European Commission

Education and Training Monitor 2013

Denmark

Education and Training

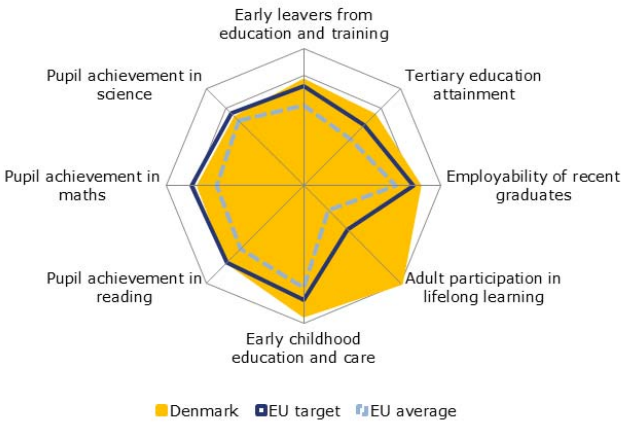
1. Key indicators and benchmarks

Europe 2020 headline targets			Denmark 2009	Denmark 2012	EU average 2009	EU average 2012	Europe 2020 target / Benchmark
1. Early leavers from education and training (age 18-24)			11.3%	9.1%	14.2% EU28	12.7% EU28	**EU target: 10%** National target: <10%
2. Tertiary educational attainment (age 30-34)			40.7%	43.0%	32.1% EU28	35.7% EU28	**EU target: 40%** National target: >40%
ET 2020 Benchmarks							
3. Early childhood education and care (4 years old - year before start of compulsory primary)			91.9%	97.9% 11	91.7%	93.2% 11	**95%**
4. Basic skills Low achievers (15 year-olds; Level 1 or lower in PISA study)	Reading		15.2%	:	19.6%	:	**15%**
	Mathematics		17.1%	:	22.2%	:	**15%**
	Science		16.6%	:	17.7%	:	**15%**
5. Learning mobility	Initial vocational training (IVET)	**a.** Students participating in Leonardo da Vinci programs as a share of vocational students at ISCED 3	1.0%	1.1% 11	0.6%	0.7% 11	
	Higher Education	**b.** Erasmus inbound students as % of student population in host country		2.6% 11		1.1% 11	
		c. Inbound degree mobile students as % of student population in the host country		7.8% 11		7.0% 11	
6. Employment rate of graduates (age 20-34) having left education 1-3 years before reference year			87.9%	84.1%	78.3%	75.7%	**82%**
7. Adult participation in lifelong learning (age 25-64)			31.2%	31.6%	9.3%	9.0%	**15%**
Proposed ET 2020 benchmark							
8. Foreign languages skills	**a.** ISCED 2 students at proficiency level B1 or higher in first foreign language[1]		:	:	:	43.5% 11	
	b. ISCED 2 students learning two or more foreign languages		84.2%	81.5% 11	58.6%	60.8% 10	
Other ET 2020 Indicators							
9. Investment in education and training	**a.** General government expenditure on education (% of GDP)		8.0%	7.8% 11	5.5%	5.3% 11	
	b. Annual expenditure on public and private educational institutions per pupil/student in € PPS	ISCED 1-2	€ 7,949 08	€ 8,598 10	€ 5,732 08	€ 6,021 10	
		ISCED 3-4	€ 8,740 08	€ 9,177 10	€ 6,964 08	€ 7,123 10	
		ISCED 5-6	€ 13,810 08	€ 14,617 10	€ 9,309 08	€ 9,168 10	
10. Digital competences	**a.** Pupils in grade 4 (ISCED 1) using computers at school		78.8% 07	79.8% 11	60.7% 07	64.7% 11	
	b. Individuals aged 16-74 with high computer skills[2]		31.0%	42.0%	25.0%	26.0%	
11. Entrepreneurial competences	Individuals aged 18-64 who believe to have the required skills and knowledge to start a business		35.0%	31.0%	42.3% a	42.0% a	
12. Vocational education and training	Share of vocational students at ISCED 3		47.3%	46.1% 11	49.6%	50.3% 11	
13. Skills for future labour markets Projected change in employment 2010-2020 in %	High qualification		:	15.8%	:	19.1% EU28	
	Medium qualification		:	-15.0%	:	4.6% EU28	
	Low qualification		:	21.2%	:	-20.2% EU28	
14. Low-skilled adults	Literacy		:	15.7%	:	19.9% EU17	
	Numeracy		:	14.2%	:	23.6% EU17	
	Problem solving in technology rich environments[3]		:	21.7%	:	26.9% EU13	

