalism is undergoing an epochal transformation from a mass-production system where the principal source of value was physical labor to a new era of innovation-mediated production where the principal component of value creation, productivity and economic growth is knowledge and intellectual capabilities.⁶

The Knowledge Economy can thus be understood as the latest stage of the evolution of the global capitalist economy. This stage is characterized by a predominance of technological innovation and the globally competitive need for innovation with new products and processes that develop out of a research community (i.e., R&D factors, universities, labs, and educational institutes).

Although the concept of 'Knowledge Economy' has been widely used over the past two or three decades,⁷ it remains vaguely defined.⁸ In the literature, various terms seems to

⁵ Peter F. Drucker, *The Age of Discontinuity: Guidelines to Our Changing Society* (London: Heinemann, 1969), IX and 247ff.

⁶ Richard Florida and Martin Kenney, "The New Age of Capitalism: Innovation-Mediated Production," *Futures*, July/August (1993), 637.

⁷ To illustrate this, an exact phrase search in Google for "Knowledge Economy" retrieved an impressive ca. 754.000 hits (May 8, 2014).

⁸ Ian Brinkley et al., *Kuwait and the Knowledge Economy: A Report Prepared for Kfas*, The Work

be used interchangeably: Knowledge Economy, knowledge society, information society, the digital society, knowledge-based society, etc.⁹ This UNDP report pointed out that not only were the terms loaded with slightly different meaning, but there were discrepancies among the various research disciplines surrounding the definition of 'knowledge,' and thus the understanding of the concepts within, for example, engineering, mathematics, sociology, anthropology, economics, and linguistics.¹⁰

This paper will adopt the definition of a Knowledge Economy provided by The Work Foundation initiative in Great Britain:¹¹

Economic success is increasingly based on the effective utilization of intangible assets such as knowledge, skills, and innovative potential as the key resource for competitive advantage. The term 'Knowledge Economy' is used to describe this emerging economic structure.¹²

This definition captures two important features of the Knowledge Economy:¹³ Firstly, the shift towards a knowledge-based economy affects all sectors in a society; low- and high-tech, knowledge-intensive and less knowledge-intensive, large and small, public and private. Secondly, the Knowledge Economy is to be understood as a transition; part of a long-term process that will go on for decades if not centuries.¹⁴ Further to these

Foundation and the Kuwait Programme on Development, Governance and Globalisation in the Gulf States, Research Paper no. 22 (London: London School of Economics and Political Science, 2012), p. 10, <http://www.lse.ac.uk/middleEastCentre/kuwait/documents/Kuwait-and-the-knowledge-economy.pdf>; Madar Research, *United Arab Emirates Knowledge Economy 2006*, Madar Reserach, Knowledge Economy Series (Dubai: Madar Research, 2006), 23.

⁹ UNDP, *Arab Knowledge Report 2009: Towards Productive Intercommunication for Knowledge* (Dubai: Mohammed Bin Rashid Al Maktoum Foundation and the United Nations Development Programme, 2010), 30ff, <http://www.arab-hdr.org/akr/AKR2009/English/AKR2009-Eng-Full-Report.pdf>.

¹⁰ The report cited examples in engineering, mathematics, sociology, anthropology, economics, and linguistics, *Ibid.*, 31.

¹¹ The Work Foundation has adopted this definition from the UK Economic and Research Council (ESRC) in 2005. *Op.*, cit., Brinkley et al., *Kuwait and the Knowledge Economy*, 10.

¹² *Ibid.*

¹³ *Ibid.*

¹⁴ *Ibid.*

elements, the definition highlights the core argument behind transforming to a Knowledge Economy; namely the imperative to increase the competitiveness of a given country. In this framework, 'knowledge' is not an end in itself or a tool of empowerment in a Freirean sense, rather it is a concept closely linked to the neoliberal economic paradigm within which states or cities worldwide compete for business and growth.¹⁵

The most widely used quantification of Knowledge Economy is likely the so-called Knowledge Assessment Methodology developed by the World Bank. This methodology is used to create the Knowledge Economy Index (KEI), an aggregate index expressing a country or region's overall readiness to compete in the Knowledge Economy.¹⁶ More specifically, KEI represents quantifications of what the World Bank has singled out as the four pillars of the Knowledge Economy:

- Economic Incentive and Institutional Regime
- Innovation and Technological Adoption
- Education and Training
- Information and Communication Technologies (ICT) Infrastructure

The four pillars are interlinked, and adequate performance on each is considered a prerequisite for achieving a successful Knowledge Economy.¹⁷ As such, the ability to build a Knowledge Economy not only necessitates good technological infrastructure and a well-educated population, it also entails establishing a 'knowledge-conducive' economic regime (a regime with transparent rules and regulations and freedom of

¹⁵ This observation is in line with Porter, who pointed out that the world economy is increasingly dynamic and as such traditional comparative advantages that arise from natural endowments are of less importance than competitive advantages, which rest on "making more productive use of inputs, which requires continual innovation. See: Michael E. Porter, "Clusters and the New Economics of Competition," *Harvard Business Review*, November-December (1998): 78. Evans uses the word 'created comparative advantages' in the same meaning. Peter B. Evans, *Embedded Autonomy: States and Industrial Transformation* (New Jersey: Princeton University Press, 1995), 8-9.

