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Funding models for higher education and their future security

Summary

The Future of Higher Education research stream

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Executive Summary

The current report focuses on the future of higher education in Estonia. The importance of human capital in the knowledge economy has promoted the debates about the role, size, and financing of higher education to the core of academic and political debates. Moreover, it has brought out two competing aims of higher education – equity (equal access) and efficiency (Durazzi, 2018). The efficiency view is concentrating on the changing roles of higher education institutions in society including the concept of sustainable universities, the third mission of universities, and responsibilities related to life-long learning and digital education (Schulze-Cleven ja Olson, 2017; Ansell, 2008). The tensions related to the increasing role of universities feed into the debates of its financing trilemma – low private and public financing, higher education quality and the need for more inclusivity regarding diverse social groups and new missions (Marginson, 2016b; Salmi ja Bassett, 2014).

In general, countries have taken different routes, even within Europe, to meet the challenges described above. It can be seen that higher education financing is moving toward cost-sharing. This implies that the total costs of higher education are divided between the state, family, and student. The shares of private money flowing into higher education and how students get compensated for the private share differ by country but in all cases, the state is the biggest provider of the funds for universities.

In most European countries, excluding the Nordics, students pay fees. Fees are often state regulated and relatively low (excluding Britain) amounting from 1000 to 2000 euros annually for European students, not counting for purchasing power parity. Continental Europe has typically low universal fees and low but easily accessible grants. Estonia is rather a post-soviet type of student financing – low fees are paid by few while grants are ever lower and accessible to even fewer students. Countries also differ by student loan support mechanisms, in Britain these are remarkably well developed, but missing in some countries (e.g., the Flemish region of Belgium). In Estonia, student loans have only been utilized marginally.

Most common is the supply side financing mechanisms, meaning that universities receive closed envelopes with the public operating grant, which can have fixed shares

based on “historic accounts” and performance-based financing. Latter has most often output indicators for research financing and input indicators for financing studies. In Estonia, most of the public universities receive public operating grants based mainly on historic accounts and rely relatively moderately on formula-based funding. However, in research financing, Estonia is relying on output indicators only and is very elitist, i.e. financing only top-rank peer-reviewed research.

Education equity in Europe is mostly supported using need-based grants for the students. The debate over the defamilisation of students is formulated to various approaches – Nordics pay universal grants, while some countries distinguish between students living with parents or not. In Estonia, instead of need-based performance-based grants are common, and the public has a high preference for this type of grant. However, we see that social mobility, is not very high, which makes a warning signal to the policies implemented currently, especially at the late of empirical evidence that need-based grants not only improve the access of the low socioeconomic status students but are also cost-efficient.

Higher education constitutes a human capital production technology with two main inputs – (1) study effort by the individual and (2) the public and private funding of higher education. The optimization framework jointly maximizes the work-life utility for the individual and the fiscal net returns to the government. The optimal solution for state funding and individual study effort depend on the discount rate and labour mobility assumptions. High discount rate reduces the higher education return rates (IRR) for the individual and for the government, and more strongly so for the latter. High discount rates reduce present value of future earnings on accumulated human capital and the tax revenues on these earnings collected by the government. In addition, the government role increases in higher education funding, to compensate for lower private incentives to study given the higher discount rates. The baseline scenario builds on a 4% discount rate, at which the optimal share of government funding of higher education is about $\frac{3}{4}$ given low labour mobility and $\frac{4}{5}$ given high labour mobility. Letting discount rates vary, the scenarios show that at 2–4% discount rate, the individual return to higher education (IRR) is between 9–7%. The government return has a higher variation. With low labour mobility, the government IRR is between 8.5–16.6% corresponding to the 4–2% discount rate. With high labour mobility, the government return rate is substantially lower ranging between 3.6–5.4% at the 4–2%

discount rate. Aside the discount rate, the incentive for the individual to invest in higher education depends crucially on labour market standards as for the expected skills and expertise levels. The more demanding is the labour market in skill and knowledge level the higher are the incentives for individuals to accumulate human capital and invest study effort. On the contrary, the higher are the alternative costs of studying or the foregone earnings and utility, the lower are the individuals incentives to accumulate human capital. In long-term interests of the society and economy, the government has an important role in increasing incentives for human capital accumulation and for compensating the imperfections in individuals' intertemporal decision-making.

Technological and demographic developments are fundamentally changing the higher education landscape. Although the primary goal of higher education in Estonia has not changed – to foster innovation and sustainable economic growth, to support Estonian culture and independence – the environment in which Estonian higher education institutions are operating in is transforming and the institutions must adjust to these changes. Four key trends are shaping the higher education landscape of the near future, these are: (1) digitalisation, (2) internationalisation, (3) “responsible university”, and (4) personalisation.

Digitalisation in higher education encompasses a variety of areas: technologies used in the classroom, automated testing, and grading, learning analytics, entrance exams, credentials and certificates, etc. The ready availability of high-quality study materials (e.g., MOOCs offered by top universities, videos, different interactive learning environments, etc.) purport that Estonian higher education institutions must offer the potential student a clear value proposal: a personalised approach, student-centred learning activities, problem-based study, individual constructive feedback.

The heart of *internationalisation* in higher education is the diffusion of knowledge over national borders, but the growth of internationally mobile students is perhaps the most noticeable. On the backdrop of the overall number of higher education admissions having sharply decreased, the number of foreign students admitted has increased fourfold compared to 2010, and this despite the worldwide pandemic. Additionally, the mobility of academic and support personnel, partnerships between higher education institutions in different countries, and transnational education, are bound to become more prominent in the near future.

Society anticipates the higher education system to take more responsibility for solving environmental and socio-economic problems. The *responsible university* is first and foremost a sustainable (green) university, but higher education institutions are also expected to be inclusive and provide better opportunities to different socio-economic groups.

Higher education is becoming increasingly more *personalised*. Students expect more flexibility in terms of the time, place, form, and extent of their studies, their personal traits and attributes to be considered, and they need more personal support and motivation. Personalisation is reinforced by the growing importance of lifelong learning, since the background and needs of an older student are more diverse compared to more “traditional” students. Overall, the attempt to address the needs and expectations of every student pushes the higher education landscape towards increased diversity.

In conclusion, we have to remind the reader that policy recommendations were not at the core of the current report. However, based on the descriptive and analytic evidence that we have provided, we hope that scenario builders or policy advisors find their way of making the Estonian University landscape more sustainable and ready to meet future challenges.



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