Сибирские исторические исследования. 2024. № 2. С. 120–143
Siberian Historical Research. 2024. 2. pp. 120–143

MISCELLANEA

Original article
UDC 327
doi: 10.17223/2312461X/44/6

Human Capital Development in a Long-Term Governmental Planning: OECD Case-Study

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Abstract. The notion and theory of human capital has been in development for scores of decades if not centuries. Today, conventional wisdom holds that human capital serves as a driver for growth and human resources development and should serve as one of the top priorities for national governments striving for economic growth and development. This paper adds to the academic discussion on a subject concerned by providing a case-study of Organisation for Economic Cooperation and Development (OECD) strategic planning documents. We present an analysis of the latest studies and official reports on the matter concerned, adopted by OECD in the period between its 50th and 60th anniversary (2010–2021). We later study national strategies and policy plans delivered during this period of time by the national governments of OECD member-states on the subjects of national security, healthcare, education, and socio-economic development. (For the instruments available in English we also use special IP for machine semantic analysis). We later compare OECD findings and recommendations to actual policies adopted by member-states hereinunder. We find that the governments concerned underscore the necessity of human capital development (including a number of issues connected thereto in OECD findings), but they do not necessarily do it in the manner suggested by OECD. We do not manage to identify the existence of viable inter-institutional networks for human capital planning hereinunder, while we also show a relatively low level of homogeneity between the member-states in terms of their approaches towards human capital development.

Keywords: OECD, human capital, human resources development, strategic planning, machine analysis, semantic analysis

Acknowledgements: The article was prepared in the framework of a research grant funded by the Ministry of Science and Higher Education of the Russian Federation (grant ID: 075-15-2022-327).

For citation: Pavlov, V.V. & Arapova, E.Y. (2024) Human Capital Development in a Long-Term Governmental Planning: OECD Case-Study. *Sibirskie Istoricheskie Issledovaniia – Siberian Historical Research*. 2. pp. 120–143. doi: 10.17223/2312461X/44/6

Научная статья
doi: 10.17223/2312461X/44/6

Развитие человеческого капитала в стратегическом государственном планировании: исследование ОЭСР

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Аннотация. Понятие и теория исследования проблематики человеческого капитала разрабатывались на протяжении длительного времени. Сегодня общепринятое мнение гласит, что человеческий капитал служит движущей силой роста, а развитие человеческих ресурсов должно составлять один из главных приоритетов национальных правительств, которые стремятся к такому росту. Данная статья дополняет академическую дискуссию по рассматриваемой теме, представляя исследование документов стратегического планирования Организации экономического сотрудничества и развития (ОЭСР). В статье представлен анализ последних исследований и официальных отчетов, принятых ОЭСР в период между ее 50-ти и 60-летием (2010–2021 гг.). Далее авторы проводят анализ национальных стратегий и планов, разработанных в обозначенный период правительствами государств-членов ОЭСР, по вопросам национальной безопасности, здравоохранения, образования и социально-экономического развития (для инструментов, доступных на английском языке, также используется специальное программное обеспечение для машинного семантического анализа). Далее авторы производят сопоставление выводов и рекомендаций ОЭСР с фактической практикой, принятой государствами-членами. Установлено, что правительства подчеркивают необходимость развития человеческого капитала (включая ряд связанных с этим выводов ОЭСР), но не обязательно делают это так, как рекомендуется ОЭСР. Авторам также не удалось выявить существование полноценных межинституциональных сетей планирования в сфере человеческого капитала; в то же время обозначился относительно низкий уровень гомогенности между государствами-членами в вопросе подходов к развитию человеческого капитала в разных государствах – участниках Организации.

Ключевые слова: ОЭСР, человеческий капитал, развитие человеческих ресурсов, стратегическое планирование, машинный анализ, семантический анализ.

Благодарности: Статья подготовлена в рамках гранта, предоставленного Министерством науки и высшего образования Российской Федерации (соглашение № 075-15-2022-327 от 22.04.2022 г.).

Для цитирования: Pavlov V.V., Arapova E.Y. Human Capital Development in a Long-Term Governmental Planning: OECD Case-Study // Сибирские исторические исследования. 2024. № 2. С. 120–143. doi: 10.17223/2312461X/44/6

Introduction

Analyzing individual's 'position' in the system of social and economic relations dates back to the Orient and Eastern civilizations, Ancient Greece and Rome, with first modern theories of what can be regarded as the studies on human capital going back to late 17th century and can be found in the works

of such prominent researches as Sir William Petty (1623-1687), Adam Smith (1723-1790), and David Ricardo (1772-1823) to name a few. Objective developments and contemporary theories of human capital, including by such prominent theorists and practitioners like Theodore W. Schultz and Gary S. Becker[1], cemented the issue into both scholarly research and public policy practices. Numerous international institutions and think-tanks today provide corresponding reports and indices on the matter concerned also accounted by national governments. For the latter conventional wisdom holds that human capital serves as a driver of overall growth resulting in citizens wellbeing.

But how do governments articulate their approaches and strategies to human resources development? How do they define their goals and what notions do they use? Are there any patterns and homogeneity thereto in the cases of institutionalized cooperation of states? This paper aims at giving answers to these questions by studying the example of Organisation for Economic Cooperation and Development (OECD), first, by analyzing its latest studies and official reports on the subject-matter concerned; and second, by scrutinizing respective national governments strategies and development plans and later comparing results attained. Thus, this paper will add additional knowledge to the academic debate on human capital development and public policy strategic planning in the sphere.

State and Human Capital in Academic Community Research

When analyzing contemporary literature devoted to the studies of human capital and state politics connected thereto (also with the emphasis on OECD case-studies), we can distinguish a number of 'priority' areas of research.