¹⁶ For a detailed explanation of the KAM methodology, see: Derek H. C. Chen and Carl J. Dahlman, *The Knowledge Economy, the KAM Methodology and World Bank Operations* (Washington D.C.: World Bank Institute. Stock No. 37256, 2006)..

¹⁷ *Ibid.*, pp. 5-9 provides a detailed description of the necessity of inter-linking the four pillars.

speech, one free of distortions and with an effective, accountable and corrupt-free government, an effective legal system, the protection of property rights, etc.) and the creation of an innovation system able to produce, use, and adopt knowledge to manufacture/produce new goods, new processes and new knowledge.¹⁸

The basic claim of the World Bank Knowledge Economy framework is that sustained investments in education, innovation, information and communication technologies and an environment conducive to economic and institutional growth will lead to increases in the use and creation of knowledge in economic production and consequently result in sustained economic growth.¹⁹ Adding to this, however, I will argue in this paper that while investment in the four pillars might be a necessary condition for the successful transformation to a Knowledge Economy, in the Gulf context this is not sufficient. The World Bank understanding rests on the implicit behavioral assumption that the individual will respond positively to investments, i.e. incentives in monetary form. While this assumption might be applicable in most of the world's tax-based economies, I suggest it is not applicable in the Gulf states. As will be argued below, four decades of ample oil and gas income has significantly dampened the effect of economic incentives (e.g. higher incomes), leaving incentives related to culture, families and religion bearing more weight.

Current Status of Transition to the Knowledge Economy

Gulf countries are ranked between 42 and 64 on the KEI (See: Table 1 below). This ranking is below the aggregate score for Europe and Central Asia, but it is above the world average and significantly above the score of the MENA region. Of great significance, however, is that Gulf countries display significant weaknesses on the pillars of Education and Innovation.

¹⁸ Ibid., 6-8.

¹⁹ Ibid., 1.

Table 1. The Knowledge Economy Index, for selected countries and regions, 2012 edition

Rank	Country	KEI	Economic Incentive Regime	Innovation	Education	ICT
1	Sweden	9.43	9.58	9.74	8.92	9.49
12	North America	8.8	9.11	9.45	8.13	8.51
25	Israel	8.14	8.33	9.39	7.47	7.36
	Europe and Central Asia	7.47	6.95	8.28	7.13	7.5
42	United Arab Emirates	6.94	6.5	6.6	5.8	8.88
43	Bahrain	6.9	6.69	4.61	6.78	9.54
47	Oman	6.14	6.96	5.88	5.23	6.49
50	Saudi Arabia	5.96	5.68	4.14	5.65	8.37
54	Qatar	5.84	6.87	6.42	3.41	6.65
64	Kuwait	5.33	5.86	5.22	3.7	6.53
	World	5.12	5.45	7.72	3.72	3.58
	Middle East and N. Africa	4.74	5.41	6.14	3.48	3.92
	Source: http://info.worldbank.org/etools/kam2/KAM_page5.asp	Visited 29 March 2014				

On the Education pillar, Kuwait scores 3.7 and Qatar 3.41, which for both countries is well below the World score. Of the six Gulf countries, Bahrain (6.78) is ranked the highest, nearly a full point higher than the UAE (5.8), which is the second highest scoring country. And while low, compared to earlier versions of the index, the scores for education have improved significantly over the last decade.

In terms of the Innovation pillar, the World average is 7.72, while the MENA average is 6.14. Only the UAE and Qatar are slightly above the MENA average, while Bahrain and Saudi Arabia are nearly two full points below the MENA score (4.61 and 4.14 respectively), bringing these countries on par with countries like Swaziland, Botswana, Egypt, and India. These findings are underscored by the Global Innovation Index (GII index),²⁰ which ranks the Gulf countries as follows: UAE (number 38), Saudi Arabia (42), Qatar (43), Kuwait (50), Bahrain (67) and Oman (80).

²⁰ Cornell University, INSEAD, and the World Intellectual Property Organization, *The Global Innovation Index 2013: The Local Dynamics of Innovation*, ed. Soumitra Dutta and Bruno Lanvin (Geneva, Ithaca, and Fontainebleau: Cornell University, INSEAD, WIPO, 2013), 6ff, provide an explanation of the methodology followed. The Global Innovation Index (GII) is developed in collaboration between Cornell

