

Chapter 4

Nina Arnhold and Marek Kwiek

Enabling Smart Growth for Poland Through Education and Skills Supply

As previous chapters have shown, future growth in Poland is likely to come from an increase in employment and total factor productivity (TFP). Knowledge and skills play a key role in both. Labor market data indicate that jobs requiring low-level skills are being destroyed and that the newly created jobs require a higher skills level. Besides demanding higher-level skills, there is an apparent skills mismatch, and employers want it addressed. These findings have important implications for future reforms of the Polish education sector.

Some of the issues described in this chapter have been addressed by the recently passed (March 2011) higher education law, the implementation of which will need to receive close attention.

I. Knowledge and Skills in Europe 2020 and the State of Polish Education Reforms⁵³

The Europe 2020 Strategy gives knowledge and skills created and transmitted throughout society, in general, and in the education sector, in particular, a prominent role in achieving smart, sustainable, and inclusive growth. At the same time, the strategy flags that:

- A quarter of all pupils have poor reading competences
- One in seven young people leaves education and training too early
- Around 50 percent reach the medium qualifications level but this often fails to match labor market needs
- Less than one person in three aged 25–34 has a university degree compared to 40 percent in the United States and over 50 percent in Japan.

According to the Shanghai index, which ranks international universities, only two European universities are in the world's top 20 (EC 2010a:10).

The European Commission's analysis applies to the situation in Poland in some important respects. The overall percentage of tertiary education graduates of the workforce, although at the European average, is still behind most competitive European economies (while the "flow," that is, the number of graduates, in recent years has increased significantly); and the place of Polish institutions in international rankings is still low (in the 2010 Shanghai Ranking of 500 top universities, only two Polish universities are listed, Uniwersytet Warszawski and Uniwersytet Jagiellonski, at positions in the fourth hundred, 301–400).

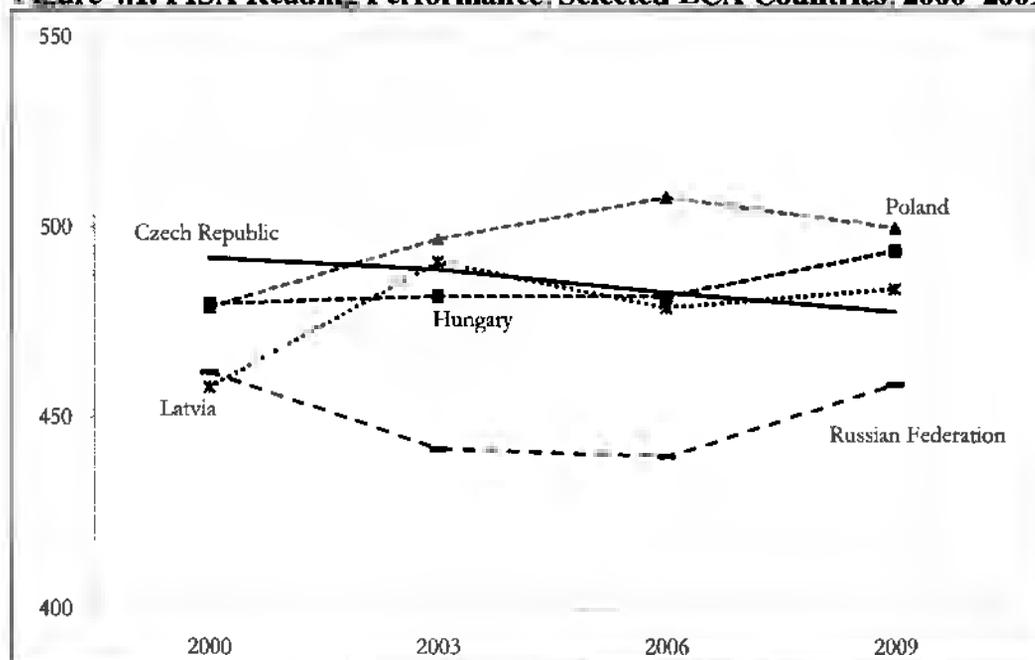
⁵³ Important legislation on higher education was passed in March 2011, after publication of the overview report (*Europe 2020 Poland. Fueling Growth and Competitiveness in Poland Through Employment, Skills and Innovation*, World Bank 2011). Since the technical report was not published until May 2011, it discusses several themes not included in the overview report but which address the latest developments.

Poland, however, does differ from other new EU Member States in some important respects.⁵⁴ For example, policy makers and practitioners successfully implemented the 1999 education reforms, which restructured schooling, deferred tracking in secondary education, engendered a profound curriculum reform, and gave more autonomy to schools. The new curriculum attempted to balance three dimensions of education—acquiring knowledge, developing skills, and shaping attitudes. As described by Jakubowski and others (2010:6), “The curricular reform was designed not only to bring about change in the contents of school education and to encourage the introduction of innovative teaching methods, but above all to change the teaching philosophy and culture of schools.”

By applying this approach, Poland became an early Central and Eastern Europe (CEE) pioneer of the learning outcomes approach, which later became guiding for the European Qualifications Framework for Lifelong Learning. The approach, which included the enhancement of cognitive skills, resulted in an impressive improvement in Polish student scores on the Programme for International Student Assessment (PISA). Jakubowski and others (2010:26) close their analysis by cautioning “policymakers about the effectiveness of vocational schooling—when that schooling is not designed to improve math and reading skills...which have become the real vocational skills in the world of work today” (see also chapter 3).

One factor in particular—the delayed division of secondary school students into vocational and general education tracks (after nine years of joint general schooling)—has led to unprecedented success in terms of skills enhancement. This was reflected in Poland’s jump in PISA scores between 2000, 2003, and 2006 (figure 4.1).

Figure 4.1. PISA Reading Performance, Selected ECA Countries, 2000–2009



Sources: OECD PISA data.

⁵⁴ For a general overview on the Polish education system, see, for example, Eurydice (2010, 2009).

Poland ranked highest of the covered CEE countries in the last PISA reading tests.⁵⁵ While Jakubowski and others (2010) clearly attribute the remarkable improvement to “more” general education, they also show that performance stagnates or even deteriorates for International Standard Classification of Education⁵⁶ 3B and 3C (the nonacademically oriented types of secondary education), that is, beyond age 17, when students are again taught in separate tracks. “Thus, the stratification of Polish students in the old secondary school system still exists under the new name of upper secondary schools. It seems that the reform helped to update the skills of the average students, but the negative effect of the tracking system was simply postponed by one year. (...) **Intuitive claims that upper secondary education did not improve that much seems to be supported by the results presented.**... Still, students in vocational tracks lack knowledge and skills needed to fully benefit from the modern society and economy and the reform did not change that” (Jakubowski and others 2010:23).

Skills supply through tertiary education and lifelong learning

Current Polish reform initiatives highlight the further need for skills enhancement and lifelong learning as documented by two influential reports. “Poland 2030. Developmental Challenges” (2009) stresses the need to acquire new skills, to increase the participation rate in adult education, and to guarantee educational offers to those in need of training and retraining both in adequate quantity and at an adequate level. It recommends the creation of a smoothly operating system of lifelong learning, enabling the labor force to acquire new skills necessary for labor market mobility. It also recommends wider use of nonformal education, accompanied by a system of verification and recognition of skills (“Poland 2030” 2009:113). The report recommends a shift from school-based adult education, which dominates in Poland today, to more easily accessible and more diversified forms of nonformal and informal education (“Poland 2030” 2009:235).

Participation in adult education is recognized in the “Poland 2030” report as a fundamental factor enabling older employees to remain in the labor force. The report concludes that low qualifications levels and the lack of the *ability* and of the *opportunity* to acquire new qualifications are the main reasons why Polish employees leave the labor market too early (“Poland 2030”:101). Relatively low levels of participation in adult education—although increasing in the past few years—make labor market mobility more difficult (see also chapter 2).

The “Report on the Intellectual Capital of Poland” (2008) stresses the critical role of lifelong learning in bridging the competence gaps among labor force participants who are older than 45 years of age, that is, those who had finished their formal education prior to the transition.

Competence gaps include language skills, information and communication technology skills, and general skills necessary to stay active and remain flexible in a changing labor market (see also chapter 3). Two main problems regarding lifelong learning mentioned in the report are the lack of adequate educational offerings and a prevailing financing model for lifelong learning inadequate to meet current needs (“Report on the Intellectual Capital of

⁵⁵ PISA (the OECD’s Programme for International Student Assessment) was also conducted in 2009 and the results were published in December 2010 (OECD 2010d).

⁵⁶ The International Standard Classification of Education was designed by the United Nations Educational, Scientific and Cultural Organization in the early 1970s to serve “as an instrument suitable for assembling, compiling and presenting statistics of education both within individual countries and internationally” (http://www.unesco.org/education/information/nfsunesco/doc/iscsed_1997.htm).

Poland” 2008:93). The share of population active in any form of lifelong learning has been generally increasing, but not at a rate that would enable reaching the EU-27 average where, overall, the participation rate is increasing even faster.

The report, in its strategy (linking education to labor market needs), and its vision of tertiary education (Polish universities as supporting and enabling global talents), explicitly mentions among success factors the increase of labor market mobility, clearly linked to new skills to be acquired in the university sector (“Report on the Intellectual Capital of Poland” 2008:146). Both reports link the need of reforming the tertiary education sector and of much wider use of training and retraining via lifelong learning to ongoing and expected transformations in the labor market.

“New skills” are expected for “new jobs,” and a recent EC Expert Group report (EC2010b) identifies four priorities:

- Investing in skills requires the right incentives for individuals and employers
- The worlds of education, training, and work need to be brought together
- The right mix of skills needs to be developed (job-related as well as transferable)
- Future skills needs have to be better anticipated.

Based on the findings of chapter 3, this chapter will explore how the Polish education system needs to change in order to provide these skills and will offer suggestions for the further direction of policy reforms.

The European Commission supports the notion that demand for low-level skills will further decrease. “About 80 million people have low or basic skills, but lifelong learning benefits mostly the more educated. By 2020, 16 million more jobs will require high qualifications, while the demand for low skills will drop by 12 million jobs. Achieving longer working lives will also require the possibility to acquire and develop new skills throughout the lifetime” (EC 2010a:16). Higher skill levels are primarily provided through tertiary education in general and higher education in particular.⁵⁷ This comports with the findings on Poland provided in the chapters on employment and skills demand.