The larger number of writings are associated with human capital evaluation and overall growth measurement (Eicher et al. 2009; Schwerdt, Turunen 2009; Kottaridi, Stengos 2010; Sakalas, Liepe 2013; Giménez, López-Pueyo, Sanaú-Villarroya 2015; Balcerzak 2016) and cross-country and regional studies in human capital development (Harris 1996; Lim 2003; Dakhli, De Clercq 2004; Oketch 2006;Ahmed, Krishnasamy 2013; Lim et al. 2018; De Neve, Harttgen, Verguet 2020; Fang, Yu 2020; Sadeghi et al. 2020). What is important though is the fact that the majority of these academic papers focus foremost on quantitative evaluation and measurement of different indices and aggregate human capital inputs and its quality across states or regions. Government planning and programs are mostly mentioned here as a starting point, as idle political wisdom holds that knowledge-based economy serves as a prerequisite for economic grows and competitiveness and thus must be supported by the state. This in turn serves as a ground for farther topically nuanced research on interconnections between human capital and innovation

[1] See, e.g., Schultz 1960 and 1961, Becker 1962.

performance and digital economy (Boucekkine, Crifo 2008; Pater, Lewandowska 2015; Suseno et al. 2020; Švarc, Lažnjak, Dabić 2020; Grigorescu et al. 2021), sustainable development and smart growth (Sabadie 2014; Skrodzka 2018; Sineviciene et al. 2020), etc.

The majority of researches farther develop this larger field by focusing on particular aspects thereof, namely a connection between human capital accumulation and economic growth and financial development (Middendorf 2006; Vinod, Kaushik 2007; Teixeira, Queirós 2016; Lindley, Mcintosh 2017; Zaidi et al. 2019; Ogbeifun, Shobande 2021); fiscal expenditures on human capital (Kiss 2018); human capital as a mediating factor between entrepreneurship and economic growth (Rodrigues, Teixeira 2020), human capital influence on inflation dynamics (Geronikolaou, Spyromitros, Tsintzos 2020); effects of education policies and investments on human capital, including per capita income (Wolf, Zohlnhöfer 2009; Gillies 2011; Cappellari et al. 2017; Égert, Botev, Turner 2020); health and human capital (Chang, Ying 2006; Madsen 2016; Railaite, Ciutiene 2020; Yang 2020), etc. These studies point to a "significant impact of human capital on growth" (Bassanini, Scarpetta 2002) and a two-prong connection between education (human capital) and economic growth in developed economies, including OECD (Bayraktar-Saglam 2016). A number of studies (Cornali 2017; Naval, Silva, Vázquez-Grenno 2020; Agasisti, Johnes, Paccagnella 2021; Angrist et al. 2021) also use international institution metrics (e.g., OECD Survey of Adult Skills) as a starting point and basis for the research.

It is also worth mentioning that more recent studies tend to focus on a more specific agenda reflecting current developments in communities and public policy. These include, but are not limited to, association between gender gap/ overall inclusion and economic progress (Pasternak-Malicka, Migała-Warchoł 2018; Suciu, Noja, Cristea 2020; Ghosh, Ramanayake 2021); human capital and migration, including immigrant societies (Orefice 2010; Beenstock, Ramos, Suriñach 2015; Gvozdeva et al. 2017; Demireva, Fellini 2018; Skoglund, Bretthauer 2019; Akhvlediani, Cieślik 2020; Janicki, Ledwith 2021); dependence between human capital development and fossil sources energy/ renewables consumption, energy consumption, CO_2 emission, etc. (Yao et al. 2019; Alvarado et al. 2021; Çakar et al. 2021; Khan 2021; Sohag, Chukavina, Samargandi 2021).

Academic (sic.!) writings with overall explicit focus on state strategies of human capital development are still being developed, but a number of valuable conclusions should be noted at this point. The "*systemic* development of human resources" (authors' emphasis) has been among the priorities of governments of (foremost) developed states for quite a number of years (Naydenov 2019), while human capital potential can fully be unlocked with introduction of appropriate "social environment and conditions" (Benko 2021). It is argued that career guidance policy process should form a feeling

of self-management responsibility supported by government practices and normative processes (Bengtsson 2011), while formation of a system of interconnections between foreign direct investments, human capital strategies and state institutions provide for better FDI and human resources inflows (Dutta, Osei-Yeboah 2013). Perfection of education systems and utilization of related policies eventually lead to increase in human capital and national security (Strandell 2013; Diene, Diene, Azomahou 2016; Bar-El, Pecht, Tishler 2018), and the quality of public service (including leadership development and those dealing with security and defence issues) and overall security capabilities are in function of the quality of human capital (Holmes 2012; Pecht, Tishler 2017). Appropriate utilization of working hours and proper domestic investments are also recommended (Tahir et al. 2020). Human capital development strategies show a "positive effects on agency performance" (Wesemann 2021) making human capital accumulation and coherent corporate strategies a valuable addition to governmental strategies (Grosu, Mardiros, Dicu 2011; Galabova, McKie 2013; Bondarenko 2015; Levenson, Fink 2017; Veltri, Silvestri 2017; Rosińska-Bukowska 2019; Park et al. 2021). In other words, overall national grows and development depend on and proceed from a systemic strategic planning implying a direct path dependency (Auzan 2016).

Taking the above-mentioned into account, we would like to focus on a combination of cross-country studies with a research of nation-wide human capital development planning, thus adding additional value to the debates in this subject-area.

