Closing the skill gap through education: Roles of academia and unconventional forms of learning

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November 13, 2019

Today and future skills gap

Gap in 2 types of skills

1. "Hard skills" related to digital 4.0 economy: programing, data analytics, AI development... they are easiest to teach, the challenge is in the speed to reach the larger scale.

2. "Soft (intangible) skills" but hard to teach: communication, problem solving, curiosity, creativity, taking initiative, multi-disciplinary thinking and empathy, adaptability, resilience, 'social' and 'emotional' intelligence. These skills, interestingly, are the skills specific to human beings that machines and robots cannot do ...

Today and future skills gap

- Both type of skills need to be integrated throughout all education cycles, from the primary level.

- Good news: Educators have always found new ways of training the next generation of students for the jobs of the future. This generation will (hopefully) be no different.

- Online learning offers great opportunities and outreach in the future! Especially for the type 1 skills.

- However, real-world education will remain important, in particular for teaching type 2 skills. No other educational experience can match universities' capabilities for person-to-person learning, as well as mentoring and socializing functions.

- The social sciences, arts and humanities help us to understand ourselves, our society and our place in the world. They are critical to cultivate, develop and teach soft skills that are important to understand the changes in the society, to addapt, to innovate, to valorize on the market new scientific findigs, to design new frameworks to governm the society.

Development challenges with skills gap

- Bad news: Challenges for middle and lower income countries are even greater:

- Though the presence and excellence in 4.0 related skills is offering an opportunity to cach up….

- … for less developed countries there is a huge gap in skills and knowledge that is traditionally taught through programs in the area of social science and humanities and developed as a part of research in this area. These academic disciplines are decisive for the future economic development (and overcoming the "middle income trap") – the quality of institutions and decisions in both private and public sector.

Serbia: Exit from higher education (graduates) and entry into the labour market
(registered unemployed and formally employed persons
 of appropriate age with a degree in higher education) during the two years 2016 and 2017.
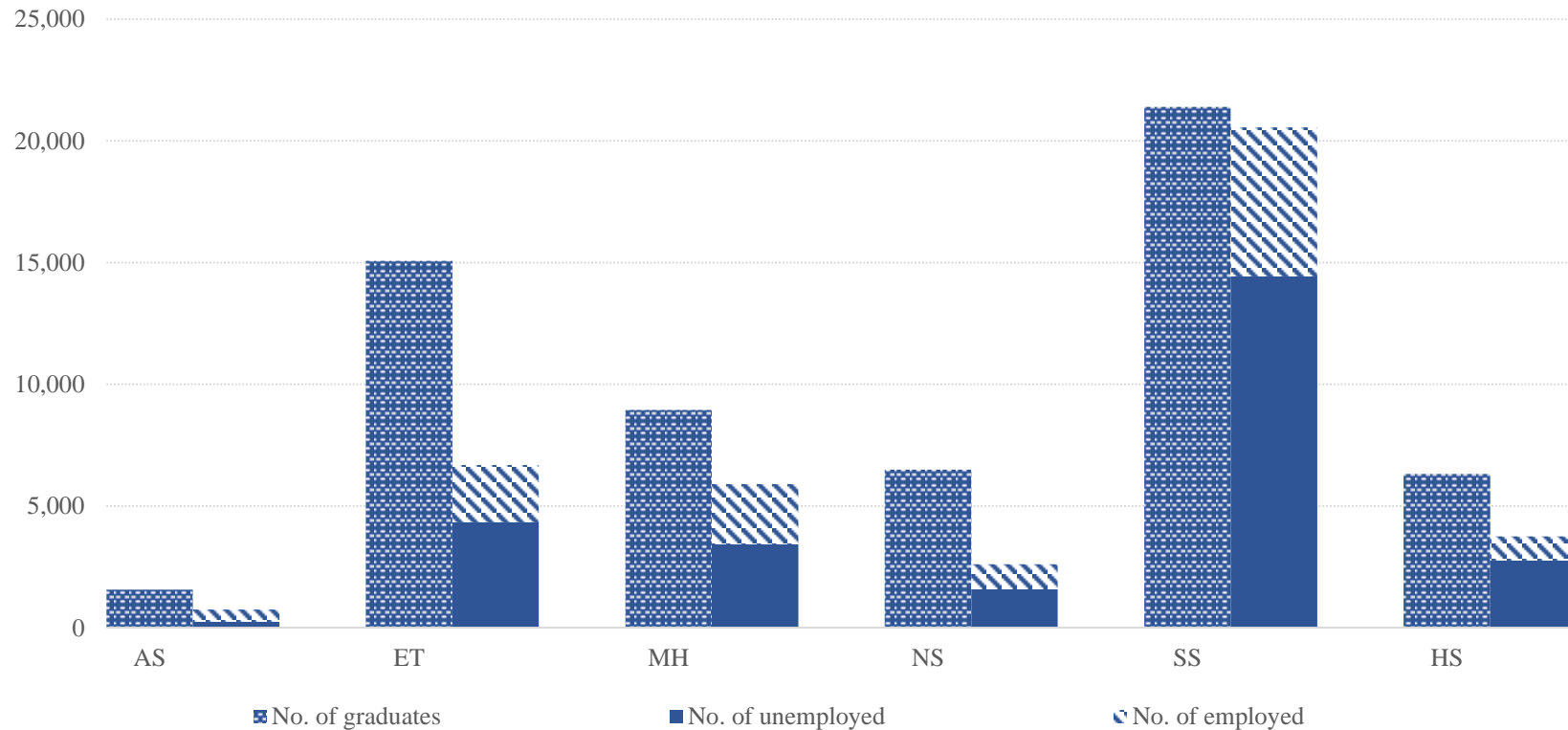
Source: Authors' calculations based on data of the National Employment Service (NES), MoESTD and CROSO
Legend: AS-Agricultural sciences, ET-Engineering and technology, HS-Humanities, MH-Medical and health sciences,
 NS-Natural sciences, SS-Social sciences

