

Lifelong Learning in the Context of Economic Development and Government Effectiveness

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Abstract. Statistical data is used to analyze formal and supplementary adult education attainment rates in the European Union, OECD countries and Russia depending on the basic economic development characteristics and the government effectiveness index that the World Bank has used to assess the quality of governance for the last two decades. In countries with low GDP, formal and supplementary adult education attainment rates are linearly dependent on the size of investment in fixed capital and show weak correlation with the index of government effectiveness. In countries with

high levels of GDP and active investment processes, the key role in the growth of formal and supplementary education attainment rates is played by governmental actions that prompt the population and employers to engage in learning and supplementary education programs. Russian Federal State Statistics Service (Rosstat) data shows similar correlations between engagement of the employed population in lifelong learning and economic development indicators. The study includes analysis of official development strategies and the existing lifelong learning policies pursued by the countries as well as national cases that include the content of education programs, target groups and measures to maintain the adult population's access to lifelong learning. Incentives to increase formal and supplementary adult education attainment rates are identified, and the relationship between their implementation and economic development of countries is determined.

Keywords: lifelong learning, adult education, formal education attainment rate, supplementary education attainment rate, economic development indicators, government effectiveness.

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The concept of lifelong learning was born in the mid-1960s as a response to the need for continuing education prompted by the boom in technology [Faure 1972]. Personnel competencies required regular

adjustments to technology upgrades and emerging industries. Employees who learned to use new equipment and technologies were expected to show better labor productivity and thus increase the GDP per capita. However, it was not until the early 1990s that the need to integrate various programs into lifelong learning as a single conception of permanent adult education was recognized [Pepin 2007:121–132].

Statistics show that participation rates in lifelong learning differ dramatically across countries. For example, 51% of the population aged 25–64 are engaged in some kind of formal or supplementary education in the OECD countries, while the EU rate of 40.3% is dragged down by the most recent member states: Bulgaria (26.0%), Poland (24.2%) and Romania (8%) as well as Greece (11.7%) [Desjardins 2015]¹. The rates are even lower in Southeastern Asia, e. g. under 5% in Vietnam. As for Russia, 17% of adult population were engaged in education and training in 2016 [NRU HSE 2016].

It was in 2009 that researchers first noticed the relationship between per capita GDP and participation of the labor force in education and training in the OECD countries [UNESCO Institute for Lifelong Learning 2009:64].

Indeed, employee training increases the quality of human capital (the level of its labor potential, the cumulative body of knowledge, and mobility), which translates into better labor productivity. As high-performance technologies are becoming ever more accessible and can be obtained today without any serious restrictions, human capital is probably the only resource that can ensure economic growth. Businesses that own quality human capital and have an opportunity to use it efficiently become essentially more successful in terms of both technology and revenues. Large-cap companies like Google or Intel are worth more than conventional producers of goods, including the giant corporations involved in high-tech extraction of raw materials.

Professional on-the-job training and retraining, either on- or off-site, are an important source of human capital development and reproduction [Gimpelson, Kapelyushnikova, Roshchin 2017:120]. They shape the supply of professional skills and serve as a direct factor of labor productivity growth [Bassanini et al. 2007]. In addition, recent studies in the Russian labor market show that employees who have obtained advanced training have their salaries increased by around 8% [Travkin, Sharunina 2016].

The human capital theory suggests that education is not an end-use product but a means of further added value production and thus an important factor in national and global macroeconomic growth as well as in income growth for individuals and businesses. The cost of education is regarded as a function of future income growth ensured

¹ [http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Participation_rate_in_education_and_training,_2011_\(%C2%B9\)_\(%25\)_YB16.png](http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Participation_rate_in_education_and_training,_2011_(%C2%B9)_(%25)_YB16.png)

by previously incurred expenses on relevant educational services [Klyucharev et al. 2014].

Eric A. Hanushek and Ludger Woessmann identify at least three mechanisms through which education can influence economic growth. First, education increases the cumulative human capital of labor force, which results in better labor productivity and transition to a higher equilibrium level of output. Second, education may improve the innovative potential of the economy. Third, it can facilitate the spread and transfer of knowledge required to understand and process new information as well as to successfully implement new technology developed by others, which, again, promotes economic growth [Hanushek, Woessmann 2007:115–185].

**Correlations
between participa-
tion in lifelong
learning and
economic develop-
ment**

The relationship between the participation of citizens aged 25–64 in education and training and the GDP per capita was analyzed using Eurostat², PIAAC [Desjardins 2015] and Rosstat³ statistics. The correlation was found to be linear and quite stable for the OECD countries (Fig. 1) as well as for the EU member states (Fig. 2), the correlation coefficients being 0.7 and 0.8, respectively. Studies conducted by EU researchers prove that the correlation properties are not contingent on the methods applied: the correlation is maintained at the level of 0.7 regardless of whether respondents acknowledged engaging in lifelong learning programs over the last 12 months (Fig. 2) or only 4 weeks (Fig. 3). Russia's correlation coefficient is very much in line with this tendency (Fig. 1 and 2).