Methodology

Our study looks into the period of 2010-2021 when OECD celebrated its 50th and 60th anniversary respectively, presenting a number of documents related to the issue of human capital development. Hence, we begin our study by presenting OECD approaches to the notion of human capital and official recommendations for member-states governments introduced by the Organisation thereto. We later analyze the provisions of related top-level strategic planning documents of all 38 member-states mainly being the result of executive authorities' planning; they form the basis for official long-term planning of any country with all government and institutional activities being subordinate thereto. Thus, to qualify for this research, the instrument (1) should be officially adopted and acting as of the end of 2021 (for this purpose we excluded statements of intentions, speeches and declarations, etc., and instruments that lost their force between 2010 and 2021) and (2) should represent the results of executive branch activities (no bills passed into laws or judiciary branch rulings were included). The authors' final research base comprised of 135 official documents. For the purpose of this research, we

distinguish tier-1 and tier-2 top-level instruments, with tier-1 uniting all National Security Strategies (or equivalents thereof) serving as a main starting ground of political planning in any state; and tier-2 representing institutional level of planning for education, health and overall wellbeing (i.e., socio-economic development, sustainable development, digitalization for development purposes, etc.) in accordance with overall OECD approach (see below). As a page-count is vast, and to provide for a less judgmental results interpretation for a bigger group of states, for support of the research in the segment of instruments presented in English (for 31 states; documents for remaining 7 states are analyzed in their original language manually), we will be using Voyant Tools[1], an open-source application[2] for performing text analysis originally developed by researches with McGill and University of Alberta on the basis of software including HyperPo, Taporware, and TACT. The software shall allow for identifying most commonly used words, visualizing logical connections between 'primary' and 'subordinate' words and phrases, and representing the text semantics in a form of graphs.

The texts will be first divided into four semantic areas mentioned above and analyzed as a corpus. We also account for words and phrases that are directly related to the topic of human capital (i.e., education, health, skills, wellbeing, human development, human resources, etc.) in order to identify their frequency (words per corpus, hereinafter wpc; and words per page, hereinafter wpp) relative to other words and phrases to make conclusions on priorities of member-states. A particular word or phrase will be semantically significant if it is repeated on a regular basis in relation to the top most frequent words. It should also be noted thereto that the number of documents in each corpus and their subject-areas are a derivative of peculiarities of political planning and functioning of an executive branch in each individual state and the areas and issues that each individual government prioritizes in a particular moment.

Then the instruments in English will be divided in accordance with their country of origin and analyzed in order to compare separate national planning with OECD findings and recommendations. At this stage the analysis will also include our findings from the analysis of the corpus of the seven remaining member-states presenting their strategies in the national languages.

We then provide the results of this analysis with the emphasis on declared government priorities, emergence of viable inter-governmental systems for human capital development, and the level of homogeneity across member-states on the matter concerned – all in light of OECD recommendations.

[1] See Voyant Tools. https://voyant-tools.org/.

[2] "About. Voyant Tools Help," Voyant Tools, accessed September 2, 2021, https://voyant-tools.org/docs/#!/guide/about.

OECD and Human Capital Development Theory: Constructing the Iron Cage

To define the notion of 'human development' OECD uses[1] a definition provided by the Glossary of Environment Statistics under the United Nations where human development is understood in 'value terms' as "the process of enlarging people's choices" thus emphasizing the categories of freedom and self-development. The three main/ basic choices thereto are (1) healthy life, (2) education in a broader sense (i.e., knowledge) and (3) an ability to access resources for "a decent standard of living." Thus, everything comes to wellbeing of an individual. These basic choices are further elaborated into the categories of freedom, human rights and creativity as "additional choices" of interest for many people.

According to OECD Secretary-General Angel Gurría[2], OECD is "to help member and partner country's governments to formulate and implement better policies for better lives." An official report titled *Better policies for better lives. The OECD at 50 and beyond*, presented in celebration of Organization's 50th anniversary, clearly states the goal of evolving states' policies to achieve 'lifelong employability and lifelong learning' for the citizens (p. 21), while developing of human capital can bring about a "greater prosperity and social inclusion" (p. 25). Presented in the aftermath of the 2008 global financial crisis, it enumerates unemployment (including among the young people) as one of the key problems for the majority of advanced economies (p. 16); it also points out to growing pressure of the population aging on public budgets (p. 17). In line with the abovementioned definition's basic choices, the authors of the report believe that, first of all, investment in training personnel – especially those with low to none skills – is in high demand (p. 20). According to OECD, higher scores and levels of education lead to higher per capita income and productivity, better health and more active civic participation (p. 25). In medicine, to control expenditures whilst providing the treatment needed – being the main challenge to the healthcare systems according to OECD, – the states should invest more in preventive medicine and public health campaigns and introduce results-based financing for healthcare providers (p. 28). Overall human capital development also requires a better work/ life balance, appropriate child facilities for women to pursue their carriers and a smart use of technology (p. 20-21).

[1] "Human Development," Glossary of Statistical Terms, OECD, accessed May 1, 2021, https://stats.oecd.org/glossary/detail.asp?ID=1265.

[2] "Better policies for better lives. The OECD at 50 and beyond," OECD, accessed May 1, 2021, https://www.oecd.org/about/47747755.pdf.

In its subsequent anniversary report[1] of 2020, the key issue is "supporting inclusive, sustainable growth that delivers greater well-being" (p. 8). Interestingly, the overall emphasis of this report was transferred on the category of wellbeing with the notion appearing 15 times in 32-pages-long text, with 'human development' or 'human capital' terms being notoriously absent. Nevertheless, last decade OECD has launched a Center for Skills[2] and strengthened the Programme for the International Assessment of Adult Competencies (PIAAC)[3] to concentrate on better skills policies and to measure key skills needed today.

