

Such disciplines as economics, law and management (mostly reserved for self-financed students) have become one of the few sources of funding for agricultural universities facing underinvestment. The social sciences programs could also become a source of multidisciplinary approach in these specialized universities. However, the major problem is that they have rather few linkages with the engineering and agronomy programs or with the best practices in the industry. There is lack of knowledge on new technologies and scientific achievements, on the one hand, and economic literacy to tackle the problems of private agricultural companies on the other. Finally, contemporary agro enterprises need more multidisciplinary skills and knowledge rather than fragmented specialized competences.

Underfunding

As indicated earlier, higher education in agriculture used to be fully state-owned and funded. Now sectoral education has few sources of funding. It has almost lost any financial inflow from the industry. R&D market for the private sector is insignificant. At the same time, unlike many HEIs subordinate to the Ministry of Education, HEIs under other sectoral ministries (e.g., transport or agriculture) have relatively fewer resources and funding as they are, in fact, not included into state programs on education development and research funding (such as the 5/100 excellence initiative, federal and national research universities programs, etc). Even if sectoral ministries understand the importance of education, they usually don't have enough resources.

Conclusion

Sectoral approach to higher education needs revision. Universities, previously attached to plan-driven industries, have become less popular, and are forced to compete for the least prepared high school graduates to maintain their capacity, which exceeds the industry's needs. The problem is deepened by and interrelated with low labor market demand for agricultural specialist. HEIs have failed to adjust to the new economic reality and haven't established links with their new counterparts. At the same time, sectoral ministries have lost their power, opportunities and responsibility over sectoral education. Their underfunded mandates and absence of R&D market alongside with massification process caused a shift to making on-demand social sciences and humanities programs one of the main sources of cross-funding. Thus, agricultural HEIs now often serve to separate segments: 1) state funded and highly specialized engineering programs of low demand and outdated curriculum; 2) more popular but industry-irrelevant, completely student-paid programs in social science. Agricultural HEIs are forced to seek resources to survive. One way of doing that would be to try match industry needs better. The state should step up as the higher edu-

cation sector still hasn't accustomed to new market economy. The connection with the sectoral ministry could help build stronger linkages with the industry. The state could introduce some specifically sector-oriented interventions like excellence initiatives and resource concentration, provision of up-to-date research in post-harvesting context, change of curriculum, providing students with the skills that would increase their employability.

References

[1] Froumin, I., Kouzminov, Y., Semyonov, D. (2014). *Institutional diversity in Russian higher education: revolutions and evolution*. *European Journal of Higher Education*; Vol. 4 Issue: 3, p. 209-234. doi: 10.1080/21568235.2014.916532.

The Dominance of Social Sciences in English-Medium Instruction Universities in Central Asia

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This brief analysis of course offerings at three Central Asian universities that teach almost exclusively in English (known as English-Medium Instruction, or EMI) – Westminster International University Tashkent (WIUT) in Uzbekistan, the American University of Central Asia (AUCA) in Kyrgyzstan and KIMEP¹ University in Kazakhstan – identifies a strong trend towards social sciences, driven both by the universities themselves and by the context in which they operate. I do not attempt to unpack the role of EMI as part of the process of internationalization in higher education (see e.g. Doiz et al. 2013) but use this elite sub-set of Central Asian universities to demonstrate a remarkably clear disciplinary trend, one that would not be found in other institutional groupings in the region but which may have greater similarity with EMI universities around the world.

Operational Context

The three universities have a striking number of commonalities. They are all private institutions founded within the first decade of independence, and are all based in the capitals of their respective host countries. Each university is considered to be highly prestigious: admission — although fee-paying — is strongly competitive, attracting well qualified students from Central Asia and, increasingly, from the countries around the region such as India, Turkey, and Russia. In that sense, these universities are elite institutions admitting the best students based on merit and generally offering generous financial aid to ensure that household income is not a barrier to entry. In addition, each institution is accountable to multiple players — not just the international bodies with which they work, including funders, accreditation agencies and partner universities, but also to their respective Ministries of Education, which, despite the fact that these universities don't receive state funding, still have control over a range of functions.

The Dominance of Social Sciences: Three Propositions

In terms of disciplinary offerings, there is a clear trend towards social sciences courses, in particular those connected with finance/economics and business/related disciplines (e.g., marketing)². With a wider range of courses, AUCA is the only institution that delves into the realms of humanities and sciences, although it too concentrates primarily on social sciences. In analyzing why these EMI universities are so driven towards the social sciences, three propositions are offered, each of which locates the role of the university as part of broader processes in different ways:

1. EMI universities operate within regional context shaped by their Soviet heritage

WIUT, AUCA and KIMEP would not have existed under the Soviet Union as private fee-paying institutions but it can also be argued that they would not exist unless Soviet rule had preceded independence in these Central Asian countries, a period when literacy rates became near universal (which is still the case) and higher education developed exponentially after the Second World War with the expectation that students would qualify in professions that would help reconstruct and develop the economy (Shpakovskaia 2007).