Russia's educated population works better and achieves better economic outcomes: the correlation between economic growth indicators and participation in lifelong learning is almost the same as in other countries (Fig. 4). Individual variations can be explained by a greater federal role in adult education, on the one part, and by active attraction of workers who obtain education in other regions and participate in industrial processes in rotating schedules, on the other hand.

Employers' education assistance policies depend on economic and political factors, including cost-benefit ratio, national perceptions of education and training, and market-specific aspects of interaction among the major players [Pilz 2009:57–74].

In order to identify the economic factors that promote education assistance, interaction of the major stakeholders in the labor market will be analyzed in the context of their need to embrace lifelong

² Eurostat Statistics Explained. Education and training: [http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Participation_rate_in_education_and_training_2011_\(%C2%B9\)_\(%25\)_YB16.png](http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Participation_rate_in_education_and_training_2011_(%C2%B9)_(%25)_YB16.png)

³ Russian Federal State Statistics Service (Rosstat). Bulletin "Continuing Education and Professional Training of Employees in 2016" (posted on 04/27/2017): http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/publications/catalog/bbd2da8043f81ba38a78cbd92111eac8

Figure 1. The **relationship between the 2011 GDP per capita and the participation rate in education and training in Russia and the OECD countries** [Desjardins, 2015]

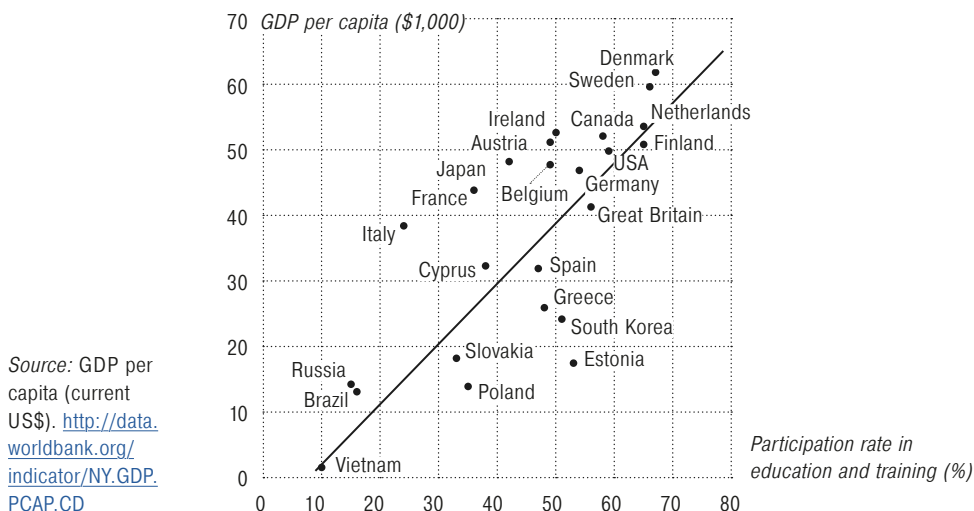


Figure 2. **The relationship between the 2011 GDP per capita and the participation rate in education and training over the last 12 months in Russia and the OECD countries**

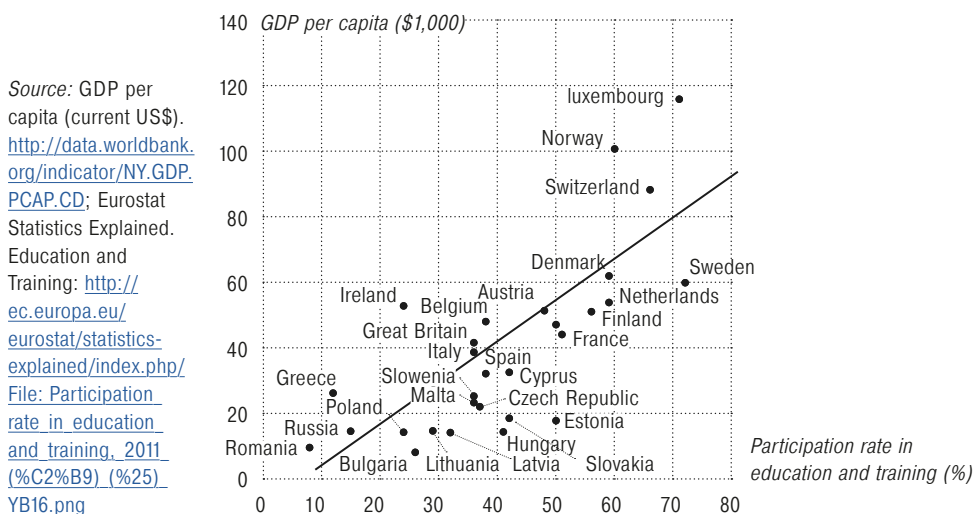


Figure 3. **The relationship between the 2016 GDP per capita and the participation rate in education and training over the last 4 weeks in the OECD countries**

