2023 Research report summary

The Scope of Higher Education – Who Decides?

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Summary

Almost half of the Swedish working population has a university degree, a proportion that does not differ significantly from comparable countries. Some 450,000 students are registered at Swedish universities for studies, which corresponds to some 325,000 full-year students. The annual cost of providing education at the bachelor and advanced levels is slightly more than 30 billion per year – not counting the opportunity cost related to the students' time.

It is often claimed that Sweden has a shortage of qualified labor despite these investments. Employers' organizations emphasize difficulties in terms of recruiting engineers and other qualified workers, while shortages of teachers and healthcare workers, including medical doctors and nurses, receive a great deal of attention in the media. However, while studies of the Swedish labor market suggest that many are undereducated, these studies also suggest that just as many, or possibly even a higher number, are overeducated relative to the requirements in their current positions. Yet, there is strong evidence that education not only leads to higher wages, but also to other positive effects such as better health.

How is the educational offer managed?

This report analyzes how the supply of programs and courses at the university level is managed in Sweden, while also analyzing how it should be managed. Between 1958 and 1977, supply was mainly determined by student demand. Except for certain programs, such as in medicine, supply and the amount of resources were determined according to

the number of applicants. After that and up until 1993, the admissions numbers were determined through central planning. Essentially, the Ministry of Education decided how many students were to be admitted to each program at each university based on forecasts regarding the needs of the labor market. Since 1993, the universities themselves have been allowed to set the admissions number within a budgeting framework that, simply put, sets the total number of students at each university. However, there is some political control over the number of students in teacher and nursing programs.

UNIVERSITIES

At large universities, the university board of the university usually makes a budget allocation to the faculties, which, in turn, allocate budgets to individual departments that, within their budget, are typically free to set the admissions numbers for their existing programs and courses. However, before a new program is launched, permission is generally required "from above." At smaller universities and technical universities, the vice chancellor typically decides how to allocate the education budget to the various departments, which, in turn, are relatively free to allocate the budget between existing programs. At all levels, this year's allocation is largely determined by last year's educational offer. When minor adjustments to the offer are made, the number of applications – often measured as the number of first-choice applications per accepted student – tends to be an important factor. If the number of applications for a program is too low to fill all the slots, available funds are typically redistributed to similar programs or courses with more numerous applications, preferably in such a way that the same teaching staff can be used.

POLITICS

Political budget decisions determine the funds available for each university. It follows that politicians decide on the balance between, for instance, technical universities and general universities, as well as the balance between old and new universities. In addition, there is also political control over the number of students admitted to nursing and teaching programs, although the actual ability to determine the size of teacher programs is limited due to the relatively low number of applicants.

STUDENTS

Approximately 60 percent of the students admitted to a university are admitted to their first choice. When it comes to about half of all programs, everyone who applies is admitted. The same goes for the vast majority of courses. A few major programs exhibit an especially high number of applications, relative to the number of slots, such as psychology, medicine, veterinary science, architecture, law, and physiotherapy. When the number of admissions increases relative to the number of applicants, power shifts from politicians and universities to the students themselves. The fact that new universities receive an increasing share of the education budget has increased the chances of students being admitted to a field of study in accordance with their preferences, while this has also broadened the recruitment base.

LABOR MARKET

The labor market has a limited direct influence on the educational offer. However, it has an indirect impact via political budget decisions as well as via student choices, given that future salaries and employment opportunities influence study choices.

Why higher education?

According to the political goals, higher education studies should prepare the student for a professional career, for a PhD education, facilitate life-long learning and enhance skills, and contribute to the student's personal development and civic empowerment (or *Bildung*). Similar formulations regarding goals can be found in the discourse on universities, with more or less emphasis on the "usefulness" of education (and universities) for society at large. Some commentators and researchers emphasize the role of higher education in strengthening democracy and civic virtues, while others emphasize the intrinsic value of activities carried out at universities. Almost everyone, however, seems to agree that a key purpose of higher education is to develop high-skilled labor.