In 2015, OECD introduced its updated *Policy Framework for Investment* report[4] with a chapter being devoted to human resources development (HRD). Although the report itself is first and foremost aimed at facilitating private investments for economic growth, it provides valuable insights into OECD approaches towards the subject concerned. Human resources development is positioned as one of the key elements in "enabling environment for investment and economic development"; respective policies "should be a part of a coherent and comprehensive framework in line with the country's development and investment strategies" (p. 83). These policies cannot exist separately as basic education, vocational training, population health and labor policies and standards are closely interconnected, while policy-makers should periodically engage with respective stakeholders to review existing policies to provide for "flexibility and adaptability of the overall HRD framework" (p. 85). It is recommended that the governments put forward strategies to increase participation in basic schooling; encourage life-long learning; promote training programs; support an appropriate health system; sustain adequate labor policies; create adaptable workforce, etc. (p. 85-86) Yet again, HRD policies are to be 'coherent and comprehensive' and in line with overall development strategy. At the same time, the resent *2019 OECD Skills Outlook* report[5] concentrates on the issue of digitalization and digital change as primary factors of HRD, recommending the governments to formulate policies allowing the population to benefit from technological developments as much

[1] "The OECD at 60. 60 Years of Consensus Building," OECD, accessed May 1, 2021, https://www.oecd-ilibrary.org/docserver/afb7f6a8-en.pdf?expires=1619872700&id=id&accname=guest&checksum=1E1104E55134E535564E35FF46764178.

[2] "Centre for Skills," OECD, accessed May 1, 2021, https://www.oecd.org/skills/centre-for-skills/.

[3] "OECD Skills Surveys," OECD, accessed May 1, 2021, https://www.oecd.org/skills/piaac/.

[4] "Policy Framework for Investment. 2015 edition," OECD, accessed May 2, 2021, https://www.oecd-ilibrary.org/docserver/9789264208667-en.pdf?expires=1619950282&id=id&accname=guest&checksum=4A8B6E45E0EF7D18B25EC6E46DDB0EF1.

[5] "OECD Skills Outlook 2019. Thriving in a Digital World," OECD, accessed May 3, 2021, https://www.oecd-ilibrary.org/sites/df80bc12-en/index.html?itemId=/content/publication/df80bc12-en.

as possible while also bridging possible gabs digitalization can widen (p. 3); policies on education, labor, taxes, housing, social protection, overall development and R&D must be intertwined. The key skills for individuals in this new reality are cognitive, socio-emotional and ICT, yet again requiring lifelong learning.

Human Capital and National Strategies: Where Do We Really Stand?

I. The issue of human capital development and support appears in various strategic documents adopted by the OECD member-states. All these documents, as we have mentioned above, can be divided into four larger groups: National Security Strategies, education strategies, healthcare strategies and instruments dedicated to the overall wellbeing/socio-economic development. The last group is the most 'diverse' as it includes a variety of instruments related to national development, economic growth, progress, sustainable development, digital, etc. Genuine success in these areas is hardly achievable without prior investment in human capital development, hence national governments inevitably cover this topic and attach a degree of an importance to it. Healthcare strategies appear as general and subject-specific documents (cancer, HIV, prevention of suicide, antibiotics, mental health, etc.) depending upon a country. As a general rule, national strategies dealing with education, research, innovation, economic growth and development are adopted for a period of some five years, subject to a review and prolongation.

In addition to commonly adopted strategies (education, healthcare, research and innovation, economic growth, etc.) EU member-states also draft special policy documents, namely the National Reform Programs and Stability Programs (for euro area countries), Convergence Programs (for non-euro area countries) to give an overview of economic development, financial sector developments, economic and budgetary challenges and goals, etc. The National Reform Programs aim to provide comprehensive information on various ongoing challenges, ways to overcome them and national plans to implement the EU country-specific recommendations. The National Reform Programs focus on different aspects of development with special attention being paid to education, science and research, social affairs and healthcare.

National strategies comprise elaborated comprehensive approaches to ensure a thriving economy and decent standards of living for all (usually) by, inter alia, concentrating on training, employment opportunities, quality of life, accessibility of healthcare, etc. Although national goals are alike and development of human resources remains a matter of great focus, a general review of national strategies of the OECD member-states, at first sight, reveals imbalances in approaches and elaboration of the human capital concept. For instance, a comparison of similar development strategies up to 2030 of two (relatively comparable) EU and OECD member-states, Latvia and Slovenia,

shows that Latvia elaborates much on the long-term investments in its labor force and makes it one of the seven main areas of development[1]; while Slovenia highlights the importance of a healthy lifestyle, knowledge and skills for a high quality of life and work but does not consider human capital as a separate category[2].

A review of national strategies also shows instances of a low number of usages of the word collocation 'human capital', even in the sections specifically dealing with this field (e.g., the Strategy of the Ministry of Education of Finland as of 2015[3], Switzerland's International Strategy on Education, Research and Innovation as of 2018[4] do not include such word collocation). Some OECD member-states, e.g., Austria, Denmark, and France, are somewhat lacking this collocation in national strategies, while it is widely used in documents of Costa Rica, Finland, Japan, New Zealand, etc.