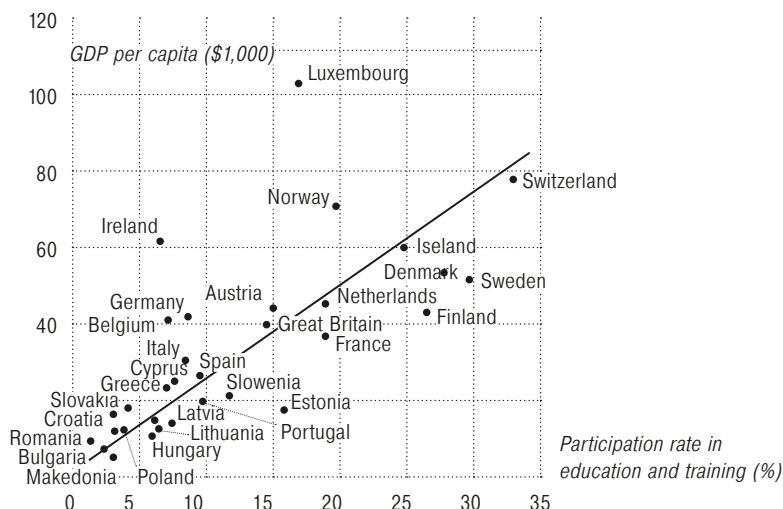


Figure 4. **The relationship between the GRP and the participation rate in education and training over the last 12 months in regions of the Russian Federation in 2016**

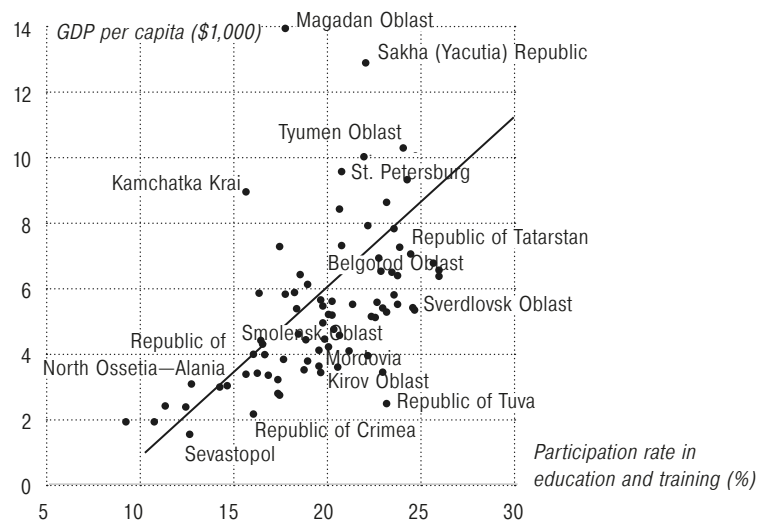
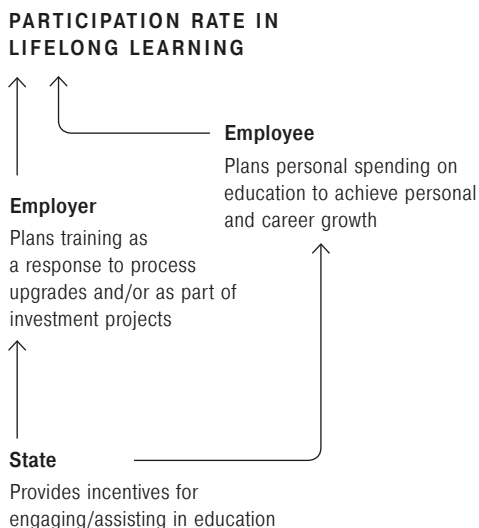


Figure 5. **Interaction among the major stakeholders in the labor market as a foundation of lifelong learning systems**