Source: Cedefop: 13 / EAC: 10a,b / European Survey on Language Competences (ESLC): 8a / Eurostat (Government finance statistics): 9a / Eurostat (LFS): 1, 2, 6, 7 / Eurostat (ISS): 10b / Eurostat (UOE): 3, 8b, 9b, 10c, 12 / IEA TIMSS: 10a / Global Entrepreneurship Monitor: 11 / OECD (PIAAC): 14 / OECD (PISA): 4

Notes: 07 =2007, 08 =2008, 09 =2009, 10 =2010, 11 =2011, e= estimate, a= unweighted average b= break, p= provisional
Number of countries included in EU average: PISA=25, Entrepreneurship=18, Language skills=13, ICT/Computers at school=13, others: EU27
[1]= average of skills tested in reading, listening, writing, [2]= having carried out 5-6 specific computer related activities, [3]= Results cover people with scores below level 1 as well as people who have no computer experience or failed the ICT test

Figure 1. Position in relation to highest (outer ring) and lowest performers (centre)



Source: DG EAC calculations on the basis of data from Eurostat (LFS 2012 and UOE 2011) and OECD (PISA 2009). *Note:* all scores are set between a maximum (the highest performers visualised by the outer ring) and a minimum (the lowest performers visualised by the centre of the chart).

2. Main challenges

The main challenge of the Danish education system is its cost-effectiveness. Despite the considerable amounts spent on education as a percentage of GDP, indeed the highest share of GDP in Europe, upper secondary completion rate is low, largely due to high early drop-out rates from vocational education and training. In addition, the insufficient number of apprenticeships places for young people also leads to dropping out of education. Furthermore, despite progress in recent years, Denmark has one of the longest average transition periods from lower secondary to upper secondary and from higher education to work.

Although some measures were adopted and the government presented a proposal of a school reform and additional funds to be used to improve the quality VET and increase the number of apprenticeships, further effort is needed to face these challenges. Also improving the level of such key competencies as literacy and numeracy remains a challenge. Apprenticeships or work-based training together with targeted career guidance need further attention.

Therefore the 2013 European Semester country-specific recommendation (CSR) on education focused on four topics: improving the quality of vocational training to reduce drop-out rates, increasing the number of apprenticeships, implementing the reform of primary and lower secondary education in order to raise attainment levels and improving the cost-effectiveness of the education system.

3. Investing in skills and qualifications

Investing in education and training in a context of economic crisis

Denmark is keeping its position as the country within the EU where the government is spending most on education as a percentage of GDP (7.8% in 2011, compared to the EU average of 5.3 %).

The government devotes more than DKK 1 billion in 2012 and 2013 to VET. The budget agreement 2012 provides funding for 10.400 additional apprenticeship places and for creating 1.500 extra in-school training places. In the frame of 2013 budget there is an agreement to provide 3.1 billion DKK in the period 2013-2016 to ensure quality in vocational training and strengthen the so-called education guarantee (ensure the apprenticeship places).

With the Agreement on the Budget Bill for 2012 a total of DKK 420 million has been allocated for 2012 and DKK 630 million for 2013 to be spent on increased higher education activity. For 2013, in order to fight youth unemployment, the government proposed a new package stimulating job rotation, apprenticeships and vocational education. DKK 300 million are allocated to provide education for the unemployed who will lose their unemployment benefits in 2013 and DKK 600 million are allocated between 2012 and 2016 to tackle youth unemployment.