II. To provide for measurable results thereto, we started our analysis[5] with the documents related to national security strategic planning. Our corpus in English incorporated 25 files. Here, it should be additionally noted that some states (e.g., Israel) do not have a tradition of drafting codified documents thereto, while some other governments (e.g., that of Belgium) tend to focus on the issues of defence and military which obviously shifts the overall emphasis of the document adopted by the executive branch. Our machine analysis provided the following most frequent words in the 'national security corpus': security (5,424 wpc); national (3,703 wpc); defence (2,818 wpc); international (1,688 wps); and development (1,557 wpc). The principal semantic connections proceeded from the words: defence, security, and national with the main subordinate words being: planning, strategy, framework, policy, and capabilities (see Fig. 1). In other words, in this basic area of national planning the governments speak of grand politics and basic national security needs and interests, their security and defence strategies and capabilities. Without any doubt we do find this logic coherent and grounded in national security realities. Still, our findings hereinunder show that national

[1] "Sustainable development strategy of Latvia until 2030," Cross-Sectoral Coordination Centre. Republic of Latvia, accessed February 13, 2022, https://www.pkc.gov.lv/sites/default/files/inline-files/LIAS_2030_en_1.pdf.

[2] "Slovenian Development Strategy 2030," Republika Slovenija, accessed February 13, 2022, https://www.gov.si/assets/vladne-sluzbe/SVRK/Strategija-razvoja-Slovenije-2030/Slovenian-Development-Strategy-2030.pdf.

[3] "Ministry of Education Strategy 2015," UNESCO, accessed February 13, 2022, https://uil.unesco.org/i/doc/lifelong-learning/policies/finland-ministry-of-education-strategy-2015.pdf.

[4] "Switzerland's International Strategy on Education, Research and Innovation 2018," The State Secretariat for Education, Research and Innovation, accessed February 13, 2022, https://www.sbfi.admin.ch/sbfi/en/home/services/publications/data-base-publications/int-strategy-eri.html.

[5] Here, we will be speaking of instruments presented in English if another is not specified.

security planning does not primarily proceed and is not primarily focused on nation's human resources and its wellbeing; in other words, national security is a prerequisite and a provider for the latter. We conclude that as identified human capital related words: people (585 wpc), population (456 wpc), health (434 wpc), education (344 wpc), citizens (295 wpc), employment (283 wpc), appear on a frequency from 5.5 to 9.3 times lower if we compare the first and last most used words in each group respectively.

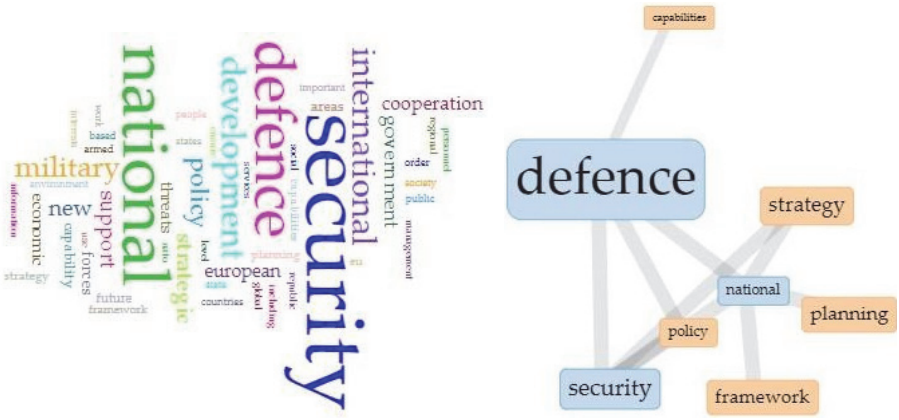

Figure 1. Visualization of most frequent words and principal semantic connections in the corpus of national security instruments

For the education corpus we collected official instruments being national education strategies, regular ministerial plans and officially adopted reviews incorporating strategic planning depending on the practice existing in each particular state. Here, the governments speak of: education per se (4,682 wpc), higher (2,327 wpc) education, research (1,459 wpc); institutions (1,324 wpc) connected thereto and students (1,206 wpc). An important connection to OECD findings and recommendations is a frequent use of the word 'digital' (1,100 wpc) which implies an importance of both the use of digital technologies in education and promotion of digital literacy among citizens. Of an equal importance and interest is the fact that the following words: opportunities (418 wpc), skills (400 wpc), and competences (296 wpc) are used in a comparatively rarer fashion, although OECD boldly speaks of the latter two being specifically important and serving as a prerequisite for the former. Still the most interesting finding that the word 'adult' (177 wpc) is mostly absent in the texts that provides for a conclusion that lifelong learning/continuous education is not among top-level issues hereinunder to differ from OECD recommendations. The governments rather tend to speak of (education and research) innovation and institutions and respective strategies and development (see Fig. 2).

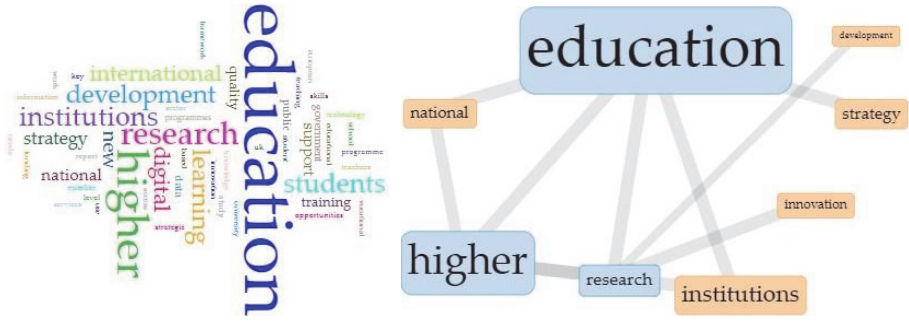

Figure 2. Visualization of most frequent words and principal semantic connections in the corpus of instruments on education

Apart from health itself as a priority and principal issue (3,940 wpc), the healthcare corpus (for visualization, see Fig. 3) is focused on respective services (950 wpc, second most used word) and care (650 wpc); also on access (343 wpc) thereto, although less frequently. Interestingly, healthcare quality (295 wpc) and wellbeing (173 wpc) as a derivative of the former are less pronounced. But two most interesting conclusions, if accounting for OECD's position, are that (1) prevention (343 wpc) as a priority is not on a top list; and (2) child-care and health is a rear topic in the corpus (the word 'children' is used only 142 times).