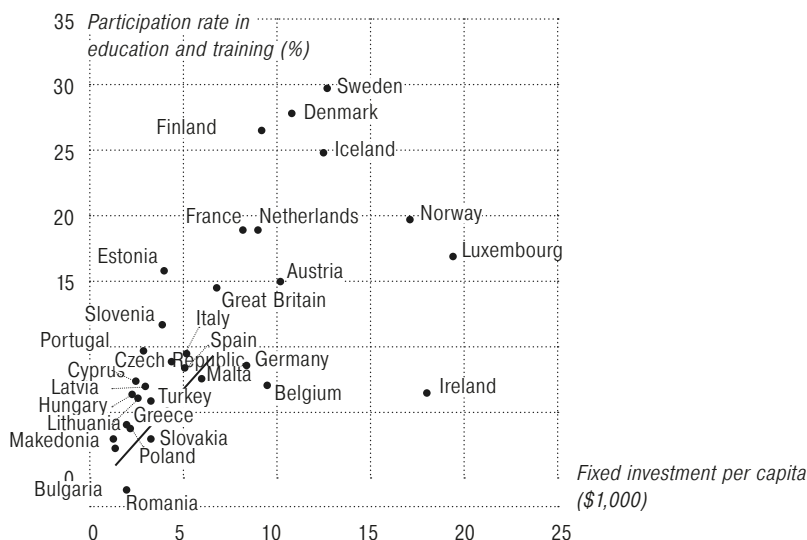
learning. Either the employer or the employee may decide that the latter needs some tuition (Fig. 5). Meanwhile, government agencies can motivate both parties to engage in training programs using certain incentives.

Companies may decide to organize training for their employees once they introduce new technology or equipment [Roshchin, Travkin 2015: 150–171], as the requirements for knowledge and skills are thus increased. Demand for highly qualified human resources can be difficult to satisfy in the external labor market, which is also short of cutting-edge professionals or is offering them at an excessive cost, so training and development of the existing staff becomes the most profitable strategy.

Investment processes also involve extensive staff training, especially when new plants of large Russian and foreign transnational corporations are opened [Gaponova, Korshunov 2017:208–226]. Business expenditure on investment in fixed capital, including innovative equipment, normally exceeds expenses on technology innovations substantially. According to Rosstat, Russian businesses spent \$20 bln on innovative technology and \$290 bln on investment in property, plant and equipment in 2015.

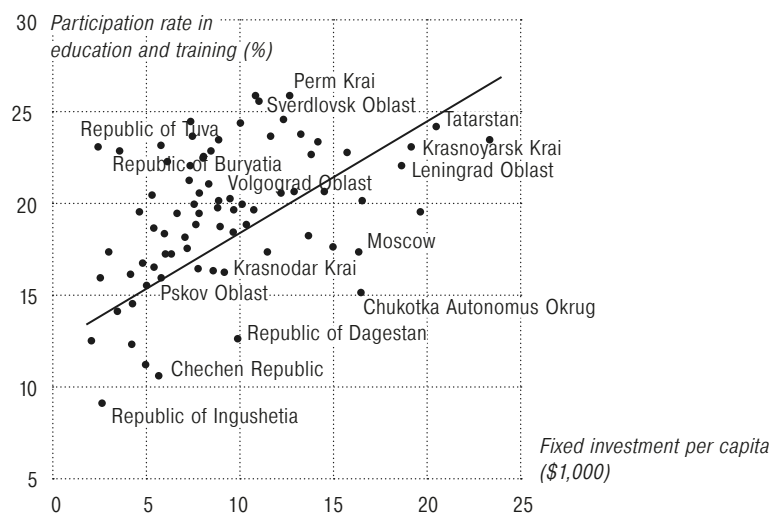
When a new plant is opened, new employees are hired. Investment budgets involve, aside from spending on fixed capital, proportional costs of teaching new skills to the staff. The more equipment and other fixed assets that have been purchased, the higher the expected employee participation rate in advanced training.

Figure 6. **The relationship between the participation rate in education and training and per capita fixed investment in EU countries in 2016**



Sources: Gross fixed capital formation (current US\$): <http://data.worldbank.org/indicator/NE.GDI.FTOT.CD>; Eurostat. Participation rate in education and training (last 4 weeks) by sex and age: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=trng_lfs_01&lang=en

Figure 7. **The relationship between the participation rate in education and training and per capita fixed investment in regions of the Russian Federation in 2016**



Sources: Federal State Statistics Service (Rosstat). Bulletin "Continuing Education and Professional Training of Employees in 2016" (posted on 04/27/2017): <http://www.gks.ru/wps/wcm/connect/rosstat/main/rosstat/ru/statistics/publications/catalog/bbd2da8043f81ba38a78cbd9211eac8>; Federal State Statistics Service (Rosstat). Performance Assessment and Monitoring Criteria for the Subjects of the Russian Federation: http://www.gks.ru/free_doc/new_site/rosstat/pok-monitor/pok-monitor.html

Comparison of data obtained from European statistical agencies reveals a correlation between the participation rate in education and training and per capita investment in fixed assets in EU countries in 2016 (Fig. 6). In countries with low investment rates, participation in lifelong learning grows noticeably following an increase in investment. However, no such correlation is observed in countries with per capita investment rates of over \$8,000. This may be explained by additional factors that come into play—government measures affecting employers and employees' decisions.