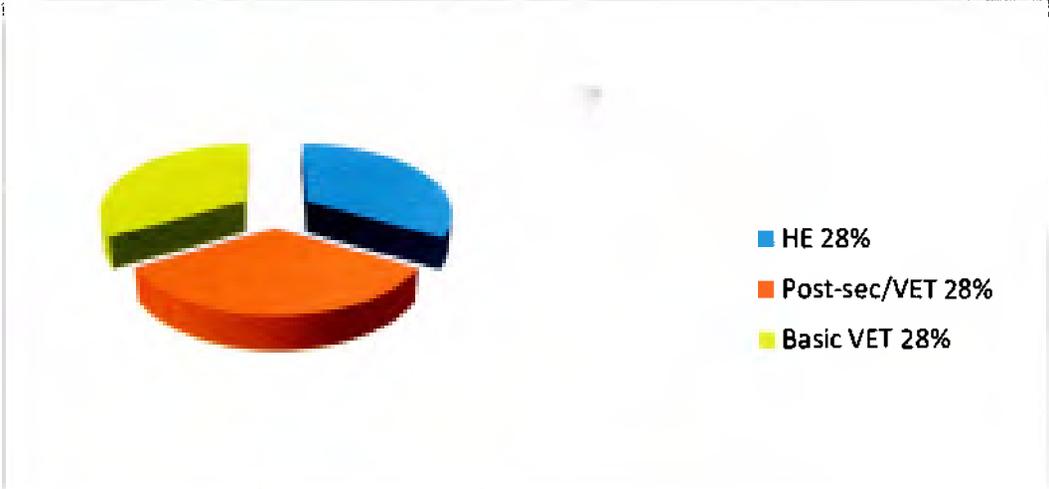
There seems to be a strong perception in the Polish academic community that the tertiary sector has expanded to its limits over the last 20 years. For example, the Higher Education Strategy put forward by the Conference of Rectors of Academic Schools in Poland (**Konferencja Rektorów Akademickich Szkół Polskich, KRASP**), a major voice of the higher education sector, notes that the “supply of highly qualified people exceeds market demand,” and that the “labor market [is] saturated with highly qualified professionals” (KRASP 2009). However, there is little evidence of this. On the contrary, as the previous chapters have shown, there is still high and often unmet demand for highly qualified staff.⁵⁸ It is important to distinguish between flows (high in tertiary education) and the stock of people with a higher

⁵⁷ The distinction between tertiary and higher education, however, is currently not of major importance for Poland since tertiary education outside higher education (for example, tertiary vocational education and training) is not well developed.

⁵⁸ There are certain indications of a skills mismatch pointing to a lack of labor market relevance of the qualifications provided at the same time as a “theoretical equilibrium,” that is, the number of graduates plus stock equals more or less demand, while this does not lead to a clear matching of skills supply and demand (World Bank background research).

education degree (which used to be relatively low in Poland; however, it is now almost reaching the level of 30 percent), as figure 4.2 shows.⁵⁹

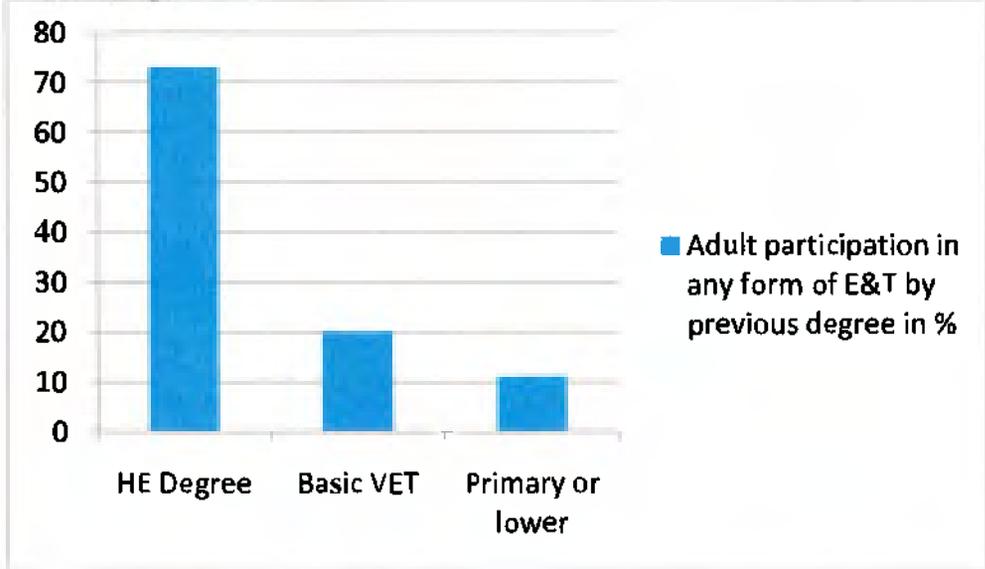
Figure 4.2. Employed Persons Total by Highest Education Attainment (in percent)



Sources: GUS 2011:151; authors' calculations.
 Note: HE = higher education. VET = vocational education and training.

The phenomenon that “the learning ‘rich’ get richer” (OECD 2004:22) can be clearly seen in Poland. Participation in adult education or further training is very low—at only 50 percent of the EU average. Among those who engage in adult education, higher education graduates are significantly more represented than other groups, especially what could be called the “learning poor” (figure 4.3).

Figure 4.3. Adult Participation in Any Form of Education and Training by Previous Degree (in percent)

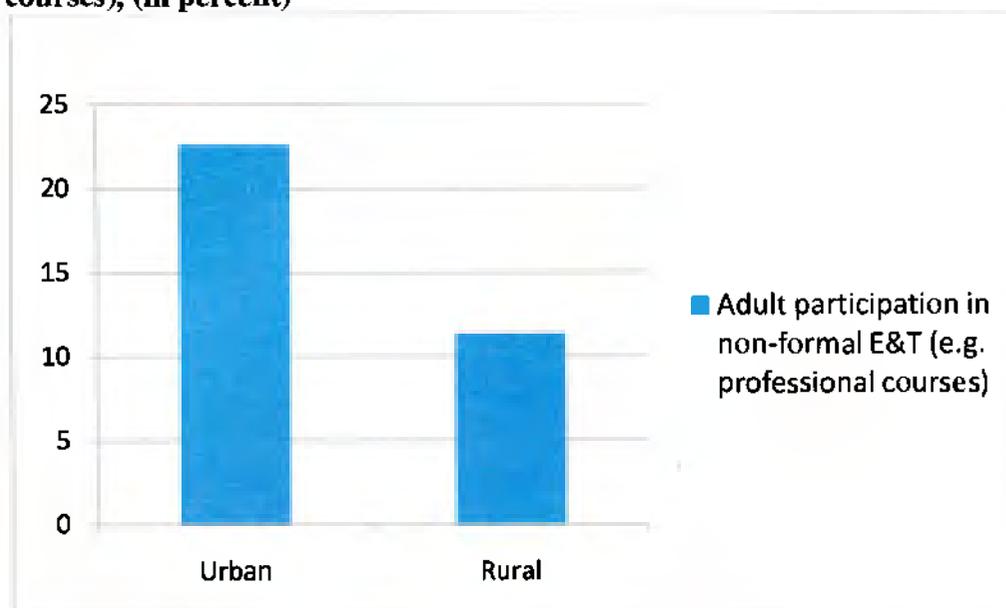


Sources: GUS 2009b:28; authors' calculations.
 Note: HE = higher education. VET = vocational education and training.

⁵⁹ Moreover, the number of degrees issued does not necessarily translate directly into skills provided (Murthi and Sondergaard 2010).

Overall, the shift away from agrarian production and basic manufacturing, as shown in job destruction and creation data, coincides with a continuous inner-country shift toward employment in larger cities (GUS 2011:54). Currently, about 62 percent of the working-age population lives in urban areas and 38 percent in rural areas (GUS 2011:119). The percentage for the overall population might be slightly different, and higher for rural areas, since it is likely that the young and better educated seek employment in cities. While people with higher education degrees are mainly located in urban areas, access to and enrollment in adult education mirror the urban-rural divide (figure 4.4).

Figure 4.4. Adult Participation in Non-formal Education and Training (e.g., professional courses), (in percent)



Sources: GUS 2009b; authors.

Poland thus needs to make a concerted effort to open up further education and training to those most in need, that is, those with low levels of skills and those most likely to suffer from job destruction in the near future.

Beyond investments, two key areas provide leverage for future competitiveness and growth in Poland—employment and total factor productivity. Education and skills are the basis for the former and a key element of the latter. Further, education and skills are important drivers of innovation.

The economic rationale for investment in education

Education, in general, and tertiary education, in particular, brings benefits to individuals and societies and contributes significantly to economic growth and competitiveness of regions and nations. As OECD data on education show, both economic and social benefits of education are crucial for the development of knowledge-driven economies. The earnings premium for tertiary education is substantial and exceeds 50 percent in more than half of the OECD countries studied (OECD 2010a). It has risen in most of them in the past 10 years, indicating that the demand for more and higher levels of educated individuals still exceeds supply (OECD 2010a:38). With education levels rising, earnings generally rise, too, and so do

employment rates, especially in transition economies—tertiary education graduates are far more likely to have a job than upper secondary graduates. As the previous chapters have highlighted, the case of Poland illustrates these connections, with employment rates being significantly higher for tertiary education graduates.

Data on the economic returns to education, as measured by the OECD since 2008 in terms of net present value, indicate substantial financial rewards to tertiary education graduates. There is a net financial return over a working life of more than US\$100,000 in seven OECD economies, including Poland (OECD 2010a:43). In addition, there are significant social benefits to increasing the number of people completing tertiary education. As a 2010 study by Barro and Lee confirms (based on panel data on educational attainment updated for 146 countries for 1950–2010), the estimated rate of return to an additional year of schooling ranges from 5 percent to 12 percent, and the return is increasingly positive at the secondary and tertiary levels (Barro and Lee 2010:19). The OECD indicator linking educational attainment and social measures of well-being (self-reported health, political interest, and interpersonal trust) shows that adults who have higher levels of educational attainment are more likely to respond positively to the three above-listed outcomes (OECD 2010a:46).

Further, evidence shows that tertiary education increases local development by increasing the quality of the workforce and by promoting innovative ideas (Bartik 2004:1). In countries like the United Kingdom, universities are increasingly treated as adjuncts to regional economic strategies and figure prominently in regional innovation strategies (Smith 2003:2) (see box 4.1 for an example in the United States).

Box 4.1. Linking Knowledge, Skills, and Innovation: The U.S. National Science Foundation’s (NSF) Partnerships for Innovation

“Research, education and innovation enterprises are increasingly interconnected, and increasingly global. Global collaboration—among scientists, engineers, educators, industry and governments—can speed the transformation of new knowledge into new products, processes and services, and in their wake produce new jobs, create wealth, and improve the standard of living and quality of life worldwide...

“In the Partnerships for Innovation program, NSF seeks to stimulate and capitalize on innovation by catalyzing partnerships among colleges and universities, the private sector, and federal, state, and local governments. Key factors in the innovation enterprise include creation of and access to new knowledge; a scientifically and technologically literate workforce prepared to capitalize on new knowledge in a global context; and an infrastructure that enables innovation. For the purposes of this program, innovation explicitly extends both to developing the people and tools. The academic institutions that are NSF’s traditional clientele play an essential role in generating new knowledge and creating a scientifically and technologically literate workforce.

“Partnerships are an important means for developing an innovation capability that links new knowledge and a knowledge-rich workforce to economic growth and other societal benefits. Partnerships involving various combinations of colleges and universities, private sector firms, and local, state, and federal governments, have the potential to increase the value of each of the partners’ portfolios, and to mobilize innovation in a systemic manner. For example, private sector firms gain access to new knowledge and a workforce that can capitalize on it; academe gains financial support, the ability to capitalize on intellectual property, and access to real-world problems for field training; and local and state governments gain sustainable regional and local economic development activities. Students moving into the workplace facilitate the innovation process.”

