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## **Higher Education in 2050: High Participation and Vertical Stratification**

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The two overarching questions addressed in this note are as follows: how would you like higher education to be in 2050? And how could higher education contribute to better futures for all in 2050? In this area, there is a trade-off between wishful thinking and future scenarios-writing; the present note focuses on how I expect higher education to be in 2050 rather than on my personal desires. I observe the trends, analyze the data, and take a global view based on ongoing transformations as I see them.

The higher education sector in 2050 will probably be sharply vertically stratified, both globally and intra-nationally, with highly prestigious institutions at the top and low-tier institutions at the bottom in each country. Demand-absorbing institutions at the bottom will be widely accessible (open to all) and the massification of higher education in high-participation societies at the levels of 60–90% will be achieved in most countries. There will be a small ultra-elite, top league of universities in most countries, especially in affluent OECD economies (say, about 1,000 globally). Importantly, this sharp vertical differentiation of higher education institutions will be accompanied by an equally sharp vertical differentiation in the academic profession, which will have a powerful impact on academic lives and the attractiveness of the academic profession as a whole. Opportunities at the disposal of institutions and individual scientists (and their teams) will vary immensely, but the most important, qualitative distinction will probably be as mentioned, between the top 1,000 universities and the rest (comprising about 25,000–30,000 universities, up from the current 20,000).

Steep vertical stratification of academic institutions within national systems will be the rule rather than the exception, especially in less affluent economies. There will be limited affinity between the super-league of institutions, comprising just a few universities in most medium-sized countries, and the rest. Only in highly developed OECD nations, will there be a larger number of universities that are globally visible and globally ranked (in terms of research), with such countries as the USA, the UK, China, Japan, and Australia and such regional academic superpowers as the EU comprising the bulk of the global top 1,000 universities and 80–90% of all research published in recognized, peer-reviewed journals (the EU, I predict, will be highly integrated by 2050, politically, economically, socially, and academically, although perhaps smaller than today).

As global leaders, the 1,000 top universities in 2050 will be providing not only the vast majority of internationally visible research but also acting as a supply source of doctorates to the global higher education system as a whole. Always seeking the best opportunities, the top 1,000 will likely have drastically different institutional features, management and governance modes, total funding and total research funding, and unlimited access to top scientists. The

vertical stratification of the global system will be based on academic research capacity and production, with the levels achieved by the top 1,000 going well beyond the reach of the remaining tens of thousands of universities across the world. That research will be ever more costly to conduct, and research results will be ever more concentrated in a couple of thousand top, English language academic journals rather than in the tens of thousands of open access, non-indexed journals in which research results will be also disseminated but not widely read or cited. Already, the sheer volume of publications—3.5 million articles were indexed in the 40,000 journals of the Scopus database in 2020, up from 2.5 million in 2010—makes it impossible for scientists to follow all the ongoing research (even in their specific field) except for publications in the globally indexed journals. In the past five years, some 18 million authors have recorded at least one publication in Scopus; this number may not be different in 2050 and may even drop as further expansion of national research systems will be very difficult to finance.

National research funding will probably be concentrated in the small minority of top institutions, with huge intra-national and cross-national mobility of top academic minds. The current international mobility will be higher, but predominantly for junior academics. The intra- and international mobility will be driven by a scarcity of research opportunities and the sharp contrast between the highly selective, research-intensive top institutions and the rest. Further to the distinctions mentioned (above), these institutional types will be differentiated in terms of the type of academic work predominantly performed and remuneration levels.

Top institutions will be focused on socially and economically relevant research, with different disciplinary priorities than today's, and will be preparing the national and global elites. Internationally, the major Anglo-Saxon countries (the USA, the UK, and Australia), with high fees and low and declining public financial support, will be garnering huge private funds from teaching the global elites. The “rest” (non-top universities)—as many as 95 percent of all universities globally—will be teaching-focused institutions. These will not be much different from current secondary schools, with limited or no research involvement, relatively low remuneration for their staff, and also mostly with part-time and/or contracted staff. The casualization of faculty will thus be in full swing, albeit not in the top layers of the system. Working conditions in higher education beyond the top 1,000 universities will be harder than today; upward mobility in higher education systems will be possible both nationally and globally, but opportunities will be limited due to the scarcity of best places available and relatively friendly working conditions of the top universities (e.g., tenure advantages).