Since per capita fixed investment is low in Russia (\$1,400 in 2016), it can be suggested that the government has been very passive about employee retraining. Investors opening new plants is the main factor affecting the participation rate in education and training, so the correlation between participation in lifelong learning and the size of investment in fixed assets must grow consistently in every region of Russia. This suggestion is confirmed by the 2016 Rosstat data presented in Fig. 7.

The Government as a stakeholder in lifelong learning

Models determining how the key players interact in the labor market and how skills are built are not static: they mutate and evolve depending on the point in history, economic crises and shocks as well as political contexts [Busemeyer, Trampusch 2005:95–114; Thelen 2004]. Political leverage is what makes the government an influential stakeholder in the market of adult education. Its governance activities, including those concerning labor resources and the quality of human capital development, have a meaningful impact on the labor market. Being interested in social stability, the government uses lifelong learning purposefully to engage with the most active part of the population, providing conditions for professional and career growth through advanced training and acquisition of new skills. Besides, government participation in education removes the objective restriction on employee competency improvement, which is typical of employer-assisted education, where employers fear, not unreasonably, that better trained staff will find better jobs.

Government initiatives to motivate individual employees and the population as a whole to participate in advanced training influence the participation rate in lifelong learning, so many countries use them extremely actively:

- Most developed countries worked out and approved conceptions of lifelong learning in the early 2000s and have been updating and expanding their stipulated lists of government incentives ever since [UNESCO Institute for Lifelong Learning 2015].
- Measures that have been designed and actively applied include: a wide array of government support incentives for lifelong learn-

ing; a liberal education system⁴; direct financing of employed population's skill improvement through certificates for learning and/or learning accounts; an elaborate system for assessment and recognition of qualifications, including informal ones; wide-scale courses on entrepreneurship and self-employment; various digital resources and skills navigators that help employees obtain professional competencies and choose efficient educational trajectories.

- The New Skills Agenda for Europe was adopted by the European Commission in June 2016⁵. It was designed to enhance the quality of skills and their role in the labor market.
- Lifelong learning and adult education were named among the goals of UNESCO's Transforming our World: The 2030 Agenda for Sustainable Development⁶ in 2016.
- The European Association for the Education of Adults declared 2017 the Year of Adult Education in Europe under the slogan "The Power and Joy of Learning"⁷.

Assistance to the population and employers in obtaining and organizing continuing professional education is becoming not only an economical but also a powerful political tool for ensuring the quality of governance and increasing public satisfaction with government performance.

The relationship between government effectiveness and participation in lifelong learning

A government effectiveness index, estimated using the World Bank's methodology since 1996⁸, is used in this study to explore the relationship between government effectiveness and the participation rates in lifelong learning across European countries. The index embraces 15 measures, each of them being assigned a certain weight depending on their perceived accuracy and on the comprehensiveness of information that has been obtained from them⁹. The estimates are based on the results of regular surveys initiated by international and nongov-

⁴ Liberal education for adults (e. g. in Denmark, Finland and other countries) implies a wide variety of formal and informal education programs of professional, enlightening and sociocultural nature.

⁵ <http://ec.europa.eu/social/main.jsp?catId=1223&langId=en>

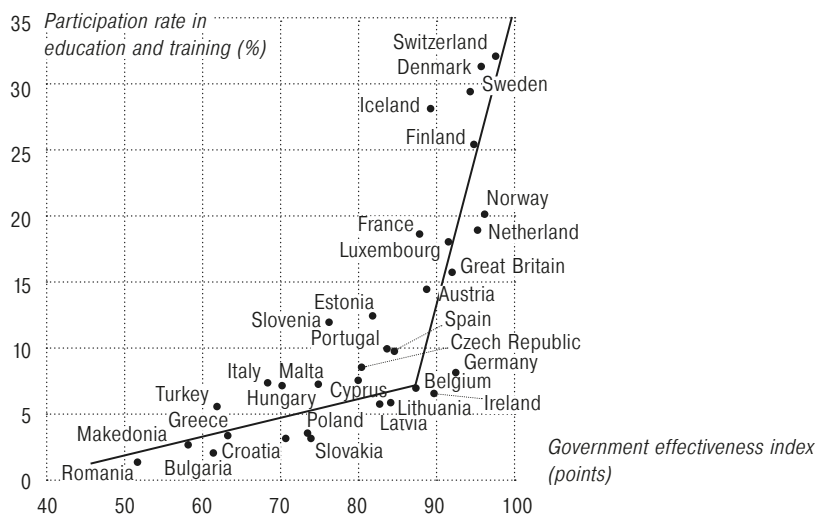
⁶ http://www.eaea.org/media/policy-advocacy/eaea-statements/learning-and-skills-for-adults_final.pdf

⁷ http://www.eaea.org/media/policy-advocacy/eaea-statements/learning-and-skills-for-adults_final.pdf

⁸ Worldwide Governance Indicator <http://info.worldbank.org/governance/wgi/>

⁹ The index is based on the World Bank's Country Policy and Institutional Assessments, African and Asian Development Banks' data, the World Bank's Business Environment and Enterprise Performance Survey findings, the Bertelsmann Stiftung's research, Country Risk Service Reports, the World Economic Forum's Global Competitiveness Reports, IFAD's reports on the agricultural sector's effectiveness, and the IMD World Competitiveness Yearbook.