Development challenges with skills gap

- The gap in skills and knowledge on the labour market in these fields (SS and HS) has its origin in poor research in social science closely related to quality of education in these areas (legacy from the past – in past authoritarian political regimes it was not desirable to have free thinkers /influential academics in social science)
- Structural issues related to the business sector (demand side on the labour market). Low cost businesses are investing less in human capital development. Low spillover from FDIs (no local RnD). Large part of the demand for labour with degrees in social sciences is in state sector – very formalistic (not competitive neither incentivizing for quality improvements in education).
- Consequence: Outflow of skilled population (usually with background in other fields such as technical and medical schools) but with (desirable) risk taking / entrepreneurship behaviour is contributing to even greater local gap

Share of the number of references from scientific-research organisations in Serbia on SCI list in period 2009-2018 by fields and areas (OECD Frascati), relative to the number of researchers' references in the world.

Udeo Srbije u nauci u svetu (2009—2018.)
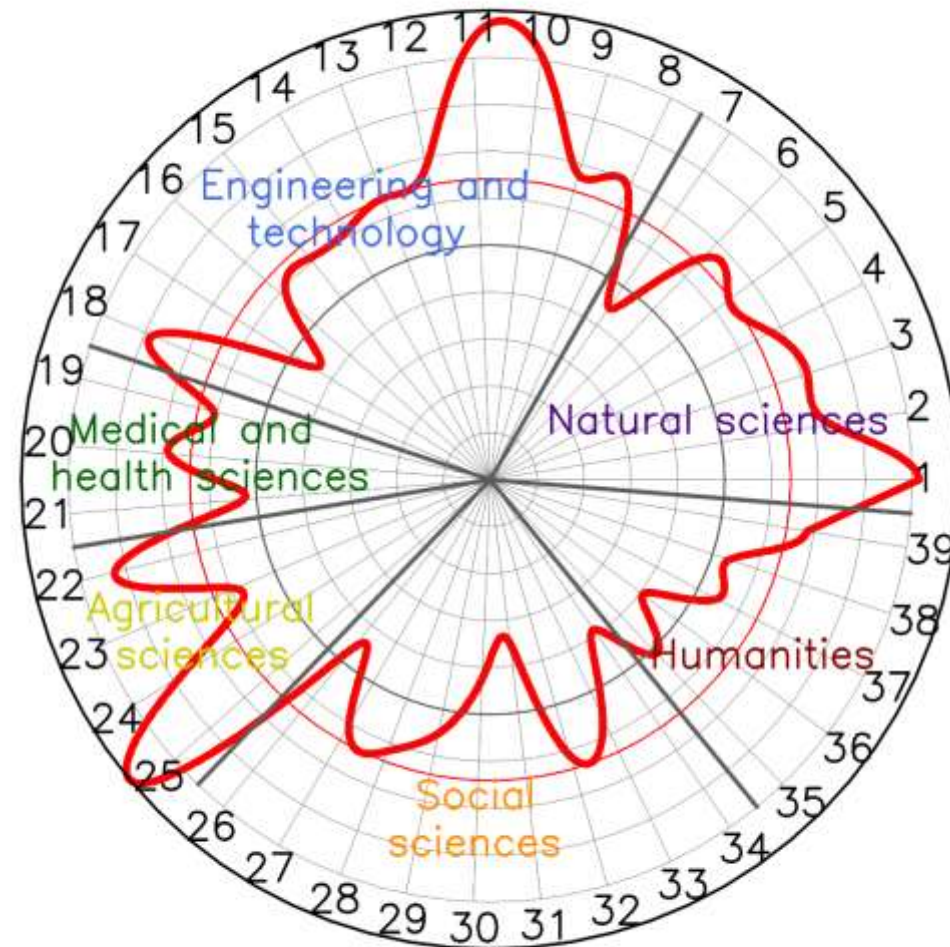
The importance of social science

Share of the number of references in scientific publications in SS in number of references from all fields, in %

Source: United Nations Development Programme, WoS

Source: World Bank, WoS