Skills

Denmark is above the EU benchmarks for the three basic skills in reading, mathematics and science. In the PISA survey, the performance in mathematics worsened significantly between 2006 and 2009, whereas the share of low-achievers in reading and science fell during the same period. Girls outperform boys in reading like in the other Nordic countries, whereas in Denmark boys have a lower percentage of low achievers in both mathematics

and science than girls. Denmark has a comparatively high penetration of computer use in schools (78.8% of pupils in 4th grade use computers at school (the average for countries where data is available is 60.7%). Likewise ICT skills of the population are above the EU average. As regards entrepreneurship, the share of the population believing to have the required knowledge to start a business is 31%, as against the EU average of 42% in 2012. Foreign language learning starts in primary education where all pupils learn English as a first foreign language and this continues into lower secondary education (ISCED 2) 2 foreign language is compulsory from 5 class from the school year 2014/15 (the political agreement of 7/6-2013). Danish pupils study more foreign languages (1.8 in 2012) than the EU average.

Educational goals are defined at a central level. For example, since 2009, all curriculum subjects in primary and lower secondary schools share the common objective of improving pupils' reading skills. National tests in Danish reading have been introduced and are conducted regularly to identify individual learning needs. Specialist reading teachers are widely available in the country as are digital reading and writing programmes for students. Available evidence also shows that the test results are used actively by teachers for improving skill levels of pupils.

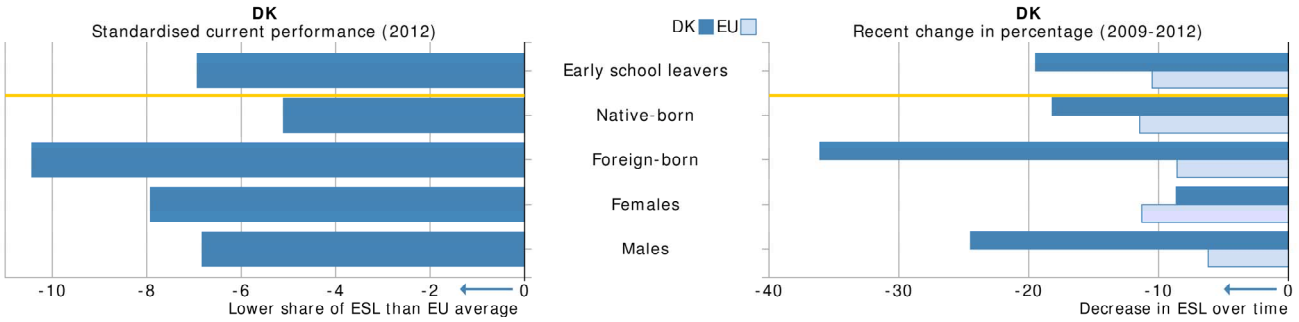
The forecast for the Danish employment pattern up to 2020 would increase the demand for high and low skilled persons whereas the demand for medium skilled would fall significantly. This forecasted employment pattern is in marked contrast to the overall EU forecast of a positive demand for medium skilled people and a negative development for the low skilled.

Denmark has national qualifications frameworks in force and presented their national referencing report to the EQF Advisory Group.