Sources: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf06550. See also Annex 1 on Universities as Drivers of Innovation and Yusuf and Nabeshima 2007. <http://commercialization-handbook.wikispaces.com/Public+Research+Organizations>.

All returns from tertiary education in 31 European economies studied by Psacharopoulos (2009) exceed any “reasonable” (for example, 5 percent) opportunity cost of capital, and they are highest in new EU Member States (Psacharopoulos 2009:7).⁶⁰ Conclusions on rising returns over time to tertiary education demonstrate that, in general, educational systems both in Europe and in OECD economies are matched by strong demand: for a highly skilled workforce the demand continues to be high, and so is the earnings premium for tertiary education. The highest earnings premium of tertiary over secondary education graduates in Europe has been detected for new EU Member States (in descending order for Hungary, the Slovak Republic, Latvia, Slovenia, Estonia, Lithuania, the Czech Republic, and Poland (Psacharopoulos 2009: 14).

The rationale for state intervention in higher education is strong, and externalities include public economic benefits and public social benefits, apart from private economic and private social benefits, as the World Bank’s *Constructing Knowledge Societies: New Challenges for Tertiary Education* stresses. Public economic benefits reflect the overall contribution of tertiary education institutions and graduates to economic growth beyond the income and employment gains for individuals (World Bank 2002:76). Productivity is boosted by higher skill levels of the workforce.

Public social benefits from tertiary education include nation building, trust in social institutions, democratic participation, social mobility, greater social cohesion, reduced crime rates, improved health, and improved basic and secondary education (some of which have been measured recently by OECD 2010a:46, OECD 2010c:164–68). As the report highlights, “tertiary education institutions have a critical role in supporting knowledge-driven economic growth strategies and the construction of democratic, socially cohesive societies” (World Bank 2002:23). To ensure these outcomes, expanded and inclusive education systems are needed; access to education needs to be ensured for more people and lifelong learning education models have to be developed or redesigned.

Updating and upgrading of skills and workforce qualifications is becoming increasingly important for knowledge-driven economies in which knowledge becomes obsolete at an ever faster pace. Lifelong learning means “the primacy of the learner” and an emphasis on “learning to learn,” including learning to translate new knowledge into application (World Bank 2002:26–9). Generation and exploitation of knowledge is becoming a critical factor for economic growth of regions and nations, as both the Lisbon Strategy and the Europe 2020 Strategy stress, while the triangle of education, research, and innovation is becoming more closely linked to the economic future of Europe (EC 2005). The last decade of policy developments in the EU has put particular emphasis on reforming both tertiary education systems and introducing new lifelong learning models for knowledge, skills, and competences acquisition. A growing role of education and training for economic development has led to a decade of national and EU-level reform initiatives in both areas, and this wave of reforms is expected to continue and intensify in the future.

⁶⁰ Private returns from tertiary education are analyzed through costs and benefits of education, as realized by the individual, while social returns are based on the costs and benefits of education, as they are realized by the state or society as a whole, as clarified by Psacharopoulos (2009).

High level skills for the labor market and innovation

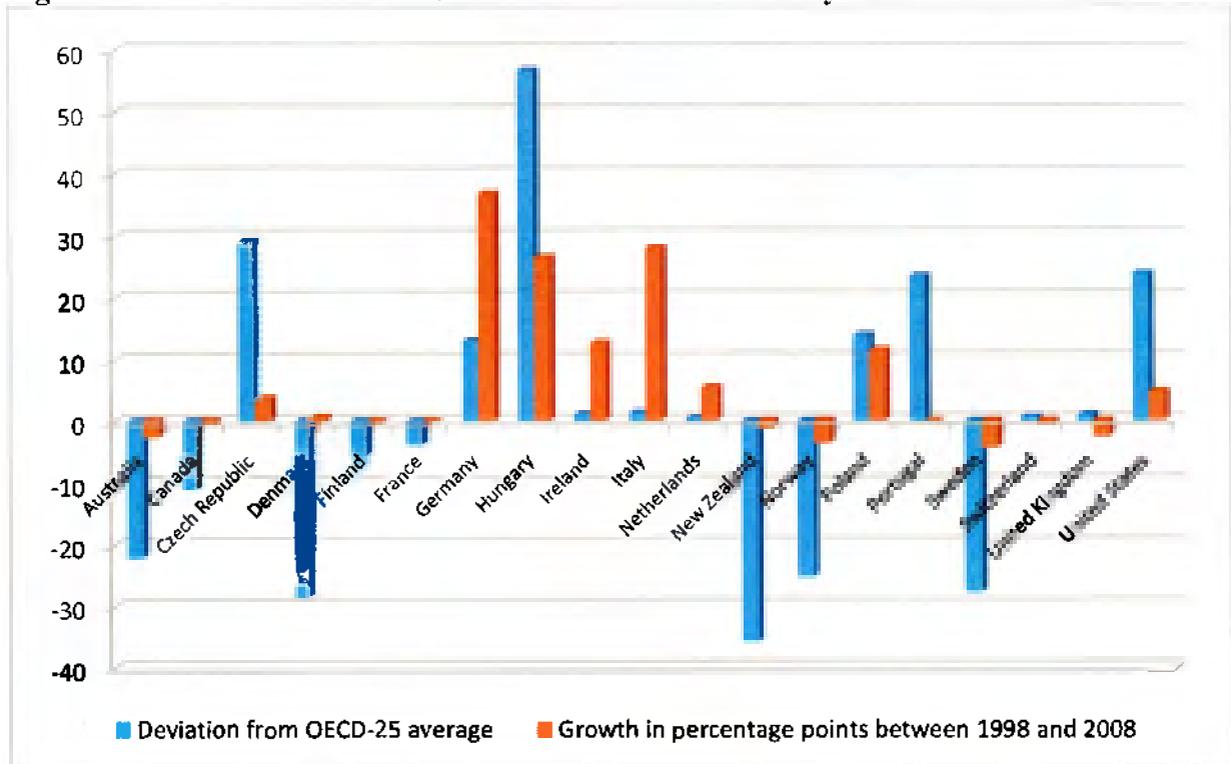
While education is key for employment, innovation depends on human capital and the acquisition of relevant skills (World Bank 2010b:48). Empirical evidence suggests a significant correlation between firms hiring graduates and innovation in terms of introducing new products (Lundvall 2008). Lundvall argues that the successful catching up of Japan, the Republic of Korea, and Taiwan, China placed a strong emphasis on engineering skills when absorbing international technology through application (“learning by doing”). These findings highlight the need to connect higher education with the world of work and absorption and innovation in the private sector. Lundvall (2008) sees contribution to collective entrepreneurship as a principal task of higher education, and the World Bank (2010b) report concludes that a main contribution that universities can make to innovation is to produce graduates with good problem-solving skills.

Questions related to skills supply in Poland on the tertiary level include overall supply and provision of skills, organizational questions, access, and the three-cycle (Bachelor’s – Master’s – Doctorate) degree structure.

There seems to be a public perception of an oversupply of tertiary graduates following the expansion of the sector over the past 20 years, and even of some nostalgia for the “good old days” when higher education was the privilege of a small elite. Data from the Polish Central Statistical Office indicate that, overall, there has been a quantitative equilibrium of supply and demand of tertiary education graduates in Poland in 2004-08. While the demand for tertiary education graduates was about 1.2 million, the supply of them was about the same (which was a total of new jobs created that require tertiary degrees in the period and stock of tertiary unemployed at the end of the period).

Further, the labor market continues to reward tertiary education in Poland and, indeed, rewards tertiary education graduates far above the OECD country average. This return on investment has even been increasing over the last decade, as shown in figure 4.5. Between 1998 and 2008, Poland was among the only five OECD countries in which there was a significant upward trend in relative earnings for 25-64 year-olds with tertiary education – those four countries reported growth of over 10 percentage points in the period (Germany 37, Italy 28, Hungary 27, Ireland 13 and Poland 11 percentage points, OECD 2010c: 128).

Figure 4.5. The Labor Market Continues to Reward Tertiary Education in Poland



Source: Education at a Glance 2010.

Chapters 2 and 3 show that (a) demand for tertiary education in Poland is likely to rise further, given the current tendencies in the demand for skills; and (b) despite an overall theoretical equilibrium in terms of supply and demand, there is a shortage of high-level skills reported by employers. This can be partially attributed to an oversupply in certain subjects (and possibly an undersupply in others) and to a generally perceived undersupply of generic high-level skills.

There appears to be strong interest (also compared to EU-27 peers) in service-related professions, education, and social science, in particular (Ernst & Young 2010:30). These “preferences” are strongly connected to the education supply side. The remarkable expansion of the Polish tertiary education sector (1,900,000 students in 2010 compared to 404,000 students in 1990) was mainly achieved through privately funded (“extramural”—a misleading term linked to the current financing model) higher education at public institutions, and, in particular, expansion of the private sector (from 6 institutions in 1990 to 195 institutions in 2000 and 330 institutions in 2010). Most private providers offer higher education in high-fee, low-cost subjects, such as social science.⁶¹ Moreover, it is likely that public higher education institutions (HEIs) “fill up” their classrooms in subjects that do not require specific equipment and are, as a rule, “low cost.”

The fact that student preferences for science and technological subjects are comparable to EU-27 peers cannot comfort policy makers in Poland. The overall low enrollment rates in these subjects have been monitored and were a continuous source of concern under the Lisbon

⁶¹ “The majority of higher-education institutions (both public and nonpublic) offer ‘magnet’ fields of study, which are popular among students, inexpensive, easy to learn, and have sufficient teaching cadres” KRASP 2009:34/122 of translated version. (The translation was commissioned by the World Bank).

Agenda.⁶² In the last few years, the interest in science and technology has been growing in Poland, and in 2010/2011 four polytechnics—Gdansk, Lodz, Poznan, and Warsaw—were among the five most-popular HEIs by number of applicants. “Construction” was the second-most-popular study area by number of applicants; only “management” ranked higher.

Chapter 3 showed that among employers, there is a significant emphasis on generic (“soft”) skills that have a strong complimentary function vis-à-vis “technical” skills related to a specific profession. In this context, the overall European discussions on learning outcomes makes a **distinction between three types of learning outcomes for all levels of learning: knowledge, skills, and competences.** The term “skills” is sometimes substituted for “learning outcomes.” While the distinction between knowledge and skills is much more intuitive, the difference between skills and competences is less clear. While “skills” refer to what learners and graduates are able to do, “competences” is often used to describe certain attitudes and levels of responsibility. While Polish employers specifically value and seek generic skills such as *motivation, responsibility, and problem-solving ability*, they also seek different competences and attitudes.

Skills and competences cannot be taught in an isolated way in a classroom; they must be acquired in real-life situations. The future role of employers, therefore, will be not only to get actively involved in the governance of tertiary education and other educational institutions and in the establishment of learning outcomes. They will also need to play an active part in providing work placements for students so they will have the opportunity to **learn and internalize the specific rules and requirements of the work world and contribute to the development of curricula.** Without such an active involvement in the education system, employers will most likely not get the future employees they want and need.

