

# How can education contribute to socioeconomic development? Rethinking Human Capital for the Labour Market of the future

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**Abstract:** *This paper analyzes the role of education in economic growth with special focus on countries with high participation in tertiary education. The practical challenge that this conceptual paper is trying to address is that global economic growth is decreasing in the last decades – especially in developed countries.*

**Keywords:** *Human Capital, Generic Skills, Labor Market, Demand for Skills, Educational Policy.*

## Introduction<sup>1</sup>

Comparative analysis shows that in some countries (like Russia and some other post-socialist countries) the expansion of higher education does not lead to the acceleration of the economic growth and labor productivity (Klees 2016).

However, even in most developed countries with well-established system of institutions (including labor market) the pace of increase in coverage of tertiary education (presumably, it is the education of a good quality) – grows faster than the pace of economic growth (OECD, 2018). Hence, the decrease in global economic growth in general, as well as the problem of weakening of the connections between economic growth and growth in education coverage – cannot be sufficiently explained by referring to the issue of “bad institutions”. Drawing on T.Schultz idea of “the ability to deal with disequilibria” – or, in other words, “the entrepreneurial” abilities, and John.W. Meyer’s concept of “expanded actorhood” we elaborate the theoretical thoughts, which suggest new principles and mechanisms for the connections between education, economic growth, and institutions – and the role of education in these regards.

## Mismatch between Education and Labour Market

A common explanation for the insufficient influence of formal education upon economic growth is a “mismatch” between education and the labor market (Roshin & Rudakov, 2015, Caroleo & Pastore, 2017).

Statistics show that more than 20% of Russian students enter college to study some form of engineering and this segment has been growing since 2014 (Kliachko, 2017). At the same time, the labor market does not support a corresponding number of jobs that would make use of these engineering skills, while the rate of employment in the retail sector rose 2.4-fold in the same period (Gimpelson, 2016).

Ultimately, educating engineers on a mass scale ends up being a poor use of time for the majority of students and a waste of money on the part of the state. However, the mismatch applies not only to jobs available on the labor market and specific professions associated with them, but also to

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<sup>1</sup> This paper partly utilizes and elaborates on fragments from the article Kuzminov Ya., Sorokin P., Froumin I. (2019) Generic and Specific Skills as Components of Human Capital: New Challenges for Education Theory and Practice. Foresight and STI Governance, vol. 13, no 2, pp. 19–41. DOI: 10.17323/2500-2597.2019.2.19.41

skills that are in demand more broadly (McGuinness et al., 2018). This means that the problem lies not only in the sphere of specific human capital, but also in the general sets of skills that are applicable to different jobs and even to various industries.

In the global context, systems of higher education experience no less pressure to confront the mismatch in skills as they do the mismatch in professions. A wide-ranging study of the US labor market showed that changes in the demand for widely applicable skills on the US labor market since the turn of the twenty-first century are partially responsible for the decrease in upward mobility among workers with a higher education (Beaudry et al., 2016). Conclusions such as these contradict traditional understandings about the primacy of specialized professional skills for success on the contemporary labor market.

Education systems reacted to the increased demand for soft skills over hard, narrow ones by, for instance, increasing the share of students studying humanities and education (from 19% to 24% of bachelor's students in Norway, France, Great Britain, and Germany, but only 12% in Russia (Kliachko, 2017, p. 24). Another response to this demand was the spread of new universities following the classic liberal arts model of education. Studies show (Telling, 2018), that students in highly developed countries are most likely to prefer this model of education because it is open to a large spectrum of potential professional trajectories (Telling, 2018).

