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# Do We Have Too Many University Graduates? What Lifetime Earnings Profiles Can Tell Us<sup>2</sup>

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## Summary

- Since the beginning of the 21st century, the Czech Republic has experienced dynamic growth in its university-educated workforce. This trend was initially driven by the foundation and growth of private universities in the Czech Republic in the late 1990s, followed from 2005 onwards by a substantial opening-up of public universities. The share of the population aged between 30 and 34 with higher education has more than doubled over the course of three decades.
- From an economic perspective, do we now have too many university graduates in the Czech Republic? The answer to this question is crucial when it comes to deciding the extent to which the state should – financially or otherwise – support future growth in the numbers of university students and graduates, and how much it should encourage citizens to pursue initial or lifelong university education. The answer is also an important factor in debates about the need to increase the currently low financial support available to university students.
- The study we present here provides descriptive statistics about employees' wages and salaries, which serve as a useful basis for any discussion of this important question. We compare trends in university-educated employees' wages and salaries for cohorts born in 1960, 1970, 1980 and 1990. The shares of university graduates in these cohorts differ substantially. Further, we observe trends in the earnings *ratio* for these cohorts between university- and secondary-educated employees, i.e., the percentage differences between the mean or median earnings of employees with higher education and those of employees with only secondary education.

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- In addition to chance, a university graduate's earnings are influenced by the following five systematic processes: **(i)** accumulation of vocational and general work skills and experience gained through years of work (age); **(ii)** increases in the nominal wage level in the economy due to rising price levels; **(iii)** growth in aggregate labour productivity in the country, and thus in the real level of wages, driven by technological progress and a range of other macroeconomic and institutional phenomena; **(iv)** the selectivity of access to higher education, which means that, as the share of the age cohort achieving higher education increases, the share of less talented individuals among those with higher education also increases (although intellectual aptitude projects into earnings directly, not only via educational attainment); **(v)** the interaction between the aggregate (cohort) supply and demand for university-educated workers in the economy. Given the structure of the economy, an increase in the supply of workers with higher education may push down the university-educated/secondary-educated earnings ratio. However, that will not happen if demand for university-educated workers rises faster than the supply. For instance, a growing supply of university graduates could attract an influx of capital that makes disproportionate use of university-educated workers, i.e., demand may react to supply.
- This study visualises the evolution of employee cohort earnings by age, i.e., process (i), and compares this across cohorts with different levels of education, taking into account the impacts of price levels and aggregate productivity (ii and iii). If pay for university-educated employees in younger cohorts can keep up with the pay that university graduates earned at the same age in older cohorts with fewer university-educated workers, then either the impacts of (iv) are relatively limited, or demand is responding to supply (v); this would be consistent with the claim that we do not have too many university graduates, even in younger cohorts. A similar argument applies to the comparison based on the earnings ratio, where the level of the university-educated/secondary-educated earnings ratio is of course also influenced by trends in secondary-educated employees' earnings.
- Our analysis shows that younger university graduates, who are not selected for talent to the same extent as their older colleagues, do not lag behind older cohorts of university graduates in terms of their wages or salaries. We also show that, although the university-educated/secondary-educated earnings ratio is slightly lower for younger cohorts than for older, less educated cohorts, it remains very high despite the rapid growth of the share of university graduates among the youngest employees in the past two decades; indeed, in the middle age bands, the ratio is close to 2:1. In the public (earnings) sector, the university-educated/secondary-educated ratio is very similar across all cohorts.
- These trends in the Czech Republic are similar to those observed in other dynamically growing EU economies, where the shares of workers with higher education has also risen. Our findings are thus in line with the hypothesis that dynamic growth in the supply of university-educated labour has been accompanied (thanks to an influx of capital making use of university-educated employees) by similarly dynamic growth in the demand for it. The high university-educated/secondary-educated earnings ratio supports the hypothesis that high productivity can be maintained among university-educated employees even in younger, more educated cohorts, together with high private returns on investment into higher education.
- To provide a perfect answer to the question of how higher education causally affects wages and salaries in the context of a growing share of university graduates in younger cohorts, we would need to use quasi-random assignment of similar secondary-school-leavers into and out of higher education at different times. Future research should also take into account the earnings of university- and secondary-educated individuals who are not employees.