However, this report cautions against two possible developments.

First, it would not be advisable for employers to *determine* curricula. Indeed, it might be problematic for higher education programs to simply reflect the short-term needs of employers. Programs instituted under such conditions could be completely irrelevant in only a few years, necessitating the complete retraining of workers, who might then find themselves in a precarious situation in the labor market.

Second, this report cautions against detailed workforce planning (see previous chapters). Experience with detailed workforce planning has showed that it is extremely difficult to accurately predict the job market demands in the medium term. With increasingly flexible and global job markets and with rapidly changing technologies, this predictive task is virtually impossible, even though one higher education strategy under discussion in Poland suggests steering the number of students enrolled in certain subjects (Ernst & Young 2010).

In summary, this report suggests that a return to detailed workforce planning would be built on unrealistic hopes and would be inappropriate for the dynamic labor market of the 21st century.

The government, however, still needs to consider how to respond to the drift toward low-cost subjects, which is especially evident in the private sector. Such a response could

⁶² Other sources (EC 2009) show a *comparatively* good performance by Poland in this area; however, these are relative figures and mathematics, science, and technology enrollment is low in the EU in general, and employers, particularly innovative companies, raise concerns about these numbers (see chapter 5).

include the establishment of excellent conditions for teaching, learning, and research, particularly in priority areas, and might include other forms of “soft steering” (such as the recent introduction of “contracted studies” funded by the Ministry of Science and Higher Education in the strategically important areas of sciences and engineering). The program began in 2008, and by 2013 it will have spent 1 billion PLN (about US\$350 million), covering about 25,000 students, 10,000 of whom received nonrefundable “motivation stipends” from 57 HEIs. The program proved a success: in the 2010/2011 academic year, for the first time in two decades, polytechnics had more candidates per place than universities had. Among the top 20 most popular areas of study, seven were from the list of the ministerial “contracted studies.

While labor market information is available, it does not seem to be transformed into useful career planning information available to potential students and to graduates. **Improved access to labor market information, more assistance in career planning at different levels of education, a stronger link between educational institutions and the work world, and an equitable financing model will contribute to helping young people make informed choices.**

II. Organization, Financing, and Quality Assurance of Higher Education

The overall organization of higher education in Poland reveals several features that distinguish it from other major EU higher education systems:

- First, in 2009, out of 1.90 million students studying in 131 public and 330 private HEIs, 0.63 million (33.3 percent) were enrolled in the private sector, making it the largest private sector⁶³ in Europe in terms of both share of enrollments and size.
- Second, the majority of students in both public and private HEIs—0.96 million, or 50.6 percent—were part-time students, and in the private sector these students accounted for 82.6 percent.
- Third, 1.07 million students (56.4 percent) were paying fees, including over one-third (34.6 percent) in a nominally free (tax-based) public sector (GUS 2010:49).

Financing of higher education

From an equity perspective, fees charged by public institutions for part-time students tend to disadvantage students from lower socioeconomic segments of society. “Those who obtain fee-free, state-subsidized places are disproportionately from privileged backgrounds” (Canning and others 2007a:14–15) in the CEE region generally, while chances of obtaining higher education in Poland by a 20-to-35-year-old whose father had a professional occupation were four times higher than the chances of a child of a manual worker (the ratio in the United States is 2 and in Finland 1.5) (see Kwiek 2008, 2009). Equity considerations so far do not seem to have figured prominently among the priorities for tertiary education policy (Fulton and others 2007:35). A comprehensive system of state-subsidized student loans was introduced in 1998. It was reformed in 2010 with the intention of increasing equitable access to higher education. Still, there is a threat that students from lower socioeconomic groups remain disadvantaged in access and progression. Box 4.2 summarizes the 2010 World Bank Public Expenditure Review findings on the equity problem in Polish higher education.

⁶³ For a detailed discussion of private higher education in Poland, see, for example, Jablecka (2007).

Box 4.2. The Need to Link Smart and Inclusive Growth: Findings from the World Bank Public Expenditure Review

Higher education in Poland presents an equity challenge. With the expansion of higher education and the growth in private service delivery, the competition for the “day spaces” that are free of charge in public universities became fierce. In 2003, for example, Warsaw University could take only 1 of 10 applicants, with even worse ratios in fields such as economics, management, biotechnology, and law.

Students prepare assiduously for this selection process by taking private lessons. Indeed, a pilot survey at Warsaw University demonstrated that 63 percent attended paid courses or took private lessons to prepare for admission. The result is not surprising: students from more affluent, urban families are overrepresented in the group that benefits from the full subsidy. Unfortunately, few data exist about this, but a 1999 study based on a survey of second-year students at Warsaw University revealed that students whose parents had higher education had better access to the “day spaces” than those whose parents did not. On average, 64 percent of survey participants paid tuition fees, but when disaggregated, if a student’s father had higher education, this percentage fell to 48 percent, and if a student’s father had only primary education, the percentage was 78 percent (World Bank/EIB 2004).

The enrollment rates in higher education by household consumption quintile confirm this inequitable pattern, since the rate was 63 percent for the highest quintile in 2007 compared to 37 percent for the lowest quintile. Moreover, while the enrollment rate within the highest quintile has increased significantly since the 2003 Household Survey (from 53 percent), the value for low-income families remained at the same level, which indicates that the inequality of access to higher education rises over time.

Source: World Bank 2010a:38f.

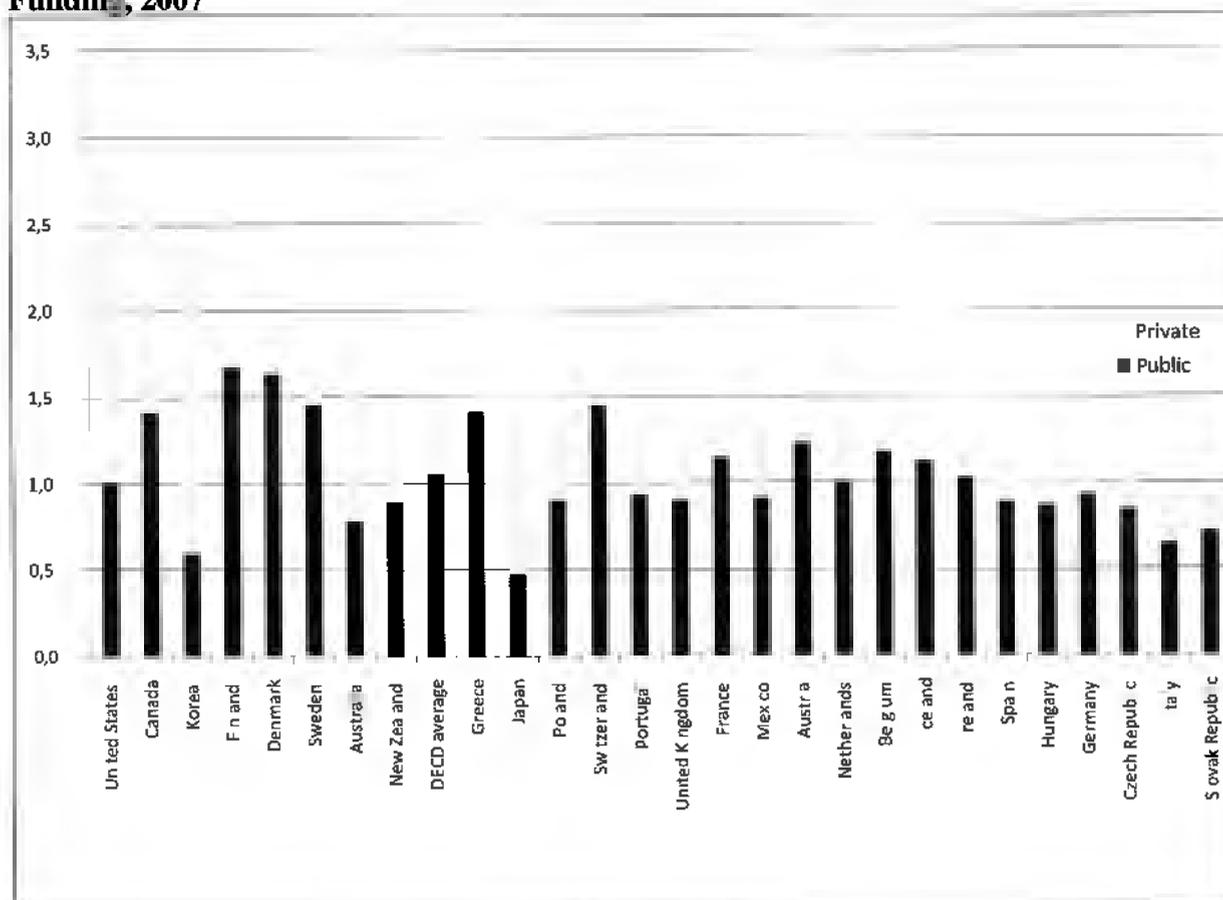
Public teaching and research funding remain, in principle, within the public sector. Public funding, in general, is going to public HEIs, while private HEIs are almost fully financially independent from the state. In terms of resource utilization, 84 percent of all income from research is concentrated in 25 public institutions (and 50 percent of that in only 8 of them), and about 60 percent of all income from teaching is concentrated in the same 25 institutions (Ernst & Young 2010:4). The private sector is almost fully teaching based and is not involved in research, with the exception of a few institutions. Only 1.8 percent of the private higher education sector’s budget comes from research (and 93.1 percent from fees) (GUS 2010:330). As a 2007 OECD report on Polish higher education stated, there is a lack of “true diversity of mission and values” in the system, and there is a “pervasiveness of ‘academic drift.’” There is no encouragement for institutions “to take a vocational mission seriously,” which has far-reaching consequences in the context of skills and competences of graduates (Fulton and others 2007:47–48).

The two major sets of reforms—the laws on reforming the research sector (2010) and a new law on higher education (2011)—aim to bring research institutions and higher education institutions closer to enterprises, in terms of both their governance (employers present on institutions’ boards) and teaching mission (practitioners from the industry involved in curriculum development). With respect to research allocation mechanisms, recent reforms substantially strengthen the role of competition between grant-seeking academics, research groups, and university units.

Polish expenditure for higher education as a percentage of GDP (1.3 percent in 2007) is close to the OECD country average of 1.5 percent. Public expenditure is 0.9 percent and private expenditure is 0.4 percent, the latter from a European perspective being relatively high. However, in a European environment with open borders and encouragement of student and academic mobility, the expenditure per student in absolute terms also deserves consideration. In the last three years, public funding for higher education has been increasing significantly, and EU structural funds have been allocated for both education and infrastructure projects.

Compared to 2011, research funds for 2012 are expected to be 18 percent higher (and reach 6.37 billion PLN, or US\$2.25 billion, compared to 3.75 billion PLN, or US\$1.3 billion, in 2007, an increase of 70 percent). Details on public and private funding from a comparative OECD perspective are presented in figure 4.6.