Figure 8. The relationship between the participation rate in education and training and the government effectiveness index in EU countries in 2015



Sources: Eurostat. Participation rate in education and training (last 4 weeks) by sex and age: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=trng_lfs_01&lang=en

ernmental organizations in various countries to gather public opinion on the quality of governance, the development and implementation of internal policies, the government's ability to govern without radical changes or irregularities in providing public services, the credibility of internal policies pursued by the government, performance of the machinery of government and government officials, their competencies, qualifications, the degree of their independence from political pressure, etc. The surveys take into account opinions of business managers, nonpublic institutions, private credit rating agencies, individuals, government officials and public servants.

Figure 8 presents the relationship between participation in lifelong learning and the government effectiveness index in EU countries in 2015. The countries were grouped into two categories following cluster analysis of governance data that used k-means and Euclidean metric. The first category embraced countries with low-effective governance (under 88 points), where the government has very little impact on the participation rate in education and training. As a result, adult education in these countries relies largely on investment from big corporations that open new plants in their territory. The second category included countries with highly effective governance, which yields a considerably higher participation rate in lifelong learning. In Figure 8, their correlation curve angle is nearly three times greater and their correlation coefficients are very high. Government incentives for continuing education turn out to be more efficient than investors and businessmen's efforts. The dual attitude of company CEOs is easy

to understand: investing in staff development, they can never be absolutely sure that the outcomes of such development will serve the needs of their company and trained employees will not quit.

Government incentives to increase the participation of adults in education and training affect fairly broad layers of population and allow improving the motivation for professional activity, career growth and personal self-fulfillment, thus providing a high level of citizens' satisfaction with their work outcomes and their lives in general. Active adult education incentive policies pursued by executive authorities become a justification for high ratings of overall governance quality.

Lifelong learning systems in Europe

Analysis of over 30 government policies [European Association for the Education of Adult 2016] and strategies [UNESCO Institute for Lifelong Learning 2015] shows that the range of adult education incentives is pretty wide, their nature being directly contingent on GDP per capita.

Countries *with high GDPs* (Norway, Denmark, Luxembourg, Germany, etc.) use integrated measures that include the creation of on-line skill navigators, direct co-funding of programs designed to enhance qualifications of the employed population in various industries, and issuing certificates for learning. They have long developed and actively implemented their independent qualification assessment systems, which take into account certificates for learning and recognize informal education (obtained on-the-job). Their adult education programs mostly focus on labor productivity enhancement, quality management systems, lean production and entrepreneurship.

Training vouchers have become a successful practice in Germany. Employers can obtain up to 20 vouchers annually to cover up to 50% of their expenditure on staff development. There are also special learning bonuses that are distributed among employees with low annual earnings. In addition, the law guarantees that salaries of employees attending training courses during working hours will be preserved fully [Bundesministerium für Bildung und Forschung 2016].

France has launched a system of personal learning accounts (*comptes personnel d'activité*) for anyone at the very start of their career. As of August 2016, 3.3 mln people had activated their accounts to obtain co-funding for training.

Singapore employees' learning activities are also financed directly by the government. The specific feature of training programs in Singapore is their orientation towards hi-tech manufacturing and industrial competencies. Organizations entitled by Singapore's Ministry of Manpower to implement adult education programs include the learning centers of industrial companies, private consulting tech companies, the educational departments of industrial associations, and a large number of specialized centers under polytechnic universities¹⁰. Particular at-

¹⁰ Website of the Ministry of Manpower of Singapore: www.mom.gov.sg/

tention is paid to employees aged over 45, who receive funding for re-training to get ready for a new job at a senior age, while employers are compensated by the government for the expenses they incur in order to retain older workers in the company with new job duties.

A special regulatory framework has been successfully introduced in Denmark to make previously obtained education recognizable. A law has been adopted that allows adults to have the results of previously obtained education or training assessed and to receive detailed certificates that are registered on the dedicated portal called My Skills and Qualifications File¹¹. Educational institutions can assess and recognize previously obtained education and results of advanced training programs, identify courses and competencies required for higher levels of education, and issue certificates of competencies or education in cases where candidate's skills conform to the complete education program requirements.