This latter concept remains and has — since independence — become geared towards developing a market-driven economy. This can be seen in the concentration on 'professional sectors' (DeYoung 2008) in such courses as accounting, law, and journalism; EMI universities were not set up to offer a range of alternative disciplines. It can be argued that offering vocationally driven subjects drawn from social sciences is part of the regional educational discourse, according to which Central Asian universities should be oriented towards 'producing highly skilled, flexible labourers to be competitive units of 'human capital' (Amsler 2011, p.110).

2. EMI universities are responding to global socio-political trends

The influx of external organisations into Central Asia (and other former Soviet countries) in the last decade of the 20th century played a pivotal role in the development of these three EMI universities. Amsler argues that this has shifted dependency from the Soviet center to international organisations, development bodies and foreign governments that seek to shape the newly independent countries' social and political landscape by influencing their education reforms (2011, p.101). This dependence has a strong impact on the education that universities seek to provide.

On the other hand, Heyneman suggests that Central Asian states and universities are more instrumental in seeking change — for example, by importing what he calls 'normal social sciences' of the kind previously not offered at Soviet universities (2010, p.78), which now, however, make up the core offering of WIUT, AUCA and KIMEP. Whilst remaining rooted in social sciences, the development of area studies at AUCA suggests that universities are strategically choosing to strengthen their social sciences offerings rather than diversify into other disciplines.

3. As part of the global development of transnational higher education, EMI universities are subject to the agenda of their overseas partners

WIUT, AUCA and KIMEP share many of the characteristics of the now globally recognised model of transnational higher education, that is, 'any education delivered by an institution based in one country to students located in another' (McBurnie and Ziguras 2006). This can clearly be seen in the disciplinary offerings of the universities, which parallel the findings of a 2003 review of transnational higher education offered by providers from Australia, Hong Kong and Singapore. The review found that the most common subject offered by offshore providers was business (broadly defined) with around 50% or more of subjects in this field, followed by IT/computing, humanities, and sciences with around 10% each (Garrett and Verbik, November 2003).

Under this statement, disciplinary trends are not necessarily geared towards the needs of the labor market in each of the countries but are part of a global shift aimed at boosting the 'knowledge economy' which will become more relevant to countries as their economics become more global (Brunner and Tillett 2007, p.7). At this relatively early stage in their development, there is not a straightforward fourth statement to add about the role of learners in driving subject demand at EMI universities, although it is clear that demand for courses at these institutions is strong, offering as they do 'an immediate globalization passport in new disciplines such as management' (Brunner and Tillett 2007, p.33). As EMI universities mature and grow in institutional confidence, it may well be the case that disciplinary trends — either within the social sciences or

more broadly across the subject spectrum — become more strategically directed by the universities themselves, taking into account the voice of learners as well as that of external stakeholders, such as funding bodies and employers.

Conclusion

Whilst social sciences are clearly dominant at EMI universities in Central Asia, the rationale behind this trend is somewhat more complex. It is driven from above (state policy and regulations), outside (international organisations, processes of globalisation), and, to a lesser extent, from within (by universities themselves). These drivers are located within a context of both the contemporary political situation in Central Asia and the countries' shared Soviet heritage. Despite this unique set of circumstances, these EMI universities have, in fact, more in common with other such universities around the world than with other universities in Central Asia.

References

[1] KIMEP is the Russian acronym for its former name, the Kazakhstan Institute of Management, Economics and Strategic Research.

[2] A full comparative list of courses offered at undergraduate and postgraduate level is available from the author.

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Educational and Career Choices of Technically-Minded High School Graduates that Take State Exam in Physics

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The interest in the issue of technically-minded youth's attraction to engineering education and career paths is currently growing due to the increasing amount of investment in engineering industries made by the Russian government. The topic has become vitally important due to the need for import substitution, and the long-term shortage in qualified engineers. However, the motivation and personal attitudes of the technically-minded high school graduates towards future education and career are not properly monitored or estimated yet.

In order to get an idea about the plans and attitudes of these young people, we have surveyed those taking physics state exam (PSE). PSE is an elective part of the Unified State Exam taken by Russian high school graduates that enables them to enter higher education institutions (HEIs) to study in the fields of physics, engineering, and computer science. Actually, it is one of the most important milestones on an engineering career path.

Are those who choose PSE as an elective exam really enthusiastic about this subject? Is their choice of their future path independent? What education and career path do they envisage for themselves? Our aim was to find answers to these questions.

Research Methods

In order to analyze the motivation and circumstances behind choosing PSE, 1230 respondents from 78 regions of Russia were surveyed, according to the share of school graduates in these regions. The questionnaire consisted of 24 questions, including the filter-question: 'Are you going to take PSE this year?'

"Suppliers" of Future Engineers and Groups of Influence

We have learnt that the choice for PSE is not random for the majority of the respondents. It turned out that for nearly 1/3 of the respondents, the choice for PSE is predefined by the fact that they have been attending a high