Figure 3. Visualization of most frequent words in the corpus of instruments on healthcare

Arguably another most interesting finding is that there is a growing number of governmental instruments regulating overlapping spheres of public administration which is accompanied by active introduction of strategies and

plans devoted to agile contemporary issues, namely sustainable development, digitalization and innovation. These instruments form a broad corpus for wellbeing/socio-economic development (see Fig. 4). This is the area where the governments at most concentrate on the way forward (development, 8,845 wpc) and sustainable (4,835 wpc) future, representing the most frequent words in the corpus. Among other priority topics we can specify education (3,792 wpc; including knowledge (1,459 wpc) and skills (1,311 wpc), but also relatively lacking women (965 wpc) and children (945 wpc)), and innovation (3,551 wpc; including everything 'digital' (3,270 wpc)). What is worthy of note though is the fact that this interconnection between different areas that are being included in one document in each particular case does not necessarily transform into coherent politics and intertwined governmental networks if we judge by the aforementioned areas of public administration; stable mentioning of networks, special commissions and separately established bodies that can serve as a marker thereto are mostly not the case. Despite some valuable inputs that cannot be denied, a number of issues specified by OECD (continuous education, women, predominantly preventive medicine) also do not receive appropriate coverage. The most striking though is the fact that word collocations 'human capital' and 'human resources' appear 234 and 100 times per corpus respectively (or approximately 4.875 and 2.08 times per document on an average). We also do not identify (here and overall) a stable feedback networks established between the governments/ institutions and the civil society to review the strategies on the matter concerned.

Figure 4. Visualization of most frequent words in the corpus of instruments on wellbeing/socio-economic development

III. We shall now turn to the results of an analysis carried out for each separate national government case. After a machine analysis of each separate corpus of available documents in English for 31 member-states we have first looked at the most frequent human capital – related words identified in our study above. Interestingly enough the governments tend to speak of this issue in broader terms. The words 'education', 'health' and 'people' stand among most widely used terms – in some cases up to 1,387, 798 and 464 words per country corpus respectively, at times giving us more than 2 wpp as in the case of the world 'health' for Ireland. At the same time the overall word count of the most frequent words does not indicate that these larger areas are always specified in terms of priorities we have presented when discussing OECD legal framework and recommendations (e.g., women, children, prevention, continuous education, etc.). Still, two specific subject-areas stand out as the most pronounced, namely digitalization and sustainability. The use of the word 'digital' in some states' corpora is impressive. For example, in the documents produced by the government of Spain it is used 495 times (2.73 wpp), for Denmark – 3.18 wpp, Slovak Republic – 3.69 wpp, with Belgium and Germany using it on every other page. The word 'sustainability' and its derivatives are also used in all program – examined corpora with its usage at times acceding 100 words per corpus (for Germany, Ireland, and Israel). This appears convincing as an average length of a corpus is 229.87 pages (almost one in two pages). But how do we exclude a *mauvais ton situation*, i.e., how do we define if these words are grounded in implementation; and if the governments do not address human capital in direct terms, how do they define this priority they all share? Here we should analyze the corpora for the most frequent words and their logical clusters (both in English and national languages).

When we look at Top-20 most-used words for corpora in English (those well exceeding 100 wpc and thus appearing on every page or once in two pages depending on a length of a particular corpus) and what is even more important – those logical connections a number of this words make and meanings these connections convey, and give a close read to the instruments in national languages, we can conclude that all governments primarily speak of supporting the progress made in nation-building and economy, or underscore an importance of achieving this progress through solving pressing issues. In other words, all governments speak of one particular issue, sometimes in direct terms, namely of development; and they address the issue of human capital through this main goal, with human capital category serving as both means and a result of country's development. Thus, human capital is not necessarily always the cause, and wellbeing is not always the endgame. What is more important and interesting is the fact that development can be spoken of in multiple ways depending on the accents; but these accents can be

limited to a number of priority areas that allow us to divide all OECD member-states in particular groups (although indicative as with any systematization)[1].

The first group is represented by the state developmentalists. Those are usually[2] larger states with highly developed state institutes and/or stronger central power. This governments make visible emphasis on security, ministries, institutions and programs as a prerequisite for farther developments, including their citizens' wellbeing. Here we speak of: **the United States** (with prominent words among overall Top-20 being: national (292 wpc), department (190), management (188), federal (164)); **Canada** (Canada (864), national (314), security (271)); **Germany** (sustainable (1,722) development (1,737), federal (1,254) government (1,327), energy (653)); **Italy** (defence (369), development (257), military (227)); **Latvia** (development (783), society (302), energy (290), services (276), economic (265)); **Lithuania** (development (410), social (203), economic (186), sustainable (167), environment (147)); **Poland** (development (243), national (225), financial (192), energy (185)); **Portugal** (national (254), Portugal (181), security (175), strategic (138), defence (89)); **the United Kingdom** (innovation (887), international (710), government (641)) and **Israel** (development (489), national (482), program (405), government (395)). What is interesting here is that (1) the UK is the only country in the group speaking pronouncedly of innovation (2.65 wpp); (2) Canada builds its strategies around Sustainable Development Goals[3] (170 wpc and 0.84 wpp); and (3) Israel is consistent in the issues connected to women (262 wpc, 0.61 wpp – one in two pages or above).