In Singapore, independent assessments are performed by Singapore Workforce Skills Qualifications (WSQ)¹². It organizes education and advanced training courses, evaluates the key competencies for compliance with the existing framework and standards that companies design based on their expectations about prospective employees, and issues certificates confirming such competencies. All WSQ certificates issued are verified and registered in the e-Cert web database¹³.

Around 200 organizations incorporated in Great Britain are vested with the authority to award qualifications, which they often delegate to assessment centers under the auspices of education service providers.

Chambers of industry, commerce and trade in Luxembourg and Germany reserve the exclusive right to assess graduates' qualifications and certify professional skills and abilities.

Diverse forms of education, various government assistance tools, flexible educational trajectories available in countries with high levels of labor productivity, and labor market responsiveness shape the demand for consulting services in education. The EU has designed a "navigator" portal called Ploteus (Learning Opportunities and Qualifications in Europe)¹⁴ to ensure labor mobility within the European Union. Denmark has been using the Education Guide¹⁵, an electronic reference portal providing relevant information on all education programs available and the labor market situation. The website targets various

workplace-safety-and-health/wsh-service-providers/find-approved-service-providers/find-accredited-training-provider#/?

¹¹ www.minkompetencemappe.dk

¹² www.ssg.gov.sg/wsq.html

¹³ <https://e-cert.ssg.gov.sg>

¹⁴ <https://ec.europa.eu/ploteus/>

¹⁵ www.uddannelsesguiden.dk

groups: all citizens, youth, employed adults, parents of school graduates, school students, and learning centers. Using the portal, one can select a suitable education program and institution to ensure the optimal career and personal growth for themselves.

Young start-up entrepreneurs in EU countries are granted government investment and the opportunity to study under business programs, which include not only trainings, workshops and expert consultations but also the opportunity to work on projects under the guidance of mentors, who help young people present their projects to prospective investors and later start working with them. For instance, Hermia Science Park in Finland, apart from education, offers comprehensive project support services, including idea assessment, patent research, establishment of contact with prospective investors, development of business plans that include necessary financial expenses, and preparation for starting a new business (development of recommendations). Once a start-up business model is approved, the second phase comes into play—business development as such. This stage includes specialized training for entrepreneurs, professional consulting services, and financial recommendations for managing public funds and external investments.

Successful integration of liberal education is well exemplified by Oxford University's Department for Continuing Education. Over 15,000 people are enrolled in one or more courses in this department yearly. Graduates from long-term courses obtain university certificates or other types of credits, yet a variety of short-term training courses are available every year for those who look to enhance their professional knowledge and skills without getting any formal qualifications. Such courses may last from one day to a few weeks, and their total number amounts to hundreds.

Liberal education in Finland is provided by people's institutes that offer secondary- and tertiary-level courses as well as learning centers for adults. People's institutes are mostly governed by trade unions, political and religious associations and pursue education programs that do not imply granting any qualification documents upon graduation (the informal sector). Learning centers collaborate with public universities, and their courses are financed from the national or municipal budget, only a small portion of costs (about 15%) being incurred by students.

Countries with *low GDP levels* use government subsidies to organize advanced training for certain groups of the population, and their independent assessment and recognition systems are still in their infancy.

Lithuania has a law on informal education but no coordinator of municipal enforcement has been determined yet, so implementation is a challenge. Polish authorities undertake education funding initiatives for the most vulnerable groups on national and regional scales. They also organize advanced training for managers and cours-

es on entrepreneurship and self-employment. Romania has established a national agency to coordinate adult education projects. However, there has been little agreement on adult education terminology so far, so many experience problems with using educational benefits. No government funding of adult education is available in Romania today. Neither do the systemic funding tools work in Slovakia, with the exception of occasional subsidies for public institutions. Similar spontaneous financing initiatives in Georgia and Ukraine are only undertaken by external donors, while no single national adult education system exists. In Bulgaria, the government only funds formal education of adults through the national network of adult schools, and certificates of on-the-job training are not recognized. Serbian adults obtain primary vocational education and learn basic skills in community-based organizations; the country is in urgent need of a system of providers of technical education for adults.

As for Russia, there is no dedicated law on or conception of adult education. Concepts of continuing education are integrated in the general Law on Education. Public-funded programs in advanced professional training for managers and administrative staff (in education, medicine, culture and entrepreneurship) have become widespread, sometimes involving engineers, too. The government only assists the retired and the unemployed who seek low-paying job opportunities in obtaining vocational qualifications. A national qualification system and independent assessment centers under the direction of employers' associations are being actively developed. Yet, employees still have difficulty having their on-the-job qualifications recognized.