Figure 4.6. Expenditure on Tertiary Education as a Percentage of GDP, by Source of Funding, 2007



Sources: OECD 2010c.

Polish policy makers take pride in firmly established external quality assurance mechanisms, particularly with regard to accreditation. The Polish State Accreditation Committee, the central body for quality assurance of tertiary education, was established in 2001 and has two roles: (a) to assess the quality of education in particular study areas, and (b) to provide advice to the minister responsible for higher education on applications to establish new tertiary education institutions, new external organizational units, or new study areas (Fulton and others 2007:31–32). The committee was formed on the basis of previously existing (since 1998) networks of university accreditation committees. However, in the past its human and financial resources seemed too limited to go beyond sheer verification of whether legal requirements are met by over 450 institutions.

The new law on the principles of financing research (2010) introduced an important new quality assurance body, the Committee for the Evaluation of Research Units (KEJN), which has an advisory function to the Ministry. Its main task is to periodically assess (at least once every four years) research and development production of all research units, according to its own parameters and criteria. The KEJN, which is composed of 30 members,

began operations on December 30, 2010. The new law on higher education (2011) transforms the State Accreditation Committee into the Polish Accreditation Committee, the main role of which continues to be the assessment of teaching quality in individual study areas, particularly HEIs. The role of the KEJN is linked to funding for research, while the role of the PKA is linked to funding of teaching.

There are some indications that **internal quality assurance mechanisms do not seem to play a prominent role in Polish institutions.** This is a source of concern, given the key role that the ministers of the Bologna signatory countries assign to quality assurance within HEIs.⁶⁴ The World Bank Europe 2020 Team acknowledges the importance of the further development of internal quality assurance, particularly as the basis for a “light” and modern approach to external quality assurance, but a detailed discussion of the issue is beyond the scope of this chapter.⁶⁵

The research function of universities and recent reform initiatives

Public research in Poland is performed by three major types of institutes: universities, Academies of Science institutes, and branch research and development institutes. Research activities in the private sector are of marginal importance. This structure has been stable during the transition period, but compared to the communist period, universities appear to be considerably stronger, while Academies of Science institutes and branch research and development (R&D) institutes seem to have been weakened. The structure of Polish research is not different from most other post-communist countries, but some of them have abolished the Academies of Science or reduced their capacity. Research is still performed largely by the public sector (comprising public HEIs, academies, and R&D institutes—almost 70 percent—and R&D performed in the business enterprise sector is still underdeveloped. While Poland needs to strengthen R&D in the private sector as chapter 5 will show, it is also important to strengthen the innovation and absorption role of universities (see boxes 4.1 and 4.3). The pattern of knowledge production in Poland is under reform pressures following the new legislation of 2010-2011.

Box 4.3. Universities as Drivers of Innovation: Can the U.S. Example be Replicated?

In 2006, in the United States, universities alone generated over US\$1 billion in revenues from commercializing research generated from some US\$45 billion in research expenditures—mostly government funded. Nearly 700 new products were introduced into the market, over 500 new startup companies launched, and nearly 13,000 licenses and options were managed, yielding active income. As would be expected, these results are heavily skewed toward those universities with substantial research expenditures (typically, over US\$100 million in annual research).

Increasing numbers of middle-income countries are aware of these results and are planning to create wealth from university (or research institute) research. These universities and institutes have much lower research expenditures than in the developed world and are working in different innovation environments. Under these conditions, the question becomes: is it realistic for a university, institute, or enterprise to engage in technology commercialization and expect any chance of success?

⁶⁴ See Berlin Communiqué: “Realising the European Higher Education Area,” Communiqué of the Conference of Ministers responsible for Higher Education in Berlin on September 19, 2003, http://www.bologna-bergen2005.no/Docs/00-Main_doc/030919Berlin_Communique.PDF.

⁶⁵ See Weber (2010) for a World Bank policy note presented to the Polish Government. In addition, the value of the involvement of external peer reviewers in the overall quality assurance process is worth mentioning as, for example, through the Institutional Evaluation Program of the European University Association (<http://www.eua.be/events/institutional-evaluation-programme/home/>).

One article on the management of intellectual property in publicly funded research organizations notes that 70 percent of all patents filed in the United States cite the research results of public research organizations as their basis (EC Expert Group 2003:49). Therefore, efficient management and support of such organizations is essential.

Source: "Public Research Organizations: Managing the Process of Commercializing Research from Higher Education Institutions and Public Research Institutes"; <http://commercialization-handbook.wikispaces.com/Public+Research+Organizations>.

The Polish Ministry of Science and Higher Education has been heavily involved in preparing reform legislation on the research sector (of April 30, 2010) and the higher education sector (of March 18, 2011). Subsequent draft laws have been consulted with the academic community, rectors' conferences, business and employers' associations, and other stakeholders. These two sets of legislation are providing the basis for a substantial reform of the two sectors, and might mark the most important achievement since 1990, when the new law on higher education was introduced. The six new laws reforming the research sector (in force since October 1, 2010) are the laws on (a) financing research, (b) the National Council for Research and Development (NCBiR), (c) the National Research Council (NCN), (d) research institutes, (e) the Polish Academy of Sciences, and (f) regulations introducing new laws reforming the system of research. The reform of the research sector introduced a new model of financing research based on competition, quality, and transparency of procedures and a new system of evaluation of research units.

The new law on higher education (actually a substantial amendment of the law on higher education of July 27, 2005, and the law on scientific degree and scientific title of March 14, 2003) **is focused on the better integration of HEIs and their socioeconomic environment, introduction of pro-quality funding mechanisms, the implementation of the National Qualifications Framework, the adjustment of study programs to emergent labor market needs, the internationalization of higher education, and the promotion of lifelong learning and entrepreneurial culture in universities.** It has four strategic goals: (a) diversification of missions, (b) more university autonomy, (c) competitive funding, and (d) better quality of higher education.

The areas where the changes are most far reaching include (a) increased autonomy of HEIs in selecting study programs offered, (b) the emergence of Leading National Research Units (KNOWs), (c) a simplified career ladder for academics (with the disputable degree of Habilitation still in place, though with simplified procedures), (d) closer links between HEIs and the economy (with a possibility of engaging employers in preparations of study programs), and (e) further decentralization of higher education (including the abolition of the hitherto existing requirement to have university rulebooks and statutes approved by the Ministry and more power given to rectors with respect to opening, transforming, and closing university units).

A recent important initiative included in the new legislation of March 2011 related to resource utilization is KNOWs, mentioned above. Higher education funding is expected to be complemented with a new national "pro-quality subsidy" (230 million PLN or US\$80 million in 2012), intended to be allocated on a highly competitive basis to top-performing organizational units of public and private sector institutions (that is, faculties rather than institutions; those units will be awarded the status of KNOWs). This subsidy will also be used to increase the level of PhD stipends of the 30 percent best performing PhD students; will be allocated to those faculties that are assessed as "excellent" by the State Accreditation Commission (PKA), and for best private higher education institutions to subsidize their

doctoral studies. Finally, it will be used for the implementation of internal quality assurance mechanisms linked to National Quality Frameworks. University autonomy will be increased by leaving the decision of opening new study programs to faculties rather than the Ministry (a closed national list of study programs, so-called “standards of education,” will be abolished, and most top research-performing faculties will be able to open and close their study programs at their discretion. Other faculties will still need Ministry approval for new programs. Study programs offered will be defined by learning outcomes linked to both National Quality Frameworks and European Quality Frameworks. HEIs will be obliged to prepare their own regulations concerning intellectual property and principles of the commercialization of research results.

KNOWs will be selected in eight fields of knowledge (including social sciences, humanities, and the arts), and there will be no more than three of them in each field. Their funding will be allocated for five years, and their selection will be done with the involvement of leading international experts in particular areas and will be related to evaluations performed by a new quality assurance agency, the Committee for the Evaluation of Research Units (KEJN). A new model of academic career means less complicated procedures to obtain PhD degrees, habilitation degrees, and professorship titles; formal procedures will be more transparent and more closely related to measurable, objective criteria.

A new model of education includes closer links between study programs and labor market needs, increased internationalization of studies, and increased rights guaranteed to students as “consumers” of educational services in both public and private higher education. The implementation of higher education reform is expected to allow for implementation of a coherent assessment system for research and teaching linked to bonus instruments; special focus on practical realization of the process of quality assessment through specification of provisions on quality assessment methods (taking into account formal and legal aspects and the importance of learning outcomes and quality of research); and an efficient use of available resources and the promotion of a competitive-based funding, as well as attracting investors from the private sector (diversification of resources).

The implementation of this important legislation merits major efforts by all stakeholders.

The majority of graduate education takes place in public HEIs; Academies of Science institutes are involved in small-scale doctoral education (5.77 percent of all doctoral students in Poland, that is, about 2,060 out of about 35,671 in 2009) and, so far, are not involved in education in the second cycle. They are also involved in small-scale postgraduate education (about 1,100 postgraduate students out of about 194,000, or 0.006 percent). Full-time graduate education (Master’s level) is provided almost exclusively at public HEIs; out of 1.90 million students only about 110,000 students are receiving full-time education in the private sector, which is mostly a teaching sector focusing on part-time and mostly Bachelor’s-level studies. The new law on the Polish Academy of Sciences (2010) gives its institutes the right to provide doctoral, postgraduate, and “other forms” (that is, possibly in the future, at the Master’s level) of education.

III. The Three-Cycle Degree Structure and Issues Related to the Introduction of the Bachelor's Degree

Poland, as a signatory country of the 1999 Bologna Declaration, began to implement the reforms soon after signing and reported success in implementation early on. However, looking back at 10 years of Bologna in Poland, the implementation seems partial and incomplete. There are two reasons:

- First, key dimensions related to lifelong learning (in particular, implementation of national qualification frameworks and recognition of prior learning) have not received sufficient attention. This has led to “low marks” in the Bologna Stocktaking⁶⁶ (BFUG/Rauhvargers and others 2009:114). Work on the new law on higher education intensified in 2010, and in 2011, work on the National Qualification Frameworks (NQF) progressed with ministerial workshops, seminars, and publications. The amendment of the law on higher education of March 2011 introduces the NQF for higher education.
- Second, some areas that receive high marks and thus seem to be most advanced apparently struggle with certain implementation aspects. The “stage of implementation of the first and second cycle” has a “light green” under the traffic light approach. However, the parallel structure of the old five-year degree was only abandoned in 2008. While Poland shares this development with several other continental European countries (for example, with neighboring Germany), the introduction of the Bachelor's degree in Poland deserves closer attention.

In principle, Bachelor's and Master's degrees in Europe are organized as either 3 plus 2 or 4 plus 1 years of study (that is, 180/120 or 240/60 European Credit Transfer and Accumulation System [ECTS] credits⁶⁷). The Bachelor's degree corresponds to OECD tertiary type-A programs, that is, tertiary programs that lead to a first labor-market-qualifying tertiary degree. The OECD collects data according to the number of years leading to first-time graduation. In some countries most students need less than 5 years (that is, 3 to 4.5 years) to reach this first degree and enter the labor market; in others, it is most frequently 5 to 6 years. Poland ranks third in the second category: **74 percent of graduates in 2006 graduated from programs that lasted 5 to 6 years, and only 26 percent graduated from programs lasting 3 to 5 years. Both, the OECD average and the EU-19 average show the opposite proportions.** In the OECD in the same year, 64 percent of graduates graduated from programs lasting 3 to 5 years and 34 percent from those lasting 5 to 6 years, and in the EU-19 countries the figures are 54 percent and 46 percent, respectively (see figure 4.7).