The negative impact of all these systemic inequalities will build up over time. A strong “self-reinforcing dynamic” may develop. The dominant dynamics at the global level may run thus: as the rich (in citations, publications, international collaboration, global mobility, research funding, professional networks, research time, tenure opportunities, academic recognition, etc.) get richer, the poor get (relatively) poorer. These dynamics might operate at the level of countries, institutions, disciplines, and research groups as well as, to an extent, individuals.

The majority of universities (except for the top 1,000) in 2050 will be similar to the private higher education institutions found around the world today (except for the USA and Japan, with elite privates). Indeed, higher education will be fee-based rather than tax-based in almost all countries (perhaps except for the EU), with proper loan schemes available to all. The increasing role of fees will transform higher education beyond recognition (making it similar to currently existing private higher education, as noted).

Thus, by 2050, internationally visible, cutting-edge academic research will be confined to elite national and global universities. This increasing institutional concentration will be driven intra-nationally by the growing costs and increasing complexity: the concentration of funds accompanied by academic mobility will be viewed more favorably than will dispersion of funds and academic immobility, by policymakers, scientists, and the general public alike. Social stratification will be hardened, and the upward social mobility of millions of students enabled through higher education will be limited to some places in national systems only. The number of social elite-producing universities will be lower than today, and the role of higher education credentials in general (rather than from top universities) will be diminished. Simon Marginson's "high participation systems," in which 90 percent of the age cohort will be trained in the higher education sector, will be globally dominant.

For national higher education systems aiming to remain relevant and publicly fundable, the need to be vertically stratified will be ever stronger. The role of the general public in the strategic distribution of tax-based public resources will be growing, with increasing competition among the healthcare sector, the pensions sector, basic national infrastructure, and higher education. Publicly-funded infrastructural needs will be much higher than they are today, resulting in sharp competition for public dollars. Universities will be using huge public funds for research and innovation—but only in selected, top places. The vast majority of universities will be severely underfunded, with students increasingly paying tuition and requesting strong links between teaching they receive and the local labor market needs.

By 2050, only a minority of academics will be employed full-time (in elite universities); the majority of academics will be employed part-time or on an hourly basis (in the other institutions). Again, the academic profile and employment relations of the current private sector in higher education globally will be prevalent in the other universities. In the case of the majority of institutions, the public-private distinction will not make much sense as most of them will be fee-driven and teaching-focused. The middle-class lifestyle of the majority of university professors (in affluent economies) today will not be available outside of the small circles of elite national and global universities. The massification of higher education means also the massification of the academic profession; and good university jobs will be ever more concentrated in selected places, mostly in affluent economies.

The vertical stratification of national higher education systems is already occurring in many countries. The gap between the top universities, usually located in major academic cities, and the rest has been growing. My assumption is that this gap will widen and become research-based as it is research that really costs and that cannot be paid for by third parties, be they students through fees or the business sector through university-business contracts. What will truly differentiate internally the academic sector will thus be research, which will be used as a criterion for further concentration of talents and (mostly public, followed by private) resources.

To sum up, higher education in 2050 will be sharply divided, both globally and intra-nationally, with only a limited number (say, 1,000 or 3–5%) of universities truly combining teaching and research. The vast majority of institutions will be teaching-focused. Academic work in 2050 will maintain the current advantages of academic work only in the top echelons of the higher education sector, in highly selective and research-intensive universities. Some of these will be world-class universities, and some will be (just) national flagship universities. Globally, in the overwhelming majority of institutions, academic work will mean relatively unexciting, repetitive, and underpaid teaching of the masses of nontraditional students, and

teaching will be as closely related to the labor market needs as possible. This will mean (something approaching) higher education for all in 2050: higher education, as a public good, will be massively provided to students at a relatively low cost. However, the positional value of higher education credentials will be lower than currently expected as they will be widely available in high participation systems. Access to higher education will probably be fully open in general but highly restricted in the case of selected top institutions (as it is today, in fact). Common social and economic returns from higher education will be high, but individual returns will be diminished. Overall, we can expect that the higher education sector in 2050 will be transformed beyond recognition, with new risks and new opportunities for societies, their students, and academics.

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