The deficit in general human capital has also been reflected in the widespread addition of entrepreneurial elements to curricula, including in secondary and tertiary education. Countries with leading positions in the innovation economy have been the most active in this area. In Finland [NAE, 2014] and British Columbia, Canada, an entrepreneurial component is part of the “technology” curriculum. In a paradoxical turn of events, the tertiary education sector, which traditionally specializes in producing specific human capital and specialized work skills, has become increasingly permeated by entrepreneurial education. This is especially noticeable in countries and regions at the forefront of technological progress. The largest intellectual hub of Silicon Valley, Stanford University, has significantly boosted its entrepreneurial offerings over the last twenty years, including programs within technical and software disciplines. According to one large-scale survey in 2011, more than one third of Stanford graduates started their own business, and a similar percentage have experience working at a startup. More than half of the graduates that became entrepreneurs said that Stanford's entrepreneurial spirit was what drew them to the university (Eesley & Miller, 2018). All told, Stanford graduates founded almost 40,000 companies and created more than 5 million jobs, generating annual revenue of \$2.7 trillion (Eesley & Miller, 2018).

The tertiary education sector in Russia is also showing a distinct tendency towards renewal, but the impact of entrepreneurial education on the economy remains small. Businesses created in collaboration with universities have so far failed to compete effectively (Karpov, 2018). Whereas the Massachusetts Institute of Technology (MIT) incubates more than 150 new companies annually, 24 of the top 40 Russian universities generated less than ten startups between 2009 and 2015 (Karpov, 2018). Nevertheless, a net positive effect of specialized entrepreneurial training has been proven for the development of Russia's business ecosystem. (Dukhon et al., 2018).

### **The challenge of the new global trends for human capital and education**

The problem becomes even more complicated if we consider several trends in global social, economic and technological development, which formulate new demands to the human capital's principal qualities. These trends may explain the cases of decreasing effect of increasing education on aggregate economic growth in the macro level (Klees, 2016).

The radically increased pace of technological development leads to customization, that is, making individual the primary producer and consumer. Technologies change the whole structure of global economy and labor market (ILO, 2018). The proportion of job-places in industry decreases (with automatic systems enhanced with artificial intelligence replacing humans), while the demand for labor force in services increases – in particular, in non-market services, like healthcare, which is necessary response to the demographical transformation in developed countries (increasingly aging population).

Innovative technologies, including Artificial Intelligence, 3-D printing and Platforms – become GPT (General Purpose Technologies) that empower large institutional transformation – potentially decreasing the effect of “economy of scale”.

Corporate employment is gradually replaced by freelance, part-time employment, which creates risks of underemployment and threats for the quality of life and social protection. The dominating type of skills become non-routine skills – those that are most difficult to substitute by a machine (Levy, Murnane, 2013).

Typical corporate career also changes, departing more and more from what Max Weber called ideal type of “bureaucracy”: the principles of rational planning, strict specialization and control appear inadequate for the turbulent times when the project based working and multi-functionality are essential for success (Deloitte 2017). The hard distinction between working time and leisure time also gradually vanish.

These trends make especially relevant what T.Schultz in 1975 called “the ability to deal with disequilibria” – or, in other words, “the entrepreneurial” abilities – as core element of human capital, applicable to any job-place and even to every situation of choice in the context of uncertainty. The idea that “educated” individual\collective action can play leading role in changing institutions – is not entirely novel for current sociological literature: the concept of “Expanded actorhood” (John W. Meyer, 2010).

The debates on human capital in the last decades largely ignored this element. At the same time, in other domains of literature, valuable and relevant knowledge has been accumulated – for instance, concerning “entrepreneurship education” or “liberal arts” in higher education. These findings may be integrated in the dominating discourse on human capital under T.Schultz general framework.

The pace of societal changes, empowered by revolutionary technological inventions like artificial intelligence, internet-based platforms and networks - has become so fast that it requires national states, companies and individuals to develop principally new capability in order to progress in economic growth. This capability goes beyond adapting to the existing institutional systems – it rather implies the ability to transform them, to create new institutions seen not simply as “increase in efficiency”, but as “a new system of social interactions”, with “new identities”, “new value”.

Therefore, we suggest an expanded definition of human capital, with the special focus on the following four categories of individual development (see picture 1):

- Specialized skills adapted to specific jobs (*specific human capital*). According to classical human capital theory, it is created through specific (mostly, tertiary) education, as well as work experience.
- *General human capital 1* – universal competences, for instance, creativity, critical thinking, cooperation and communication. It is developed through creative, project-based work and requires supplementing traditional education with new types of collective and independent activities.