While the education and innovation scores are low, Gulf countries have remarkably high scores on the ICT pillar (Information and Communication Technologies). Three countries in the region are on par with North America, and Bahrain scores even higher than Sweden, the highest ranked country in the index. However, this comes as no surprise since small countries with ample financial resources can purchase a first rate ICT infrastructure. On the Economic Incentive Regime, the Gulf region scores far better than the global average and the rest of the MENA region. This is a reflection of a sound fiscal environment, reasonably reliable governmental institutions and a relative ease of doing business. Among the 182 countries assessed, four of the Gulf countries are ranked within the top 50. However, all Gulf countries are categorized as 'underperformers' when their GII rank is related to their GDP,²¹ leading to the conclusion that Gulf countries have not yet managed to translate their economic wealth into innovative practices or—more precisely—to equate their economic wealth with innovative strength.²²

Gulf Structural Challenges: Education and Innovation

A successful Knowledge Economy necessitates good performance on all four pillars, and since the ICT and EIR indices of the Gulf states are already at relatively high levels, analysis will focus on the two pillars on which the Gulf States have their weakest performance, since performance on the Innovation and Education can be seen as a

University, INSEAD, The Business School for the World, and World Intellectual Property Organization (WIPO). This index ranks 182 economies of the world according to enablers of innovative activities in the national economy (innovation input) and the resulting innovative outputs within the economy (innovation output). All in all, the ranking of each economy is based on a total of 84 indicators *ibid.*, 6-9. The index is roughly similar to the KEI pillar on Innovation and Technological set out by the World Bank Knowledge Economy Index. Available through:
<https://oami.europa.eu/ohimportal/documents/11370/71142/The+Global+Innovation+Index+2013.+The+Local+Dynamics+of+Innovation>

²¹ *Ibid.*, 24.

²² For more information see: Madar Research, *United Arab Emirates Knowledge Economy 2006*, 24; *Op. cit.*, UNDP, *Arab Knowledge Report 2009*, 183.

barrier to a successful transformation to a Knowledge Economy. This section will explain and discuss the reasons behind such low performance, beginning with structural issues. This will be followed by a discussion on the issue of incentives for young Gulf Arabs to pursue education and innovative activities.

The two existing Arab Knowledge Reports, written mainly by Arab scholars and published in 2010 and 2011, paint a dismal picture of the region's educational system, the research and innovative capacity in the Arab world, and the link between education and economies.²³

Among the problems highlighted in the reports are low and inadequate levels of funding for research, a general lack of a research focus at regional universities (allocation of high teaching loads and very limited research time for university faculty compared to university researches in the West),²⁴ a lack of emphasis on social science based research, and a lack of academic freedom. Furthermore, neither teaching nor research is integrated with the region's cycle of production, and a significant mismatch between the qualifications of the candidates and the demand by the labor market etc. is observed. Further, the reports point out that research generally takes place within public sector institutions, which means a lack of incentive-driven work opportunities.²⁵ The Arab Knowledge Report 2009 revealed that for the region, funding was extremely low, with the MENA region it using a meager 0.2% of its combined GDP on research in 2006.²⁶ Compare this to Japan, which used 3.4 % of its GDP on research (R&D) in 2012, the United States (2.8 %), China (1.98 %) or the EU (1.96 %).²⁷

²³ The reports cover all MENA countries, but provide case studies for some of the Gulf countries. My focus has been to reporting findings, which are applicable to the Gulf states.

²⁴ It is rare for the actual research activity of teaching staff in government and most private universities to exceed 5 to 10 percent of their total academic duties, whereas it forms 35-50 percent of academic duties in European and American universities; Op. cit., UNDP, *Arab Knowledge Report 2009*, 190.

²⁵ Ibid., 188.

²⁶ Ibid., 191.

²⁷ Richard Van Noorden, "China Tops Europe in R&D Intensity," *Nature* (2014): 144.

A World Bank report from 2008 confirms these findings. Titled *The Road not Traveled: Education Reform in the Middle East and North Africa*,²⁸ it observes that most of the region's school systems are built as an engineering exercise aimed at rapidly spreading education to all corners of each country; as such, they have so far placed little emphasis on providing incentives for the teachers at all levels to perform at their best. Quantity, the report concludes, has been prioritized over quality in education.

A key finding of the report is its identification of a unique feature in the region's tertiary education system; that it had largely been established before the productive sectors or the state institutions showed a demand for graduates. It further notes that this reality has instituted a supply-oriented educational system with very limited emphasis on designing study programs that focus on achieving actual and useable labor market skills. The lack of demand for actual skills impacts the student's choice of study, leading to a situation where more than 50% of students are enrolled in the humanities, and relatively few in the natural or technical sciences. The report notes that this phenomenon contributes to a weakening of the link between the educational sector and the labor market.²⁹ The report finds that in the MENA region, there is a very weak relationship between education and economic growth. It cites as a primary reason that most graduates (nationals) obtain employment in the public sector.³⁰ This allocation of human capital weakens the contribution of investments in education to economic growth.³¹ Further, the report identifies a host of structural problems within and around the educational system that minimize research outputs, lower the quality of teaching, and lessen the usefulness of the education to society. The report questions how well

²⁸ It is recognized that the three reports used here are somewhat dated, but for the purpose of this paper this is not considered a problem. While educational reforms have certainly been undertaken across the Gulf region in recent years, the effects of these are likely to be seen on a 10 - 15 year time horizon.

