Policy Brief

CERGE-EI

Admission to Selective Schools, Alphabetically

ŠTĚPÁN JURAJDA AND DANIEL MÜNICH, CERGE-EI

Sorting based on alphabetical order is a fact of everyday life. Team members are listed in this order, including co-authors of scientific papers; students may be seated in a classroom according to the position of their last name in the alphabet; competing firms are displayed alphabetically in phone and other directories. Could this systematic and omnipresent sorting provide an advantage to those positioned early in the alphabet? This question is often the object of popular discussions. (For example, in a 2001 article, *The Economist* suggested that such an effect may be present in politics by pointing out the high fraction of U.S. presidents and U.K. prime ministers with last names sorted early in the alphabet.) Yet, so far there is little scientific evidence on the issue, thanks in large part to a lack of data with individual initials.

Non-discriminatory sorting is particularly important when one sorts applicants for a prize, a rationed good or a free public service, such as access to publicly-funded prestigious education. In these situations, the matching of applicants to services or prizes is usually based on applicant characteristics, such as study aptitude in the case of university admissions. However, the sorting of applicants may also play an independent role. For example, van Ours and Ginsburgh (2003) show that the (randomly assigned) order in which musicians play in a competition affects their success in the competition. In this paper, we study an allocation mechanism that affects entire population cohorts: we ask whether students with last names sorted early in the alphabet enjoy higher chances of being admitted to oversubscribed (selective) schools.

Why would one expect such an effect to take place? First of all, some university departments may break ties using the alphabet: when several applicants score the same result on the admissions test and only a fraction of these indistinguishable applicants can be admitted, they may admit the "A"s, but not the "Z"s. Alphabetical sorting can also be implicitly applied in school admission procedures when lists with student characteristics (such as test scores and high-

Students' last names have an effect on their chance of being admitted to selective schools, and this in turn has an effect on their labor market outcomes later in their lives.

school grades) are prepared for admission committees. In such cases, it could happen that marginal applicants, that is applicants who are close to the margin of being admitted or rejected, who are at the top of a sorted list may actually be admitted while marginal applicants toward the bottom of the list do not make it in when the school is nearly full. Finally, considering oral exams, it is plausible that examiners are more attentive (approving) and applicants more rested during oral exams scheduled in the morning of an exam day – when "A"s are examined.

In our paper, we empirically test several implications of such alphabet-based admission procedures. We study the Czech Republic, where the admission process at both secondary and tertiary level is highly selective. Furthermore, there is anecdotal evidence that alphabetical sorting is used in student admissions, at least at the tertiary level. Our analysis is based on the experience of the whole population of secondary-school graduates in 1999. We start by studying the success of their applications to Czech universities and find a small, but statistically significant effect of the position of first letter of one's last name in the alphabet on admission chances for those applications at the margin of admission. Such an effect is not present for either the strongest or the weakest applicants, which is consistent with how we imagine the alphabet sorting effect to work.

Next, we note that if marginal applicants are sorted on the alphabet, then among the students who do make it into selective schools, those with last names late in the alphabet should on average have higher ability. To see this, consider the school admission decisions of three types of students: high, medium, and low ability. Suppose that all of the high-ability and none of the low-ability students are admitted to selective schools, and that the admission of medium-ability students is decided in a way affected by alphabetical sorting. Hence, the high-ability "Z" students admitted to highly selective programs should mix with both high- and medium-ability "A" students but not with medium-ability "Z" students.

We test this implication using a national study-achievement test administered to the whole student population graduating from secondary schools in 1999 and find evidence fully consistent with the alphabet-based sorting hypothesis. Correspondingly, we also look at workers who did not make it to the selective schools, that is, those who ended up with low education. In this group of workers, wages (and presumably ability) are higher for workers sorted low in the alphabet, presumably as low-ability "A" students mix with low- and medium-ability "Z" students. Hence, it appears that alphabetical sorting does affect the admission chances of applicants to both selective secondary and tertiary Czech schools.

One way of checking our results is by asking whether first-name initials have a similar effect as we find for last-name initials. Since we have no grounds to expect that the first-name initial should affect education outcomes, finding that it matters would cast doubt on our last-name initial effects. Fortunately for our analysis, we do not find the first-name initial to be of any importance.

Our results indicate that there may be a non-negligible negative effect of apparently non-discriminatory practices for individuals with last names late in the alphabet. Many public services, namely free selective schools, are rationed by lottery, and the use of a fixed "lottery ticket" (one's last name initial) throughout many lotteries (many schooling levels) over a lifetime is not fair and may have the consequence that the right students are not mixed with the right schools and therefore end up in the "wrong" careers. For example, our simulations suggest that about 5% of students admitted to Czech universities in 1999 should be replaced by those applicants who were not admitted, if only a more efficient admission mechanism was used. A simple policy recommendation based on our findings and applicable to all cases of rationing of public services is to assign each application a random numerical code and base sorting on this alternative lottery. ∎

Principal Investigators:

Štěpán Jurajda
stepan.jurajda@cerge-ei.cz
CERGE-EI

Daniel Münich
daniel-munich@cerge-ei.cz
CERGE-EI