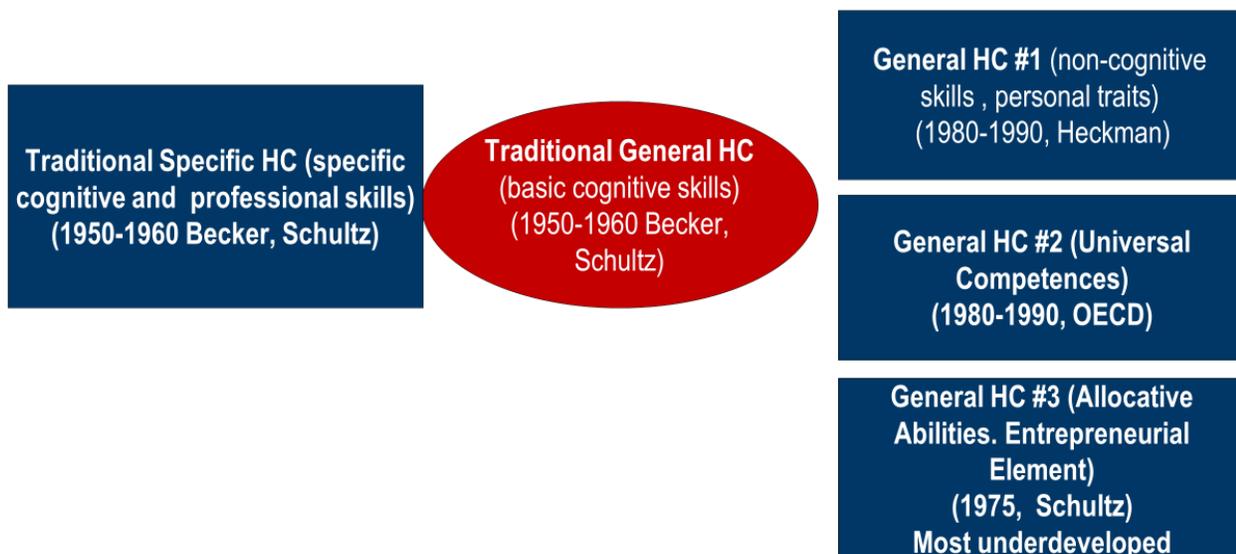
- *General human capital 2* - basic noncognitive traits such as those found in the Big Five, as well as grit, perseverance, psychological adaptability in the face of social changes and challenges, and so on. These traits can be strengthened by specific activities and supported by an increased socio-personal component in education process.
- An expanded view of the concept of agency, or active independence, is the basis of *General human capital 3*, which engages with the entrepreneurial element of human capital (Schultz, 1975). This category describes a person's ability to transform social structures and institutions, make improvements in the world in collaboration with others, and create new types of action, including economic ones.

Picture 1

## HUMAN CAPITAL STRUCTURE IN THE 21ST CENTURY



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Agency will play a key role in job redesigning and in implementing new technologies into labor processes. The whole workforce in the near future will face the need to invent new tools and working methods. A WEF survey of international businesses (WEF, 2018) showed that the corporate sector is ready to invest in training only for its most productive employees, and even in such cases the expectation is for them to take their own initiative. Large part of the workforce will likely shift to freelance and temporary employment (Upwork Global, 2017, p. 13). Under these conditions, agency becomes the most important dimension of human capital for competing in the twenty-first century.

### Conclusion

What can be the contribution of the education system to the economic growth in this new reality?

1. First, it implies the ability of individuals to deal with weak institutes (most important issue for countries like Russia).
2. Second, it also implies the ability to transform and change practically all institutions – even the most “strong” and “efficient”, respected and well established (this may be relevant to all countries with high participation in tertiary education).
3. Third, it poses the question about how does tertiary education (the type of education most rapidly expanding) contribute to human capital in terms of non-cognitive skills, universal competences and other elements of human capital, essential for the 21<sup>st</sup> century.

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