²⁹ World Bank, *The Road Not Traveled: Education Reform in the Middle East and North Africa*, Mena Development Report (Washington D.C.: The World Bank, 2008), 13-15.

³⁰ *Ibid.*, 44ff.

³¹ *Ibid.*, 52.

such a university system prepares its graduates to play an active role in a future Knowledge Economy.

Actual performance measures of the quality of university graduates from Gulf educational institutions are nearly non-existent.³² The systematic assessments, e.g., the TIMSS and PISA undertaken for primary schools are not carried out for university students. Instead, some specific examples from the UAE will serve as an illustration, albeit one with a slightly limited scope pending further study. In the UAE (which in their development plans and public statements eagerly state the nation's transformation to a Knowledge Economy) a meager 0.2 % of GDP was allocated for research in 2012; of this, only 0.15 % was actually spent.³³ In 2014, a committee under the Federal National Council produced a critical assessment of research in the UAE and argued for an increase in university research budgets and a reduction in the teaching load of university research staff.³⁴ The committee concluded that so far, the federal universities have shown a lack of interest in supporting research.³⁵ These official statements correspond well to the general understanding that the majority of universities in the Gulf countries can be classified as 'teaching universities.' While official announcements and actual policies in both the UAE and in the other Gulf countries currently emphasize improvements in their educational systems (e.g. to advocate more research based teaching at university level) it is neither an easy or quickly met goal.³⁶

³² Op. cit., UNDP, *Arab Knowledge Report 2009*, 103-11. The report refers to a study where students of computing science and management are compared between US and MENA universities.

³³ Haneen Dajani and Ola Salem, "FNC Wants Greater Emphasis on Research at UAE Universities," *The National*, January 8, 2014.

³⁴ Ayesha Al Khoori, "FNC Calls for Less Teaching Hours for UAE Professors," *The National*, May 1, 2014, <http://www.thenational.ae/uae/government/fnc-calls-for-less-teaching-hours-for-uae-professors>.

³⁵ Ibid.

³⁶ Saudi Arabia has for many years discussed the low performance of its school system and is said to have implemented a major curriculum reform in an effort to improve. In May 2014 the King signed a US\$21bn billion upgrade for the Kingdom's primary educational sector. *Al Arabiya*, "Saudi King OKs Five-Year Education Plan Worth \$21b," 2014, <http://goo.gl/srHbcV>.

Primary and Secondary Schools in the Gulf

The quality of the university system in the Gulf states, as everywhere, builds on the quality of the educational system that feeds it. Primary and secondary schools again reflect the aspirations and attitudes of the students and their families. The central question when it comes to building the capacity of universities to contribute to a Knowledge Economy, is: to what degree do primary and secondary school systems give students the qualifications they need both for active participation in the Knowledge Economy and to pursue further studies?

The 2009 Arab Knowledge Report draws a picture of a basic education system that, compared to its global counterparts, provides fewer hours, less focus on problem solving and critical text reading, and more rote learning. As a consequence, the students emerge with lower skill levels compared to students in the same age groups globally.³⁷ According to the report:

The school system is generally lacking in activities aimed at developing learners' abilities to collect, organize, sift, and analyze information. It also fails to teach how to interpret the phenomena suggested by that information, such as fully probing all possible ramifications and possibilities and other similar skills for the handling of information and natural phenomena.³⁸

In a recent report titled "Education in Dubai, from Quantity to Quality" published by Dubai Economic Council, Soto provides a rich and detailed account of the nation's education sector. The report gives a close reading of the data from international TIMSS and PISA assessments, and concludes that the average quality of education in Dubai is "at best mediocre for international standards." After assessing additional data and observations, the report concludes, "that the quality of secondary and tertiary education

³⁷ Op. cit., UNDP, *Arab Knowledge Report 2009*, 103-11.

³⁸ Ibid., 106.

is poor.” The report also mentions that the quality of primary and secondary education is highly variable: private schools outperform public schools in international performance tests by a substantial margin. According to the TIMSS assessment, 45% of fourth-graders and 61% of eighth-graders in Dubai public schools do not gain what are termed “the basic skills” in mathematics; in science, the same is the case for 46% and 37% of students, respectively.³⁹ To put this into perspective, in skills related to reading, mathematics, and science, Dubai scores considerably lower than other OECD and East Asian countries, but better than the average of MENA countries.⁴⁰

The author illustrates the poor quality of the primary and secondary school systems by pointing to the fact that the local universities require incoming students to take one or two years of remedial courses (called “foundation” or “bridge” programs) to reach the level required by university programs.⁴¹ Approximately 80% of students enrolled in federal universities in the UAE are asked to take these programs at entry.⁴² This, Soto concludes, is a *prima facie* indication of the poor or inadequate education received in secondary schools; the report corroborated discussions that were happening at the same time in a range of news articles and media debates.⁴³

A further obstacle to the creation of a Knowledge Economy in the country—beyond the poor higher education system—is the fact that a large portion of the country’s youth does not obtain education beyond primary school. This is firstly because of high dropout

³⁹ Raimondo Soto, *Education in Dubai from Quantity to Quality*, Working Paper: 05-12 (Dubai: Government of Dubai, Dubai Economic Council, 2012), 26.