Economic theory emphasizes that education is an investment in human capital that will generate returns for the individual as well as for society at large. Returns are measured as, for example, the so-called education premium, often operationalized as the percentage increase in wages due to one additional year of studies. Studies from the US

indicate an education premium of 9 to 15 percent, while Swedish and international studies indicate that the education premium in Sweden (and Denmark and Norway) is about half as great and that the premium for the majority of comparable European countries falls in-between the Swedish and US levels.

In Sweden and in other comparable countries, engineering, certain healthcare programs (especially medicine and odontology), business studies, law, and computer sciences as well as quantitative science on average lead to high-salary positions, while other healthcare programs, including nursing, teaching, and studies in the fields of humanities and arts lead to comparatively low salaries.

According to an alternative theory, a large portion of the education premium is due to higher education serving as a signal of ability, meaning that those who succeed in higher education have demonstrated that they possess a combination of high IQ and a high level of conscientiousness and conformity. According to signaling theory, however, these characteristics are assumed to be largely innate or at least established before adulthood. For the individual, it matters less whether the wage premium is due to education enhancing his or her human capital or whether a degree merely serves as a signal of pre-existing abilities. For society, however, the implication is that we may be investing too much in higher education. Among economists specializing in labor and education, opinions differ as to how much of the education premium is due to education actually enhancing skills and how much is due to mere signaling. Most experts, however, seem to agree that both mechanisms are important.

There is extensive literature on which factors govern the education choices of potential students. Current and expected salary levels are important factors, but familiarity with different programs, self-perceived aptitude for different subjects, and the educational background of one's parents also play an important role. Furthermore, gender has a strong impact on the choice of what to study.

Research in economics on choices in education tends to be associated with a normative view stipulating that to the extent that society should influence study choices, the focus should be on promoting studies that result in high salaries and low risks of unemployment. However, a basic premise is that the individual must make his or her own choices such that individual preferences regarding other aspects

of the career choice may be accommodated. Individual preferences for non-monetary aspects that compensate for lower pay will also be valuable in a social welfare analysis. In contrast, the policy debate has focused on observed labor shortages in various sectors, and calls are often made to expand programs able to relieve these shortages. There has been very limited research on which organizational preferences are indicated by the universities' own actions, but the conclusion seems to be that universities (or their management teams) have preferences *for* the humanities and natural sciences and *against* business, law, and other social sciences.

The Swedish educational offer

Between 1977 and 2021, the number of registered students at large and established universities, including the Royal Institute of Technology and Chalmers University of Technology, doubled while the number increased almost tenfold at new (and smaller) universities. Much of this growth occurred during the 1990s. Between 1977 and 2000, there seems to have been a clear political preference for expanding smaller universities. A typical university with 5,000 students in 1977 grew six times as fast as a typical university with 20,000 students up until the year 2000. During the period from 2000 to 2021, however, there was no correlation between the size of a university and its growth rate.

There are no clear signs that political decisions have favored universities with many applicants. However, previous significant differences in the number of applications per available slot between old and new universities have mostly disappeared – even though large universities still present more applications for programs resulting in a professional degree. (Professional degrees include those for medicine, odontology, nursing, social work, education, engineering, and law. Some but not all business degrees are reported in this category, while studies in social sciences, humanities, and art are typically not.)

Political decisions have been made to increase the number of students pursuing degrees in education, nursing, and engineering. To some extent, this has been successful in terms of nursing and engineering, but less so when it comes to degrees in education; in fact, education is the only major field of study having seen stagnant numbers of students in recent decades. The (relatively low) number of applications

per available slot makes it difficult to (further) expand the number of students in engineering and education. The number of applications for studies in the social sciences, law, medicine, and nursing, relative to the number of available slots, has consistently been higher than for the humanities, science, and, in particular, education. This suggests that Swedish universities, just like their international peers, have preferences for science and the humanities and against the social sciences, law, and, perhaps, medicine, nursing, and related fields.

How to manage the educational offer?

It seems reasonable that the educational offer is mainly determined by decentralized decision-making, as individual universities and departments have the best knowledge of local conditions and their own expertise and capacities. Given that there are no tuition fees except for non-European students, it is also reasonable that the overall budget for each university is set in a political process. However, this report argues for a somewhat stronger emphasis on the students' own wishes and on the needs of the labor market, relative to current practices.