The second group is comprised of stable developmentalists. Strategic documents of these governments convey the feeling of important results achieved and target the issue of sustaining socio-economic situation they regard as positive. This group is formed by **Belgium** (support (869), capability (540), development (535), social (507)); **Finland** (preparedness (296), growth (259), development (212), supply (156)); **Luxembourg** (development (256), government (246), research (236), social (188), sustainable (173)); **Switzerland** (sustainable (435) development (410), confederation (191), data (187)); **Japan**; and **the Republic of Korea**. The latter' planning can be characterized by a straightforward system of priorities provided by a president who can occupy a position for only one five-years term. The example of the

[1] The names for the aforementioned groups are provided by the authors to better illustrate the conclusions achieved and do not vie for omnitude.

[2] But not necessarily; thus we also conclude that the size of the territory is not a primary, although an important, factor.

[3] "Sustainable Development," Department of Economic and Social Affairs. United Nations, accessed July 3, 2022, https://sdgs.un.org/goals.

latest Plan[1] in the time period concerned provided by the president Moon Jae-in is especially remarkable in the context of this study as each government goal is accompanied by a ministry or a number of ministries names responsible for its implementation. The Plan and respective subordinate documents[2] prioritize inclusive economy, labor and healthcare; Internet of things and 5G; social guarantees and wellbeing for all (including housing, all levels of education and discrimination elimination). What is also highly important (and distinguishing) in the context of this study is that this group shows a more active usage of words that convey the spirit of approaches specified by OECD we have analyzed above (i.e., capability, preparedness, research, data etc.).

Members or the third group are active developmentalists, the states that are aiming for additional economic progress or growth or overcoming a number of 'shocks' experienced by their economies or financial sector. These include **Greece** (development (321), growth (307), national (278), social (215), management (137), economy (132)); **Spain** (security (482), national (360), infrastructure (118), sector (118)); and **Turkey**. The latter (judging by the available instruments – for at least some 10 years with correspondent reviews) sets forward a number of goals[3], including "high and sustainable economic growth" ($2 trillion in GDP, 5% unemployment and single-digit inflation rate) through labor market reforms, quality of institutions, ICT, and inclusive and continuous education[4]; some issues, like elderly support (both due to economic demands and national traditions) and national emergencies (wildfires, etc.), still require further state attention.

The fourth group is made of R&D developmentalists, the states with the most pronounced accent on one specific OECD focus area relating to human capital, namely research and innovation. These include **Austria** (research (207), reform (134), digital (116)); **Czech Republic** (development (488), innovation (206), research (191), sustainable (190)); **Denmark** (digital (627),

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[1] "국민의 나라 — 정의로운 대한민국: 문재인 정부 국정운영 5개년 계획. 대한민국 정책브리핑 (The Country of Citizens – A Just Republic of Korea: Moon Jae-in Government's 5-Year Public Policy Plan)," Republic of Korea Government, accessed July 3, 2022, https://www.korea.kr/archive/expDocView.do?docId=37595.

[2] See e.g., "보건복지부 2021년업무계획, 보건복지부 (The main working plan of the Ministry of Health and Welfare for 2021)," Ministry of Health and Welfare, accessed July 3, 2022, http://www.mohw.go.kr/react/policy/policy_bunissPlan_ls.jsp?PAR_MENU_ID=06&MENU_ID=0650; "2021년 업무계획. 교육부 (Working Plan for 2021. Ministry of Education)," Ministry of Education, July 3, 2022, https://www.moe.go.kr/sub/info.do?m=680000&page=680000&num=02&s=moe.

[3] "Eleventh Development Plan (2019-2023)," Türkiye Cumhuriyeti Cumhurbaşkanliği, accessed July 3, 2022, https://www.sbb.gov.tr/wp-content/uploads/2021/12/Eleventh_Development_Plan_2019-2023.pdf.

[4] "2023 Eğitim Vizyonu (Education Vision 2023)," Ministry of National Education, accessed July 3, 2022, https://2023vizyonu.meb.gov.tr/doc/2023_VIZYON_ENG.pdf.

data (364), companies (333), growth (204)); **Estonia** (development (544), research (276), knowledge (171)); **France** (research (281), innovation (131), development (94)); **Slovakia** (digital (632), research (630), innovation (331), data (206), technologies (198)); and **the Netherlands** (research (577), science (486), education (219), knowledge (217)).

The fifth group is formed by nuanced developmentalists, the states speaking of specific areas of development/ human capital important for their further success and the level of wellbeing achieved. These include **Australia** (mental (301), prevention (178), care (124)); **New Zealand** (services (190), students (124), response (102)); **Iceland** (services (449), science (183), local (156), responsible (142)); **Ireland** (higher (933), planning (734), environment (600), quality (591), local (499), wellbeing (477)); **Norway** (research (309), university (231), sustainable (221), environmental (217), climate (188)); and **Sweden** (innovation (369), society (189), businesses (142), knowledge (132)). What is important, a brief example of the most used words for the studied corpora shows the (relatively) closest connection to the OECD guidance in terms of nuance but still, interestingly, lacking a number of spheres in the corpora' top mentions.