⁴⁰ *Ibid.*, Table 4 p. 26.

⁴¹ *Ibid.*, 10.

⁴² Administration of these preparatory programs absorbed a third of the country’s higher education budget. For more information, see: Ola Salem and Melanie Swan, “Foundation Year at UAE State Universities to Be Scrapped from 2018,” *The National*, February 4, 2014.

⁴³ Peter J. Hatherley-Greene, “There Are Flaws in the Fabric of the UAE’s Education System,” *The National*, April 21, 2014; Melanie Swan, “School Dropout Problem Keeps Emiratisation from Fully Succeeding,” *The National*, April 6, 2014; “Education Initiative Essential for the UAE,” *The National*, January 5, 2014; and Ayesha Almazroui, “Education System Should Teach UAE Pupils How to Think,” *The National*, January 5, 2014.

rates—mainly of boys—from secondary schools. A survey from 2011, for example, shows that up to 15 percent of Emirati boys drop out of secondary school and almost a quarter of Emirati men between 20 and 24 have dropped out of school and have no plans to continue their education.⁴⁴ Various reasons are given: a dull national school system staffed by untrained teachers from non-GCC countries, a lack of curriculum reform and, not least, a cultural bias where men are depended on as family breadwinners and so are compelled to leave school to find work. For those leaving school for work, studies have shown that they forsake education as soon as they are employable, usually after the 10th grade.⁴⁵

Motivational Challenges Regarding Education and Innovation in the Gulf

This article took as its point of departure the fact that human resources are tied to the individual. It assumes that the individual must be willing to benefit from education and opportunities for innovation in order for society to benefit. It is to the questions of motivation in innovation and education that this paper now turns; examining first the lack of incentives for young Gulf Arabs, and the lack of stamina for pursuing educational or innovative opportunities. It will argue that Gulf states face significant challenges in this field, challenges that mean nationals fail to claim ownership of and actively involve themselves in the Knowledge Economy.

Often discussions about motivation in the development of a Knowledge Economy in the Gulf devolve into stereotypes of Arab youth as unengaged, spoiled or lazy. These stereotypes, however, obscure the crux of the issue, and it is the aim of this paper to plunge further to identify them. The first factor to consider is, that within the field of Institutional Political Economy, human beings are assumed to react rationally to the

⁴⁴ Ibid., Swan, "School Dropout Problem".

⁴⁵ Op. cit., Hatherley-Greene, "There Are Flaws"; and Swan, "School Dropout Problem."

economic and social incentives they experience. In other words, the individual behavior of young Gulf Arabs when it comes to education is a rational and predictable outcome of the incentive structure they exist in. The present section will investigate the incentive structure of Gulf society by examining four fields: the economy, intergenerational learning, expat labor, and the lack of a professional development track.

Economic structure

Income from oil transformed the Gulf states into what are generally termed "distributive societies,"⁴⁶ in this case where oil incomes were so plentiful that previously enacted mechanisms of taxation were abandoned, leaving the government to focus solely on consumption and distribution of natural resource wealth. Given that the modern infrastructure of Gulf states hardly existed before the discovery of oil resources and was rather built to keep pace with the rising oil incomes, the states' structures, ideology, practices and procedures have all been built around distributing oil money.⁴⁷

The outcome was the construction of elaborate welfare states in all Gulf nations, with citizens entitled to free healthcare, schooling, and generous pensions, among other benefits. El-Katiri et al. have documented the phenomenon in the case of Kuwait, and noted how Gulf states carried through a number of distributive policies, including subsidies for water, electricity, and fuel, bringing the price of utilities down close to zero.⁴⁸ In addition, wealth was transferred from the governments to the population in the form of occasional cash hand-outs including: general loan forgiveness, marriage funds, free land, and housing, among other forms. The most significant state outlay, however, has been to employment in the public sector. In the early days of the oil states, jobs were created specifically for the purpose of redistributing state wealth, not

⁴⁶ Distributive governments have alternatively been called 'allocation states' or 'rentier states.'

⁴⁷ Rosemarie Said Zahlan, *The Making of the Modern Gulf States* (London: Unwin Hyman, 1989), 10ff.

⁴⁸ Laura El Katiri, Bassam Fattouh, and Segal Paul, "Anatomy of an Oil-Based Welfare State: Rent Distribution in Kuwait," in David Held and Kristian Ulrichsen, eds., *The Transformation of the Gulf: Politics, Economics and the Global Order* (London: Routledge, 2012).

for the purpose of getting a task done. As stated by Longva regarding Kuwait, "A job in the public sector meant first and foremost that a citizen was entitled to a salary on the state's payroll; only secondarily did it mean that he or she was expected to perform a precise function. As such the notion of citizens' entitlements to a broad set of benefits and privileges became firmly embedded in the national population in the Gulf over the past four decades."