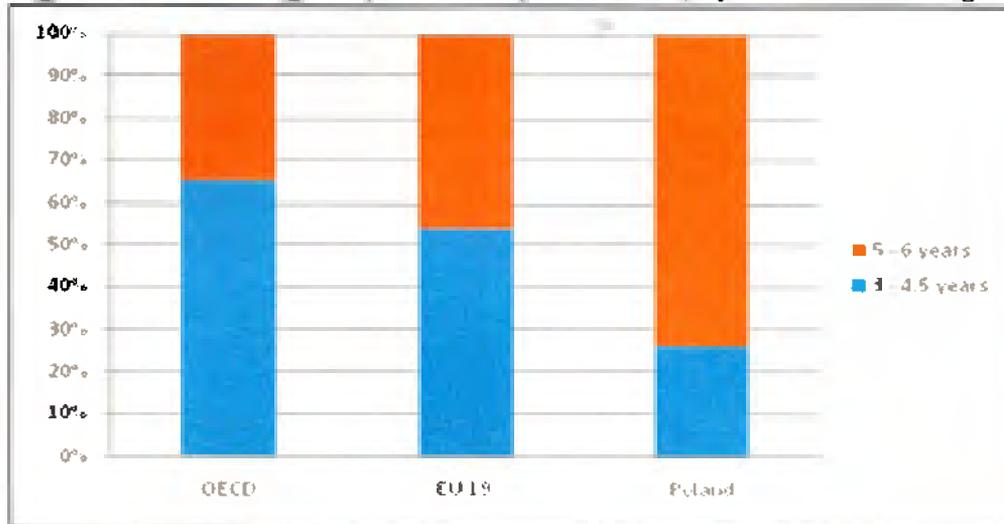
Thus, the structure of the Polish labor market supply at the tertiary level seems to be distinct from the emerging new structure in Europe and beyond, in which the majority of students are studying for a shorter period than in Poland. The only two countries in Europe with a similar structure, by duration of studies, are Greece (100 percent graduate from programs that last 5 to 6 years) and the Slovak Republic (with almost exactly the same structure). All Anglo-

⁶⁶ “Low marks” are actually areas marked in red, orange, and yellow on the scorecard of the Stocktaking Report (the scorecard follows a traffic light approach with green indicating success and red failure or lack of action). However, the Bologna Stocktaking is based on reports produced by the governments of Bologna signatory countries. They mainly report on government action (change of law and so forth) and to a much lesser extent on implementation on the ground.

⁶⁷ For more information on ECTS, see the ECTS Users' Guide on the website of the European Commission at: http://ec.europa.eu/education/lifelong-learning-policy/doc/eets/guide_en.pdf.

Saxon countries show a different distribution. The vast majority of first-time graduates in Australia (95 percent) and the United Kingdom (97 percent) come from shorter (Bachelor's-type) programs, as do the majority in Ireland and the United States (both 55 percent) (all data are from OECD 2008b:86–88).

Figure 4.7. Percentage of (First-Time) Graduates, by Duration of Program



Sources: OECD and Eurostat data; author's calculations.

Why did continental European countries opt for the introduction of the Bachelor's degree in the first place? Reasons include the following:

- The desire to have younger, more flexible graduates with a broader profile (at the beginning of a lifelong learning career)
- The opportunity to create new, “mixed” professional profiles under the Bachelor's/Master's degree scheme (for example, health management)
- Financial pressure and the desire to increase and enhance mobility within Europe
- To develop new, more labor-market-relevant degrees
- To increase the employability of graduates.

It can be argued that Bachelor's studies were especially important for those higher education systems that wanted to expand rapidly, particularly via the newly founded private higher education sector (Poland provides a good example of this; other examples include Bulgaria and Romania). Slower expansion of higher education systems in the 1990s, immediately after the fall of communism, occurred generally in those systems that did not introduce private provision of higher education on a large scale (Hungary, the Czech Republic, and the Slovak Republic).

The two-cycle Bachelor's and Master's degree structure (with the third cycle, the Doctorate—as a Bologna degree—entering the European discussion with some delay) expanded significantly across Europe between 2003 and 2007 (Reichert and Tauch 2003; Crosier, Purser, and Smidt 2007). The percentage of HEIs covered by the European University Association's Trends study that reported having a three-cycle structure of studies increased from 53 percent to 82 percent between 2005 and 2007 alone. While in 2003 Poland was among those countries speeding up implementation (Poland was one of seven countries with a 70 to 85 percent level of implementation among HEIs), in 2007 Poland was still at the same level of

implementation but was surpassed by 19 (out of 36) other countries that scored 85 to 100 percent. In 2008, though, Poland was again among the European leaders in implementing the Bologna Process: it was among 6 European countries in which the proportion of graduates following the Bologna structures was 100% (together with the Nordic countries – Denmark, Iceland, Norway and Sweden – and Ireland, OECD 2010c: 71). However, more important than the number of HEIs that reportedly have implemented the three-cycle structure is the degree to which this system is accepted by the labor market and by the wider public.

This is not to say that there are not issues with respect to the second and third cycle—the Master’s and Doctorate degrees. Specific questions regarding the Master’s degree relate to the differentiation between professional and research-oriented Master’s, the link to the Doctorate, research intensity (after an all too often basically “research-free” Bachelor’s degree), and so forth. However, the Bachelor’s degree deserves particular attention in the context of this paper because it is the first labor-market-qualifying degree.

In Poland, the academic community by and large seems to have a negative perception of the labor market relevance of the Bachelor’s degree (box 4.4). Labor market data, however, do not support this negative view. The labor market does reward tertiary education in general. Even more important, **it rewards not only the Master’s but also the Bachelor’s, and by a significant margin compared to general secondary education.** However, the data include engineering degrees at the same level—a fact that might distort the picture in favor of a higher wage premium—so further research would be needed to support these findings⁶⁸ (figure 4.8). In any case, available data do not support the academic community’s pessimistic view of the Bachelor’s degree.

⁶⁸ One large-scale survey on the “structure of wages and salaries by occupations” shows results from the sample of over 8 million employees (GUS 2009b). However, the data on the Bachelor’s degree also include engineers on a comparable level, which needs to be taken into account when analyzing the result.

Box 4.4. Acceptance of the Bachelor's Degree by the Academic Community

Eurobarometer published the results of a survey among academic staff on "Perceptions of Higher Education Reforms" (EC 2007) in 31 European countries. The results show the extent to which the Bachelor's/Master's is still a controversial concept in European countries. Within the CEE region, the majority of academics in Hungary and the Slovak Republic do not believe in the value of the Bachelor's degree for the labor market. The situation is different in the Czech Republic where 57 percent of academics link the Bachelor's degree to suitable jobs. Poland is below the EU-27 average in terms of acceptance of the Bachelor's degree, with 42 percent of academics agreeing with the link and 35 percent disagreeing.

The majority of students in the 31 surveyed countries (according to Eurobarometer's "Students and Higher Education Reform") are still inclined toward longer studies. Polish Bachelor's-level students are among those who most strongly prefer to continue studying for a second degree (75 percent). In Poland, the share of students planning to seek work after graduation (including those who possibly want to return to higher education later on) is the smallest in Europe (only 17 percent, equal only to Romania and the Slovak Republic).

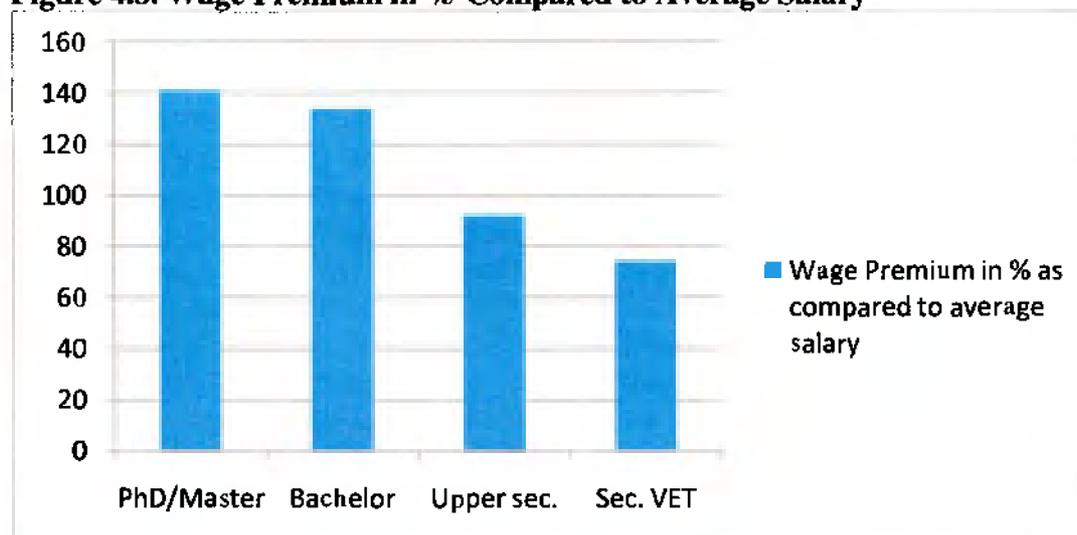
On one side of the spectrum there are students mainly from transition countries and from France, Germany, and Italy who prefer to continue studies for a Master's degree. On the other side of the spectrum there are students from all the Scandinavian countries and from Belgium, Lithuania, Portugal, and Slovenia who evaluate their higher education at the Bachelor's degree level as useful and in which more than 50 percent of Bachelor's degree students prefer to find work upon graduation. In Finland, Norway, and Sweden—countries with highly elaborate lifelong learning systems—65 percent prefer to find work upon graduation (EC 2009:45).

In Poland, 75 percent of students want to continue studying for a second degree, 12 percent would like to find work and continue studies later on a part-time basis, and 5 percent would like to find work and never study again (EC 2009:46). At the same time, Poland is one of the eight countries in which 99 to 100 percent of students agree with the importance of providing students with the knowledge and skills necessary to be successful in the labor market (EC 2009:16).

An assumption worth investigating in more detail could thus be that Polish students, while clearly connecting higher education with the need for employability, do not see that a Bachelor's degree provides the necessary knowledge, skills, and competences for the labor market and thus continue their tertiary education. This, however, does not say that the Master's degree provides exactly these skills or if it just appears to be a safer option for reasons of public perception.

Sources: Data from EC 2007 and EC 2009; authors.

Figure 4.8. Wage Premium in % Compared to Average Salary



Sources: GUS 2009a; authors.

Note: VET = vocational education and training.