This may be achieved by allowing the number of applications per available slot, as well as the employment outcomes for past students, to have an impact on the universities' respective budgets. Those universities that attract many applicants and whose recent students on average exhibit better employment outcomes should be allowed to expand. Recent Danish reforms that reward good labor market outcomes could serve as a source of inspiration. It is worth pointing out that an increased emphasis on the needs of the labor market is at odds with what was proposed in the recent Swedish Government Official Report (SOU 2019:6). It suggested reformulating the policy goals for higher education in Sweden in a way that would be much more open to alternative interpretations. Such a change, together with some suggested changes in the budgeting process, would reduce the importance of student demand and the needs of the labor market when deciding which programs to offer and how many students to accept – while opening up for the preferences of management and the staff to play a more decisive role.

Giving more direct power over the educational offer to employers' and employees' organizations (e.g., via stronger representation on

the university boards) would not be advantageous. However, when it comes to the content of education, professional experience could clearly add value. For example, the boards of individual programs and the like could more often than what is currently the case include representatives from the professions and possible employers.

Using the education premium to forecast future labor market prospects appears to be more reliable than using survey-based labor market forecasts, which is the current practice. This holds both when it comes to decisions on the number of students to admit to various fields of study and when it comes to study counseling.

Professionals with a degree in engineering, medicine, law, and business, as well as those from a few additional fields of study, have for a long time received a consistently high education premium. The number of applications to medical and law schools has also consistently been high. However, due to fewer applications per available slot, it has sometimes been difficult to recruit more students to technical universities. This suggests that law and medical programs and possibly also business programs should be allowed to expand. Except for a few arts programs, differences in the direct costs of providing education are sufficiently small that cost differences should not serve as an important factor when deciding on the overall educational offer. Except for a very small minority of all programs, the dominant economic cost of education is the opportunity cost of studying instead of working.

There are arguments for continuing the practice of requiring that the universities reach target enrolment levels for education, nursing, and related fields of study. One argument is that the wage dispersion within these professions is small. From an overall social point of view, the marginal education premium is more relevant than the average education premium, while the opposite applies for the individual. Hence, the education premium is not directly comparable to the corresponding premium for fields of studies leading to high-salaried professions with a large wage dispersion, such as law and business. The education premium tends to overestimate the social value of education in such fields relative to fields with limited wage dispersion. Another argument is that occupational licensing makes it more difficult or even impossible to recruit staff with a different educational background.

For fields of study where such considerations are important, but to which not enough potential students apply, it does not make sense to

earmark additional funds. Instead, other policy instruments should be considered. For example, student loans could be fully or partially forgiven upon graduation or after a few years of employment in the profession.

However, the same argument cannot be made for studying the humanities, arts, and (especially non-quantitative) science. Here, education premiums are low or even negative, while the wage dispersion is normal. There is typically no occupational licensing. Hence, it appears that the arguably great values to society that expertise in these fields may provide would more reasonably be safeguarded and promoted by a generous allocation of research funds than by maximizing the number of students.

Until about the year 2000, a policy was pursued that actively favored new universities. Since then, this policy seems to have been more neutral. New universities have broadened their recruitment base and have, through intensified competition between universities, increased student influence over which programs are offered. Furthermore, it seems that they have largely become accepted by the students, as new universities now have a ratio of applications to available slots to a large extent matching that of older universities.

Specialized technical universities have successfully promoted recruitment to engineering while having been innovative in developing programs combining engineering with business studies. A similar model could be tested for teacher programs and could perhaps be used to a greater extent for medicine, nursing, etc. Hence, it makes sense to evaluate whether independent teacher colleges or universities specializing in professional degrees should be reintroduced.

Perhaps unrealistic calls are sometimes heard that universities should be able to train full-fledged and highly qualified specialists with skills exactly matching the needs of employers. However, there are arguments in favor of broader and more flexible programs that do not lock students into tight "educational silos." This would be more in accordance with the more flexible tradition of American universities, believed to give students more opportunities to redirect their educational path over time as they learn more about their own preferences and specific talents, without having to incur the high costs of starting all over.

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