Put in place during the hey-day of the oil boom (especially the 1970's), these distributive structures continue to form the basis of the economies of Gulf societies. That they have persisted is likely for the simple reason that once in place they are very difficult to remove.⁴⁹ While states have threatened to remove benefits before, citing unsustainability due population increases,⁵⁰ distributive policies have not been rolled back. In the wake of the Arab Uprising, in fact, the states put through substantial salary increases, cash handouts, new unemployment benefits, extended housing schemes, and even added public sector jobs.⁵¹

But how do these benefits and entitlements affect the motivation of citizens to pursue education and entrepreneurship? A partial answer can be found in Mahdavy's work on

⁴⁹ Alan Richards and John Waterbury, *A Political Economy of the Middle East* (Boulder, Colorado: Westview Press, 2008), 3.

⁵⁰ GSDP, *Qatar National Development Strategy 2011-2016*, March 2011 (Doha: Qatar General Secretariat for Development Planning, 2011), pp. 1-28, http://www.gsdp.gov.qa/gsdv_vision/docs/NDS_EN.pdf; "It's Time to Change Old Concepts, Kuwait Amir: Comprehensive Reforms Needed for Complete Development," *Khalej Times*, October 30, 2013.

⁵¹ The packages were estimated to cost the state some 19 percent of GDP; see: IMF, *Regional Economic Outlook: Middle East and Central Asia* (October 2011) (Washington D.C: International Monetary Fund, 2011), p. 16, <http://www.imf.org/external/pubs/ft/reo/2011/mcd/eng/mreo1011.htm>. For example, in Bahrain and Oman there were 20,000 and 41,000 new public sector jobs created respectively, and this was done virtually overnight. For further information, see: LHV Persian Gulf Fund, "Saudi Arabia Distributes \$130 Billion," 2011, <http://persiangulfund.com/saudi-arabia-distributes-130-billion/>; F. Gregory Gause III, *Saudi Arabia in the New Middle East*, the Council on Foreign Relations, Council Special Report no. 63 (Council on Foreign Relations press, Center for Preventive Action, 2011), p. 6, <http://www.cfr.org/saudi-arabia/saudi-arabia-new-middle-east/p26663?co=C009603>.

the Rentier Economy,⁵² and Beblawi's exploration of the subsequent popularization of the 'Rentier mentality'. The authors have shown that the mentality that is produced from a Rentier Economy—when compared to its alternatives—sees a break between the concepts of 'work' and 'reward.' If reward, say in the form of salary or status, is disconnected from the type or quality of work being done or the effort that is put into it and is related instead to sheer luck (e.g. cash hand-outs or debt forgiveness, free housing) or proximity to people in power, then society provides the individual with very few incentives to work hard, pursue long and hard university degrees, or apply a long term perspective to climbing a career ladder.⁵³ The disrupting effect of "unearned money" on economies is frequently referred to as the 'Resource Curse'⁵⁴ and Kubursi, among others, has gone so far as to call oil 'the Arab Disease.'⁵⁵

Even though Beblawi was writing some 25 years ago and significant changes have taken place in the Gulf's distributive economies since then, the work necessary to bring these states on track to becoming production-oriented states is significant.⁵⁶ While some work has been done, much of the distributional economy continues to exist.⁵⁷

The public sector provides the most problematic example of continued Rentier Economy policy. For nationals, public sector jobs are relatively easy to get; they provide favorable

⁵² Hussein Mahdavy, "The Patterns and Problems of Economic Development in Rentier States: The Case of Iran," in M. A. Cook, ed., *Studies in Economic History of the Middle East* (London: Oxford University Press, 1970).

⁵³ Hazem Beblawi, "The Rentier State in the Arab World," in Giacomo Luciani, ed., *The Arab State* (London: Routledge, 1990), 88ff.

⁵⁴ Giacomo Luciani, "Introduction," in Giacomo Luciani, ed., *Resources Blessed: Diversification and the Gulf Development Model*, (Germany: Gerlach Press, 2012), 3ff.

⁵⁵ Atif A. Kubursi, "Prospects for Regional Economic Integration after Oslo," in Michael C. Hudson, ed., *Middle East Dilemma: The Politics and Economics of Arab Integration*, (London: I. B. Tauris, 1999), 311.

⁵⁶ Matthew Gray, *A Theory of 'Late Rentierism' in the Arab States of the Gulf*, Occasional Paper no. 7 (Doha: Center for International and Regional Studies, Georgetown University School of Foreign Service in Qatar, 2011), <http://goo.gl/TwGuvY>.