As mentioned, the data on the wage premium do not support the negative perception of the Bachelor's degree by the academic community. This is noteworthy given the range of issues that accompanied the introduction of the Bachelor's degree in Poland. These issues include:

- When introduced in the 1990 higher education law, the Bachelor's degree appeared as a vocational degree (*studia zawodowe*). This might have contributed to the negative perceptions of the Bachelor's degree as "incomplete" higher education.
- The Bachelor's degree was introduced at a time of massive expansion of the higher education sector and was in the public perception possibly associated with some offers of dubious quality, especially at private higher education institutions.
- The introduction of the Bachelor's degree did not receive sufficient public support and the opportunity was missed to involve employers strategically in the launch of the new degree. Germany, another continental European country coming from a five-year degree program tradition, also faced significant challenges when the Bachelor's degree was introduced. However, the government sought a strategic alliance with major employers such as *Telekom* and *Deutsche Bahn*, which declared "Bachelor Welcome" in a major campaign of the same name. While the vast majority of labor market participants are employed by small and medium enterprises, this campaign had an important signaling function.
- It seems that the public sector, including the government itself, does not reward the Bachelor's degree. That is, there does not appear to be a category on the civil service scale specifically for the Bachelor's degree, so those with the Bachelor's degree are treated as equal to secondary school graduates. If this is the case, the public sector would signal that it attributes little value to the new degree and it would be difficult to expect the private sector to accept it.

It would therefore be advisable for stakeholders in Poland to rethink the value of the Bachelor's degree and the steps needed to make it a success. **In order to achieve this, the status and role of the Bachelor's degree needs to be clearly communicated. The signaling function of the civil service and the stance of major employers that need to be brought into the discussion cannot be overestimated.** In addition, the experience of Scandinavian countries, where a higher acceptance of the Bachelor's degree correlates with a comparatively high participation in lifelong learning, might be of interest to Polish policy makers.

If five-year degrees are maintained (for example, by designing programs as "integrated Master's degrees"), the reasons for this decisions would need to be scrutinized. One of these reasons might be to produce a significant percentage of the population with high skill levels. However, **the Bachelor's degree would also need to be enhanced, promoted, and "up-skilled"** by, for example, stronger links to the labor market and by connecting it to various forms of research (including locally relevant applied research), instead of reserving this up-skilling mostly for the second cycle (and possibly introducing new barriers through a multidisciplinary Bachelor's degree and most likely fee-based bridging courses to the Master's (as the Ernst & Young *Higher Education Strategy* [2010] proposes).

This report recommends keeping Bachelor's degree enrollment levels stable and possibly even increasing them while providing a viable alternative to five-year studies through the Bachelor's. While all learners need to be prepared to engage in lifelong learning, it is not

necessary or even desirable to limit this learning to, and concentrate it in, the first half of the third decade of a young person's life. In contrast to a "fear-based" motivation for studying toward a Master's degree (that is, fear of having only a questionable degree), this decision might better be guided by the desire to specialize and gain deeper knowledge of a subject. Higher education institutions will need to change in order to position themselves in a lifelong learning system.

The savings to be gained from focusing more on the Bachelor's (and a differentiated but comprehensive fee system) would free resources for overall quality-enhancement and equity-supporting measures. Only then will the Bachelor's degree stop being perceived by some observers as a still inferior degree. Fees have not been introduced in the public sector for full-time students so far; full-time places in the public sector remain fully state subsidized, while all places in the private sector remain fully covered by fees.

IV. The Future of Lifelong Learning

How are we going to live and learn in 20 years? How is the next generation going to split its time between working and learning? What are the policy responses going to be to the ever increasing speed of technological innovation? **The old model of giving students an "education package" through formal education in their early years that would be considered sufficient for a lifetime is obsolete.** The skills package provided through education needs to change, with a heavy emphasis on "learning how to learn," problem-solving skills, and other generic skills and competences. And the foundation for this needs to be laid from the beginning, that is, starting with early childhood development and from day 1 in school.

Moreover, not only has life expectancy increased, but, as an economic necessity, working lives are going to be longer than those of previous generations. Frequent re-skilling and up-skilling will be needed, as will a reconsideration of the distribution of work, family care, and learning at different life stages. **These changes will also have implications for the organization of learning and the types of providers.** The "heavy tankers" of traditional and large (in particular) tertiary education institutions are likely to be accompanied by an armada of small and flexible ships, ready to adjust their course to new developments. These "small ships" will be a multitude of public and private providers offering both formal and nonformal learning.

We already see important changes in this direction, with a major move from *teaching knowledge to acquiring skills*, from teacher-centered to student-centered learning, and from a narrow focus on knowledge to a broader range of learning outcomes. This shift is accompanied by a completely different toolset and policies that include European and National Qualifications Frameworks, recognition of prior learning, credits for smaller learning units, and modularization. The proper implementation of the Bologna toolset, in particular, when it comes to mobility tools like the European Credit Transfer and Accumulation System, might also help the promotion of lifelong learning in Poland. The move from input-oriented, time-based degrees to learning-outcomes-based models of qualifications that Europe has seen in the past 10 years, particularly in tertiary education, marks a paradigmatic shift in this respect.

Lifelong learning is no longer just a nice but not very important add-on to formal learning. It cannot be categorized as just "adult education," considered in isolation from other

levels of learning. It is an overarching approach to learning (and working) that caters to learners from early on to mature ages.

How does Poland measure up in the area of lifelong learning? “Lifelong learning,” primarily in the form of adult education, has been monitored by the European Commission as an important indicator of the Lisbon Agenda. Unfortunately, Poland does not score favorably: according to Eurostat, Poland scores low in the percentage of the adult population aged 25 to 64 participating in education and training (4.7% in 2008, with the EU-27 average of 9.5%). In the 2004-08 period, Poland was among the only eight EU-27 countries in which there was a slight decline in the percentage (EC 2009a:36).

In March 2011 a strategic document on *The perspective of lifelong learning* has been completed. The goals of an efficient implementation of lifelong learning policy were highlighted in this document, including in the area of higher education.

To improve lifelong learning, Poland would be advised to take the following steps:

- **Accelerate the ongoing development of a National Qualifications Framework (NQF) involving key stakeholders including employers and Sector Councils.** The new higher education law provides the basis for this important development. Following the development of a European Qualifications Framework for Lifelong Learning, many European countries developed National Qualifications Frameworks to make learning and its outcomes transparent and to open up the possibility of more flexible, individual learning paths. The qualifications in these frameworks are mostly described through “learning outcomes”⁶⁹ (what a learner knows and is able to do) and—for tertiary levels—quantitative measures as (European Credit Transfer and Accumulation System) credits. Long-standing experience with qualifications frameworks in Ireland and Scotland became guides for other European countries and might be helpful for Poland (figure 4.12). Ideally, qualifications frameworks are learning-outcomes based, duration neutral, provide the basis for recognition of prior learning, allow for permeability, and have been developed involving key stakeholders, including employers.

The new law on higher education introduces the spirit and the letter of the NQF into the legal environment of HEIs (for the first time, it provides clear definitions of qualifications and learning outcomes, and assessments of the new Polish Accreditation Committee (formerly State Accreditation Committee) are based on assessment of learning outcomes). The work on the NQF is ongoing and is funded mostly through EU structural funds. One of its important implications was increased autonomy of HEIs in opening new study programs, to be based on the NQF methodology. In February 2010, a special interministerial unit for lifelong learning and the NQF was formed, accompanied by an expert group. MoSHE is currently running two NQF-related

⁶⁹ As highlighted elsewhere (Arnhold and Sandi, forthcoming), the term “learning outcomes” is used in a distinct way in the European debate. According to the European Qualifications Framework for Lifelong Learning (EC 2008), learning outcomes are “statements of what a learner knows, understands and is able to do on completion of a learning process, which are defined in knowledge, skills and competences.” As elaborated further, the fact that skills and competences have become “equally valuable learning outcomes besides knowledge which traditionally has been the core of formal education meant a crucial shift in paradigm. ‘Learning outcomes’ in the European terminology are thus prescriptive, that is, written statements of what the learner should achieve at the end of the period of learning.” This use of the term is different from a line of thought that uses the term to, for example, describe student performance in the PISA assessment (Arnhold and Sandi, forthcoming).

systemic projects funded through the EU Operational Programme, Human Capital, Priority 4 scheme.

- **Lay the foundation for successful “lifelong learning careers” early on**, including by addressing the inequitable preschool education received by children living in rural areas. Research has shown rates of return on investments in early childhood development are particularly high and stress its importance for further stages of learning.

However, current early childhood development arrangements—with an overall low coverage rate of 50 percent—give an uneven start to Polish children. As a 2010 Public Expenditure Review notes: “Access to preschool education is inequitable, because it is mostly limited to students in urban areas. Perhaps as a result of the rigid service guidelines, coupled with budgetary constraints among small, rural municipalities, only 18 percent of enrolled children are in rural areas. In fact, the net enrolment rate among children in rural communities is only 19 percent, compared to 62 percent among urban children. This difference in educational opportunity, so early in life, creates far different outlooks for the future of children in rural areas, who tend to come from poorer backgrounds, and the future of children in urban areas” (World Bank 2010a:22).

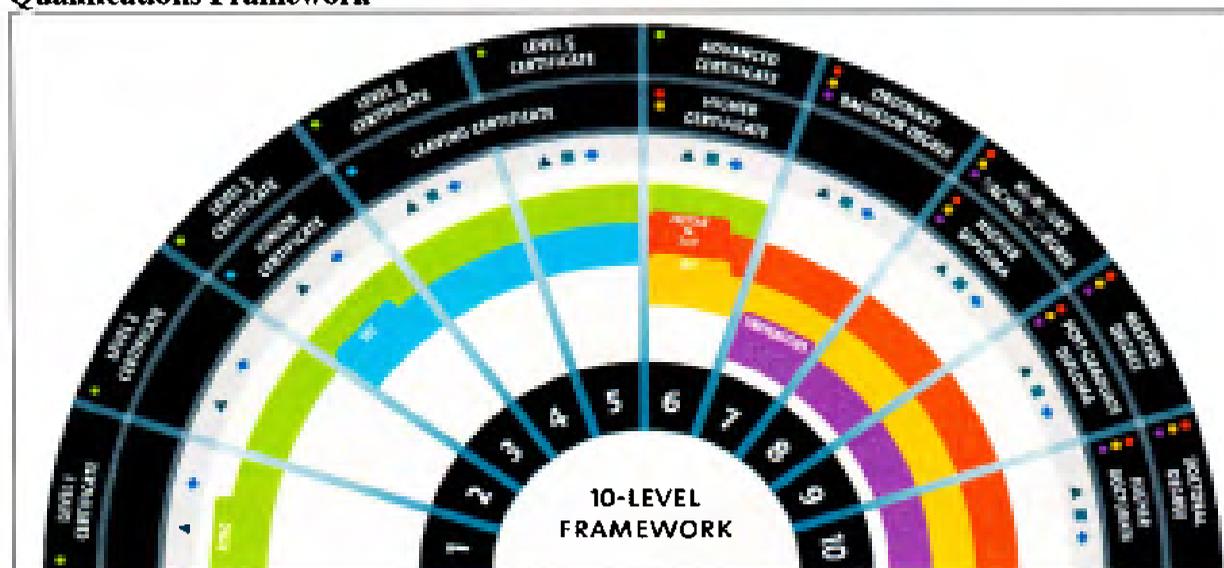
Children from rural areas have less access to early childhood development, fewer higher education graduates are located in rural areas, and far fewer residents of rural areas—despite the generally higher need—take up opportunities for further learning as adults. To reiterate, preparation for “lifelong learning careers” needs to start as early as possible, laying the foundations for the most important generic and life skills and, in particular, “learning how to learn.”