Turkey, France, Sweden and Switzerland showed the fastest growth in the participation rate in education and training over the last decade of observation (from 2006 to 2016). Turkey increased on the index from 2% to 6% by developing a system for independent assessment and recognition of qualifications, including informal ones, launching a system offering educational consulting and employment assistance for the population, and special programs for education and sociocultural integration of refugees and immigrants. France boosted its participation rate from 6% to 19% as a result of providing direct funding of personal learning accounts for those embarking on careers and developing an independent assessment and recognition system which allows recognizing the skills acquired on-the-job and by means of self-education. Sweden made a leap from 19% to 30%, first of all by providing education to immigrants and refugees under direct public grants designed to stimulate the development of new methods of learning, such as language cafés, grammar sessions, speaking practice, movies and open lectures, discussions and meetups, which involve acquisition of competencies in various industries, including cooking and other technologies. Swedes and asylum seekers interested in education can obtain information on educational opportunities through social media or personal contacts with politi-

Table 1. Measures to promote lifelong learning systems in countries with differing GDP rates

Advanced training for employed population	Advanced training for unemployed population	Using education to support business development	Education as a means of socialization ("new literacies", "21st-century skills", self-education and co-learning)
GDP per capita over \$55,000			
Online e-learning platforms, continuing education and employment navigators	Online e-learning platforms, continuing education and employment navigators		
\$35,000–55,000			
Qualification assessment and certificate recognition system. Recognition of informal education (on-the-job training)	Public grants for co-funding of consciously chosen professional education programs. Information resources to facilitate the choice of education providers	Accelerators combining learning with project development and venture investments	Public liberal education under the auspices of universities and autonomous providers
\$14,000–34,000			
Public grants for co-funding of consciously chosen professional education programs (market of education programs)	Flexible job retention programs for mothers and people past retirement age. Combination of consulting, learning and employment	Competition-based education programs (education fairs) for business starters with the opportunity to win a public grant	Enlightenment programs provided by nonprofit organizations, digital platforms for self-learners and volunteers, open universities for the elderly
\$5,000–13,000			
Government and employer co-funding for advanced training. Internal legislation on (conception of) adult education	Government-funded retraining programs for the unemployed and people past retirement age	Short-term courses (in the form of games) on the basics of business literacy for school and college students	Short-term ICT literacy courses for people past retirement age, one-day courses on financial literacy

cians, journalists and language teachers. Switzerland's leadership in the participation rate growth (from 20% to 33%) was provided for by adopting a law on adult education, which outlined the extent of direct educational grants for the employed population in specific industries in accordance with the economic development priorities.

Table 1 presents systematized lifelong learning incentives designed for various groups of the population, depending on the country's GDP.

Governments in countries with low and medium GDP levels look beyond direct assistance to employers in providing their workforce with necessary qualifications and engage massively in enlightenment

and raising the population's basic literacy, improving socialization of disadvantaged groups and immigrants through volunteerism and co-learning systems, providing educational support to people past retirement age, setting up various start-up courses and liberal education systems. Although such programs do not increase labor productivity directly, they still contribute to GDP and complement initiatives designed specifically to promote employee development. According to the approach proposed by Gary Becker, they upgrade the overall human capital, i. e. the important knowledge and skills that can be used and yield returns in different companies [Becker 2003].

Encouragement of the population's learning activity activates the personal resources of every citizen, making them more active and transforming contemplation into action. As a result, society develops a culture of ambition, goal orientation and commitment, and improves its cooperation and communication skills. Homo proactivus is born, ready to respond to external challenges. Being flexible, he is more successful at learning new professional skills and applying the existing ones, thus securing himself a strong position in the labor market [David, Katz, Kearney 2006]. Such a resource turns out to be highly productive for the country as a whole but not for specific employers, as employees who engage in lifelong learning and enhance their own value are more likely to change jobs.

When designing lifelong learning systems, EU countries focus a lot on developing a market of education programs, and their governments engage actively in this process. There are both public-funded and private educational institutions as well as informal education systems in all the countries analyzed, and all of them receive considerable financial and legal support from their government. The EU lifelong learning policies seek first of all to overcome the existing socioeconomic inequalities and provide access to a wide array of opportunities to improve one's professional and educational level, for everyone.

Therefore, adult education is evolving into an independent level of education that affects economic welfare and social stability indicators. Different countries are in different phases of developing their systems of standards and institutions to provide their populations with lifelong learning opportunities. In countries where governments engage little in motivating employers and employees towards professional development, education is mostly provided in terms of staffing for new plants and technology upgrades. General measures on improving the investment climate in such countries attract new investors and lead to an overall improvement in the population's skills as a result of learning. However, investors and employers' activities are not enough to increase the participation rate in education and training. A two- or three-fold increase of the rate—and, hence, a growth in labor productivity—in Russia is only possible through a series of highly-effective governmental initiatives designed to stimulate the market in continuing education and to develop an independent assessment and recognition system.

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