⁵⁷ For example, in Dubai Emiratis continue to get free land and interest-free loans to build a house, are given contributions for wedding costs through a marriage fund, have access to debt forgiveness, subsidized fuel prices, etc.

working hours, good pay and vacation time, and usually come with tenure, so that workers cannot be fired.⁵⁸ This means that while there is pressure on nationals to earn good grades if they want the most attractive public sector jobs, a job in the public sector can generally be secured if a national wants one—whatever their grades. In other words, jobs are not an incentive for education and not something that nationals feel they need to prepare themselves for.⁵⁹

Observations, numerous interviews and discussions have provided ample evidence to support the idea that incentives to acquire and apply knowledge are lacking. So while nationals of the Gulf may be ambitious, strive to learn, and pursue their studies with enthusiasm, their incentive to do so comes from other sources than society, e.g., from their families. Observations thus accord with the findings of Brinkley et al. , who conclude that the vast oil incomes have dulled the aspirations and incentives of the younger generation of Gulf Arabs to actively pursue education at all levels.⁶⁰ These factors seem to disproportionately affect men, who are significantly underrepresented in the university system by a ratio of 3:1.⁶¹ This accords with Gylfason’s finds, which showed statistically that natural resource abundance and educational levels are inversely related because of the abundance of resources. Gylfason further suggested that if the issue were not addressed, it would result in high levels of non-wage incomes,

⁵⁸ Djavad Salehi-Isfahini, “Population and Human Capital in the Gulf,” in Mehran Kamrava, ed., *The Political Economy of the Persian Gulf* (London: Hurst & Company, 2012), 167.

⁵⁹ Resolving the issue would take a radical policy change and include lowering salary levels in the public sector across the Gulf, so it was brought to the level of the private sectors. This would allow for competition to grow for jobs amongst the national populations. Several countries have opted for a different solution, namely to pay a national that finds a job in the private sector the difference between his/her private sector salary and the public sector salary. See: Op. cit., El Katiri et al., “Anatomy of an Oil-Based Welfare State,” 179.

⁶⁰ Op. cit., Brinkley et al., *Kuwait and the Knowledge Economy*.

⁶¹ Fatma Abdulla and Natasha Ridge, *Where Are All the Men? Gender, Participation and Higher Education in the United Arab Emirates*, no. 11-03, Working Paper Series (Dubai: Dubai School of Government, 2011), 1.

and as such reduce the private and public incentive to accumulate human capital.⁶²

Intergenerational learning

An additional plausible explanation for the perceived lack of motivation to pursue education has been addressed by Salehi-Isfahini. In a review article on human capital and incentives to learn, Salehi-Isfahini found that skills were not supplied by the school system but were mainly transferred to the younger generation through their families.⁶³ The importance of family background variables such as parents' education, occupation, and support, are generally acknowledged to have an important bearing on students' academic motivation and performance.⁶⁴

The issue has been identified under the theory of intergenerational knowledge transfer, which holds that the better educated and motivated the parent generation is, the greater the pool of knowledge that will be passed on to the next generation. As such, society-wide knowledge becomes a cumulative process, which Corneo describes as non-cognitive skills (as opposed to cognitive skills, including elements of "character", i.e., motivation, initiative, perseverance, conscientiousness, and a forward-looking attitude).⁶⁵ Family, then, could be a significant factor in motivation for education. However, in his study of Saudi Arabia, Corneo found little evidence of such knowledge

⁶² Thorvaldur Gylfason, *Natural Resources and Economic Growth: From Dependence to Diversification* (Paper prepared for an Expert Group Meeting on Economic Diversification in the Arab World organized by The United Nations Economic and Social Commission for Western Asia (UN-ESCWA) in cooperation with the Arab Planning Institute (API) of Kuwait, held in Beirut, Lebanon, 25-27 September (2001), 7. In the paper, Gylfason furthermore points out that there is a tendency for natural-resource-rich nations to underestimate the long-term value of education. He puts forward empirical evidence to show that public expenditure on education relative to national income, expected years of schooling, and school enrollment, are all inversely related to natural resource abundance.

⁶³ Salehi-Isfahini, "Population and Human Capital in the Gulf," 162.

⁶⁴ Kassim O Ajayi, Olufemi Ajayi, A, and Comfort F Onabanjo, "Path-Analytic Study of Students' Home Background, Academic Motivation, Self-Concept on Attitude and Achievement in Senior Secondary School Mathematics in Ogun State, Nigeria," *European Journal of Scientific Research* 58, no. 4 (2011); Soto, *Education in Dubai from Quantity to Quality*.

⁶⁵ Giacomo Corneo, "Stakeholding as a New Development Strategy for Saudi Arabia," *Review of Middle East Economics and Finance* 7, no. 1 (2011): 6.

transfer. He found that this was primarily due to the low-level of educational development for the parent generation. Corneo cited this problem of intergenerational knowledge transfer when explaining the low-level of unemployment in the country. Only some 25% of the population between the ages of 20 and 65 are currently employed (women are nearly absent from the labor force) and almost all employment is in the public sector.