- **Vocational training should not trap students in a narrow set of vocational skills and limit access to further forms of learning.**⁷⁰ A more general education increases levels of competence of students, as Polish PISA results have impressively documented. A broad set of generic skills, including skills for innovation and technology absorption and entrepreneurship, is more important than narrow technical skills that might soon be outdated. Policy makers might reconsider the current setup of upper secondary education in this context.

Short-term benefits of a lifelong learning system could include improved access to the labor market for everyone (see chapter 3), not only for older workers, and a more elaborate system of second chances for those who were not able to take full advantage of the formal education system. Box 4.5 illustrates how such chances are provided in the United Kingdom through Further Education Colleges. However, most experience with successful lifelong learning systems has been in just a handful of European countries, including Ireland, and in the Scandinavian countries. Their experience could be studied closely when considering policy reforms in Poland. The annex to this chapter provides a summary of the Finnish and Irish approaches.

⁷⁰ For a more profound discussion see Canning, Godfrey, and Holzer-Zelazewska 2007b.

Figure 4.9. The Irish Qualifications Framework as an Example of a National Qualifications Framework



Source: The National Qualifications Authority of Ireland; <http://www.nfq.ie/nfq/en/>.

Box 4.5. Further Education Colleges in the United Kingdom: Lifelong Learning Opportunities for Adults and Youth

In the United Kingdom, a distinction is usually made between “further education,” which is a postsecondary education offered usually in Further Education Colleges, and higher education, which is education at a higher level provided in distinct institutions such as universities. Further education in the United Kingdom, therefore, includes education for youth over 16 years of age and for adults. The Further Education Colleges are similar in concept to the community colleges in the United States. They offer a wide range of programs that are work based and are, therefore, considered first and foremost as community learning institutions. This includes programs for students over age 16 similar to those taught at secondary schools and subdegree programs similar to those taught at higher education colleges.

In England, further education is often seen as forming one part of a wider learning and skills sector, alongside workplace education and other types of nonschool, nonuniversity education and training. Since June 2007, the sector has been overseen by the new Department for Innovation, Universities and Skills, although some parts (such as education and training for 14–19-year-olds) fall within the new Department for Children, Schools and Families.

A typical Further Education College offers learning opportunities at all levels from entry-level programs and basic skills to Foundation Degrees, in partnership with local universities. Its programs cover the entire spectrum of basic trades, technology, applied science, business studies, financial services, social services, and allied health sciences. The colleges are supported by government initiatives such as “every child matters” and “youth matters.”

All programs include elements that contribute to students achieving five outcomes: being healthy, staying safe, learning to learn, making positive contributions, and achieving economic well-being. The typical Further Education College targets the following stakeholders: (a) youth having completed the General Certificate of Secondary Education at age 16 but who have not qualified for entry into universities, by offering A-level courses through the 6th form centers; (b) the adult learner through a wide range of further education programs; and (c) enterprises by offering a range of targeted continuing education and training courses for their employees.

Source: Department for Innovation, Universities and Skills. Adapted from World Bank 2010b:73.

V. Options for Further Reforms in Education: A Summary of Recommendations

Poland has many reasons to be proud of its education system. It has tackled some particularly difficult reform issues such as the strengthening of general schooling and the significant expansion of tertiary education. These reforms will provide a strong basis for the next phase of system enhancement geared toward competitiveness and growth. In addition, the new laws on the research sector (2010) and on higher education (2011) are expected to have a major impact on system reform in the coming years. Recommendations for further reforms and future growth include the following:

1. *Future reforms of the education system need to be based on a learning outcomes approach.* (Which skills and competences will citizens need in the future to organize their working and learning careers and navigate through a completely different landscape of providers? How should the education system be organized to provide these skills? This approach is already visible as a future direction in the new legislation).
2. *The primary focus would need to be the general design of the system, including the system of lifelong learning.* This would be followed by consideration of the education subsectors and levels. (What are the most likely stages of a learner's life cycle? Which kind of re-skilling and up-skilling will most likely be needed? How can access to education be made easier for learners beyond school or university age?)
3. *Take equity seriously and address it from the beginning.* As many studies have shown, investment in early childhood development has high rates of return. Moreover, it provides a firm foundation for lifelong learning.
4. *Use the debate on the introduction of a National Qualifications Framework to reconsider system permeability*—that is, access to higher levels and different education tracks and offers—and detect “dead ends” for learners.
5. *Higher education institutions would best diversify their mission and become more open to different types of learners.* The future labor market will require people with more, not fewer, skills. Tertiary education degrees will be the rule, not the exception. Research should inform higher education; this, however, would need to include applied research strengthening both the role of higher education institutions in the regions and the productivity of small and medium enterprises. Equitable access and quality of provision at all levels need to be ensured. To achieve this, internal quality assurance systems at institutions of learning will need to be established.
6. *The Bachelor's degree needs to be strengthened and developed to its full potential* and the differences between Bachelor's and Master's need to be well articulated. Both degrees should give sufficient space to the development of high-level generic skills—including for instance entrepreneurship and innovation and technology absorption—and be informed by research.
7. *The government needs to take an active role in reconsidering the institutional setup of tertiary education.* If access modalities do not change, there will not be enough students to justify the current institutional setup. The current demographic shift will provide policy makers with the fiscal and factual space for such a revision and a strengthening of the sector. A reconsideration of the current institutional setup will be needed to ensure that future challenges—for example, demand regarding graduates from specific fields—are adequately met. (Both the “contracted studies” initiative of 2008-2013 and the new higher education legislation clearly go in this direction).

- 8, *For the government, in general, and the Ministry of Science and Higher Education in particular, to fully assume this role, data collection and monitoring and evaluation at all levels, including the institutional level, will need to be strengthened, for example, through tracer studies (Murthi and Sondergaard 2010). Beyond programmatic decisions at the system level triggered by significant demographic shifts, the Ministry of Science and Higher Education is advised to steer the system through a performance-oriented financing system (the new legislation on financing research and on higher education go in these directions). This could be accomplished through framework contracts in connection with performance-oriented funding systems that could also strengthen research and innovation and technology-absorption-oriented output at the institutional level. Germany and Finland, for example, have positive experience with such funding models.*

Annex 4

Finland and Ireland as European Good Practice Examples for Lifelong Learning⁷¹

Finland and Ireland are two examples of European countries that have embedded lifelong learning principles in a variety of education policies. In Finland, 23.1 percent of the working-age population participates in lifelong learning annually (the system is also open to pensioners). In the state budget, about 13 percent of the Ministry of Education's expenses go to adult education, but the majority of training is financed by employers (Tahvainen 2006). In Ireland, participation is somewhat lower, at 7.5 percent, and the policy focus is directed at labor market outcomes (EIS 2008). In addition, the discussion of recent Slovenian experience with regard to adult education might be beneficial. Key lessons from the Finish and Irish experience are the following.

First, access to lifelong learning and competence acquisition should be simple, cost-effective, and adapted to individual needs. That is particularly important in the case of people with insufficient or outdated education and training or those who need to update their vocational qualifications. Finland lowered the threshold to adult education and training by means of individual study programs of reasonable length built on prior learning and experience (MoE-FIN 1999; Tahvainen 2006). Persons already active in the workforce are given opportunities to study toward competence-based qualifications approved by the labor market. A system of competence-based qualifications independent of the way in which knowledge and skills have been acquired has been developed. The opportunity to build education and training on prior learning has shortened length of study in adult education in Finland by more than one-third. Information, individual guidance, personal study plans, study guidance, and mature students' financial aid have been developed to encourage adults to apply for education and training and to complete their studies. Duration of courses is kept reasonable to prevent the length of study from becoming an obstacle. Unemployment benefits are tied to training.

Second, courses and qualifications are organized in a flexible and modular way, which brings them closer to the needs of individual learners. Adults are given opportunities to study for vocational qualifications or specialist qualifications, or parts thereof, and for other studies that improve their employability and their capacity for further learning. Particular attention is given to those who dropped out, including those who discontinued their tertiary education, who are given opportunities to continue their studies. The modular approach needs to be supplemented with flexible hours and forms of delivery, and by ensuring equity of treatment of different groups of students. Open and distance learning can ameliorate some of the geographic and time barriers faced by many potential learners. The supporting institutions are also developed. The system of public libraries in both Finland and Ireland provides valuable support to learners. In Ireland, libraries have been supporting adult learners through helping to bridge information gaps; supporting distance learning; enhancing literacy and information and communication technology skills; providing information resources, materials, and study spaces;

⁷¹ Source: "Addressing the Skill Gap: Vocational Training, Tertiary Education and Lifelong Learning," in *Croatia's Convergence Report: Reaching and Sustaining Higher Rates of Economic Growth*, World Bank, 2009:47f, Washington, DC.

and by developing linkages with business, the education and training sectors, and the community in general (TF-IRL 2002).

Third, a **variety of governance and financing mechanisms** are used to facilitate access to lifelong learning and for designing it in accordance with the needs of employers and employees. For instance, training is tailored to the needs of the employer. It is used in cases of recruiting new labor force, development of personnel vocational skills, restructuring or liquidation of a business, and when individual employability needs to be improved. This training is planned, implemented, purchased, and financed together by the employer and the Labour Administration (Tahvainen 2006). The Labour Administration usually finances no more than 50 percent of the purchasing costs of the training, which is implemented by authorized education institutions. The use of study vouchers has been piloted as a useful mechanism for training that is not initiated and financed by the employer. The use of such instruments is also considered for university-level continuing education. In Ireland, the pilot Training Networks Programme has made a strong contribution to in-company training. Four hundred fifty-six courses (most of them new or significantly upgraded) were delivered to over 2,300 companies and 12,800 participants. The program has had significant impact on encouraging small and medium enterprises to invest in training. Seventy-three percent of the participating companies had less than 50 employees and 38 percent had less than 10 (TF-IRL 2002).

Fourth, in Finland, lifelong learning is used not only in relation to labor market needs, but also to **enhance civic activity, community education, social dialogue, and basic information society skills**. Educational services will be increasingly targeted at the retired population in accordance with the principle of lifelong learning (MOE-FIN 1999).

Despite the high effectiveness of lifelong learning in Finland, it has also been observed that those who already are better educated are most likely to participate in further education. Consequently, the most difficult challenge is reaching the poorly educated and those at the biggest risk of unemployment and social exclusion and including them in lifelong learning. In Ireland, particular attention is given to “nontraditional learners,” including the less educated, older, unemployed, or economically inactive citizens, and to those working in small companies and belonging to occupational groups associated with lower income levels (TF-IRL 2002).

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