The last group accounted for, group number six, is probably the most peculiar as it can be termed human capital advocates. The states comprising this group tend to speak of a number of issues directly related to human capital or use this collocation/ address social needs and human development among their top priorities. This group includes two EU member states – **Hungary** (digital (979), training (482), vocational (266), competences (224), teachers (217)) and **Slovenia** (education (920), higher (813), development (548), social (240) programmes (237)), – and four states from Latin America – **Chile**, **Columbia**, **Costa Rica**, and **Mexico**. The government of Chile concentrates[1] on economic problems as a prerequisite for any form of wellbeing and solving pressing social issues. Human capital development can only be achieved through continuous eradication of new forms of poverty; providing for early, school and especially engineering education; cooperation between educational institutions and business; and a support for the more vulnerable groups. Columbia prioritizes[2] the goal of allowing its citizens to "freely choose who they want to be and what to practice in their lives" (a remarkable alignment with a definition of the notion of human capital) through achieving higher income, better life conditions, law, inclusive labor, scaling pension system for a better coverage of those not included, eradicating barriers in education,

[1] See e.g., "+100 Propuestas para el Desarrollo Integral de Chile," Informe - Acuerdo para el Desarrollo Integral, accessed July 3, 2022, https://acuerdodesarrollointegral.hacienda.cl/.

[2] "Bases del Plan Nacional de Desarrollo 2018-2022. Pacto por Colombia, pacto por la equidad," Superintendencia de Industria y Comercio, accessed July 3, 2022, https://www.sic.gov.co/sites/default/files/documentos/122018/Bases_Plan_Nacional_de_Desarrollo_2018-2022.pdf.

healthcare and social support. Costa Rica government aims[1] to "ensure inclusive economic growth at national and regional levels, in harmony with environment, creating quality jobs, reducing poverty and inequality." The recent Plan[2] of the government of Mexico, in resembling terms, reads that population' wellbeing is achieved through "elimination of corruption, tax discipline, debt servicing, respect for decisions of the autonomous bodies of the Bank of Mexico, creating jobs, strengthening internal market, development of agriculture, research, science and education." All studied texts abound with words: development, education, health, income, integral, investments, opportunities, social, sustainable, wellbeing, and human capital; while the governments speak of numerous targeted programs and cooperation of different agencies for achieving them (up to 684 programs and 103 responsible ministries and institutions in Chile for 2020 in accordance with a respective 2021 Report[3]).

Conclusions and Areas for Further Research

Our study aims at adding additional value to academic writings dedicated to the issue of human capital development in public policy planning. We commenced our study by indicating the overall importance attributed to the category of human capital both in theoretical studies and national governments and international organizations practices. OECD makes no exception. Our analysis of the key OECD instruments and reports presented between 2010 and 2021 indicated significance of the notion, while during this 11-years period the emphasis of a discussion switched from the category of human capital to the category of wellbeing also underscoring the necessity and challenges of digitalization and an importance of advanced planning and preparedness in the spheres like medicine, and life-long learning. Intergovernmental frameworks and feedback from representatives of business and civil society for correspondent reviews of the strategies were listed as a must.

As we have showed analyzing related instruments of all 38 OECD member-states (including with the help of machine analysis), the states do underscore the necessity of their citizens' human capital development, but they do not necessarily do it in the manner suggested by OECD. Most of the

[1] "Plan Nacional de Desarrollo y de Inversión Pública 2019-2022," Ministerio de Planificación Nacional y Política Económica, accesse July 3, 2022, https://documentos.mideplan.go.cr/share/s/ka113rCgRbC_BylVRHGgrA.

[2] "Plan Nacional de Desarrollo 2018-2022," Diario Oficial de la Federación, accessed July 3, 2022, https://www.dof.gob.mx/nota_detalle.php?codigo=5565599&fecha=12/07/2019.

[3] "El Informe de Desarrollo Social 2021," Ministerio de Desarrollo Social y Familia, accessed July 3, 2022, https://www.desarrollosocialyfamilia.gob.cl/storage/docs/ids/Informe-desarrollo-social-2021.pdf.

governments avoid using the notion 'human capital' (those doing this 'a lot' usually have a long way to go in terms of providing for better life conditions for their citizens), while the word count and page-by-page analysis (where applicable) indicate that basic human capital – related spheres are rather presented in generic terms: prevention, quality, skills, life-long learning and the issues related to women and children do not form a central core in strategic planning, while human resources development and wellbeing is not always regarded as an asset but rather as a positive consequence of economic development and national security. Still, digitalization and sustainable development are the topics typical for the states concerned. The relatively vast amount of the instruments dedicated to overall wellbeing, when comparing to other spheres studied, proves that the governments understand the challenge and importance of interconnectivity in planning thereto, but we did not manage to identify the existence of viable inter-institutional networks for human capital planning hereinunder, or clearly stated priorities of forming them and stable feedback networks with the civil society. The Republic of Korea may serve as an exception which rather emanates from a national tradition; while the governments of the Latin America states, although putting forward a vast number of interagency programs, acknowledge their constraints and, at times, failures. Also, notwithstanding all the strategies convey the spirit of the importance of wellbeing, there is a relatively low level of homogeneity between the member-states in terms of their approaches towards human capital development which is evident in our clustering of the states in six distinct groups.

Considering all the challenges laying ahead with the national governments and available theoretical studies we could recommend to farther concentrate on the issues of intergovernmental networks in human capital development planning and execution, the problem of human capital – related rhetoric in strategic planning transforming into viable programs, and states performance and positions in related indices, including OECD Better Life Index[1].

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[1] "OECD Better Life Index," OECD, accessed July 9, 2022, https://www.oecdbetterlifeindex.org/.

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Авторы заявляют об отсутствии конфликта интересов.

The article was submitted 25.11.2022;
accepted for publication 01.05.2024.

Статья поступила в редакцию 11 ноября 2022 г.;
принята к публикации 1 мая 2024 г.