However, Corneo questions the relevance of knowledge-transfer as a motivating influence, especially when considering the primacy of the private sector as the driver of the Knowledge Economy. So, even though new universities are constantly built and enrollment rates are expected to increase, and even though Saudization policies will eventually bring larger portions of the youth into the workforce, "none of these factors necessarily instills neither a sense of motivation or responsibility nor a work ethos or learning ethos in the young generation."⁶⁶

Expat Labor

A third issue that affects motivation to learn and innovate in the Gulf are the permissive policies allowing the import of expatriate labor, with some 15 million expats currently employed. In Saudi Arabia and Oman, expats make up around one third of the population, in Bahrain around one half, and in Kuwait, the UAE and Qatar some 70-80 percent. The most extreme case is Dubai, where 168,000 nationals reside alongside close to 2 million expats.⁶⁷

This has resulted in a significant segmentation of the labor market in all GCC countries

⁶⁶ Ibid.

⁶⁷ Population figures from the UAE, National Bureau of Statistics, census 2010, see: World FactBook, www.cia.gov.

so that nationals are primarily employed in the public sector and expats in the private.⁶⁸ One effect of this segmentation is that it significantly reduces competition for jobs, since few nationals need apply for jobs outside the public sector. In class discussions with university students, both male and female students express a clear preference for public sector jobs mainly because of the short working hours and excellent benefits, but also due to an articulated uncertainty as to whether or not an Emirati student, if he or she wanted to, could successfully compete for jobs in the private sector with well-schooled migrants from India and other parts of the globe. Similar concerns were discussed in the *Qatar National Development Strategy 2011-2016*, where the issues of low labor force participation, early retirement, and inadequate skills among Qataris were addressed.⁶⁹ Likewise Bahrain's *Vision 2030* worries that Bahrainis are not the preferred choice for private sector employers.⁷⁰ So while nationals are not abstaining from the labor market as such, they are not participating in the private sector.

Lack of Professional Development

Contributing to the problem of incentives for education or innovation is the labor market's absence of a professional development track. While less visible, it is nonetheless a highly important disincentive to pursue learning.⁷¹ In the Gulf region, upward mobility in public sector jobs is usually confined to promotions within the management track. This leaves very little incentive for students to engage in professional fields. It also gives professionals such as engineers, technicians and programmers little reason to pursue deeper knowledge within their fields of expertise,

⁶⁸ Only 5% of Qataris work in the private sector while 87 % work in the public, either in government administration (71%) or in Government-owned companies 16%. Op. cit., GSDP, *Qatar National Development Strategy 2011-2016*, 151.

⁶⁹ Ibid., Chapter 4. This report also concludes that at present, Qataris have little incentive to pursue education or training.

⁷⁰ Govt. of Bahrain, *Our Vision*, 8.

⁷¹ Thanks go to Dr. Haytham Abduljawad, Head of Engineering Business Systems division at Qatar Petroleum, for sharing decades of hands-on experience with business development in Qatar. Interview carried out in Qatar, June 3, 2014.

simply because more knowledge or better knowledge does not facilitate the chance of promotion. A further consequence is that ambitious young professionals often only stay within their professional field for two to three years before they move into management jobs that likely draw very little on their professional training. This sends clear signals to both students and professionals that in-depth professional knowledge is not valued. There is thus not much incentive to pursue knowledge, leading in turn to an even more pronounced segmentation of the labor market, since while nationals undertake management functions, expats are brought in to undertake professional jobs.

Concluding Remarks

Gulf states have not only fallen behind on education and innovation in international terms, but they are also underperforming in relation to their ample GDPs. However, four to five decades of abundant oil and gas income have affected the Gulf's drive for learning and any push for innovation among nationals.

In examining the Gulf's aim of developing a Knowledge Economy, and its dismal performance on the measures of Education and Innovation, this study analyzed the region's primary, secondary and tertiary educational systems. It found that current educational systems by and large do not prepare the students adequately to either pursue further studies or engage actively in a Knowledge Economy; this requires skills related to critical thinking, analysis, active learning, ownership of processes and innovative drive.

An inadequate educational system has been the by-product of the development policies of capital rich distribution states, which have generously provided jobs and income for nationals, which provided nationals a comfortable lifestyle. In terms of motivation from family or social groups, the short period of educational development (meaning that parents and much of the family would not have had the same access to education) and rapid change into a distributive economy meant little pressure came from peers to

pursue education or innovation. Moreover, there was no relevant knowledge transfer from the past to the current generation. The economic and social realities in the region thus provide little incentive for young Gulf Arabs to pursue deep professional knowledge or to become active and engaged knowledge workers.

As such, a broad change in culture is necessary, one that prioritizes motivation, aspiration and entrepreneurship, and posits these as the intrinsic ethos of the individual. Stiglitz found precisely these factors to have been necessary to successfully establish a Knowledge Economy. The means by which to establish such a cultural shift will be the challenge for Arab Gulf states in the coming decades.⁷²

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⁷² Op. cit., Stiglitz, *Public Policy of a Knowledge Economy*.

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