4. Tackling early school leaving and raising the bar in school education

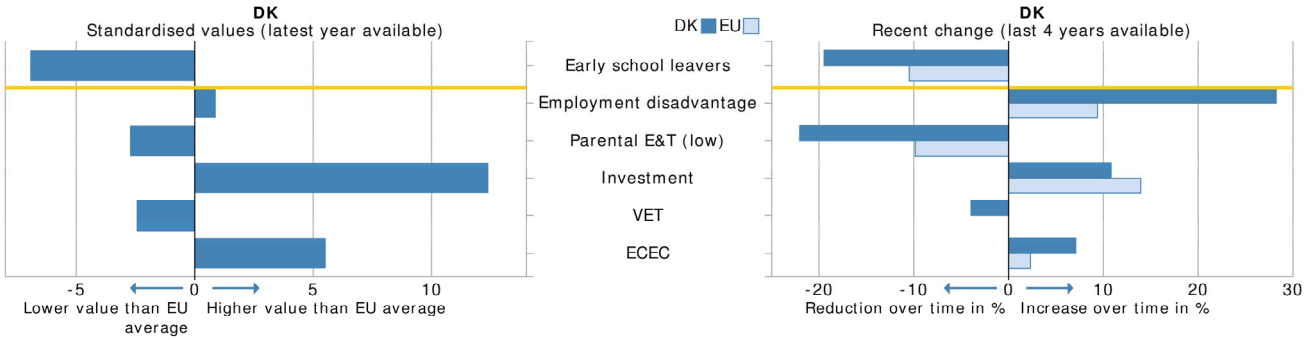
As regards the early leaving school rate (9.1% in 2012), it has decreased significantly in recent years (11.3% in 2009; 11.0% in 2010 and 9.6% in 2011). The trend has been similar for those born abroad (decrease from 15.8% in 2009 to 10.1% in 2012). The EU and the national (10%) targets have already been achieved.

Figure 2. Early school leavers of specific population sub-groups



Source: JRC-CRELL. *Note:* ESL = early school leaving. See Annex 2 for further information.

Figure 3. Early school leavers and sub-indicators



Source: JRC-CRELL. *Note:* see Annex 2 for an explanation of the sub-indicators.

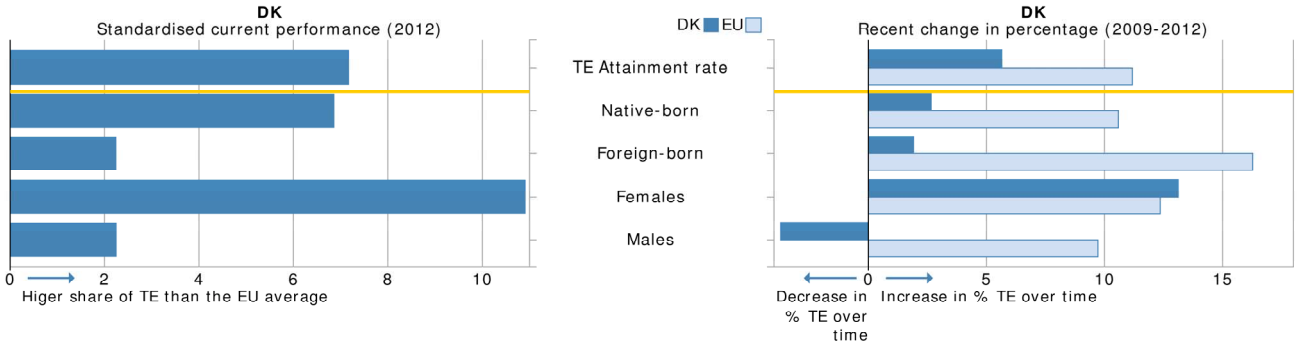
In June 2013 the Government (consisting of the parties 'Socialdemokraterne', 'Radikale Venstre' and 'Socialistisk Folkeparti') found a political agreement first with the parties 'Venstre' and 'Dansk Folkeparti' and shortly later also with the party 'Konservative' about the future of the Danish municipal primary and lower secondary school. The reforms will be implemented in the school year 2014-2015. The agreement foresees longer school hours spent on core subjects such as Danish, maths and English and more emphasis on practical training, e.g. art, music and activity-based education and improving basic skills.

The other reform that is planned is in upper secondary vocational education and training. The aim is to improve cost-effectiveness, enhancing quality and decreasing the number of drop-outs. This should be achieved by securing more apprenticeships places, improving guidance services and fostering more cooperation between VET schools and companies by providing companies with additional incentives. The student grant reform was agreed and made into legislation in June 2013.

5. Encouraging participation in tertiary education and modernising higher education

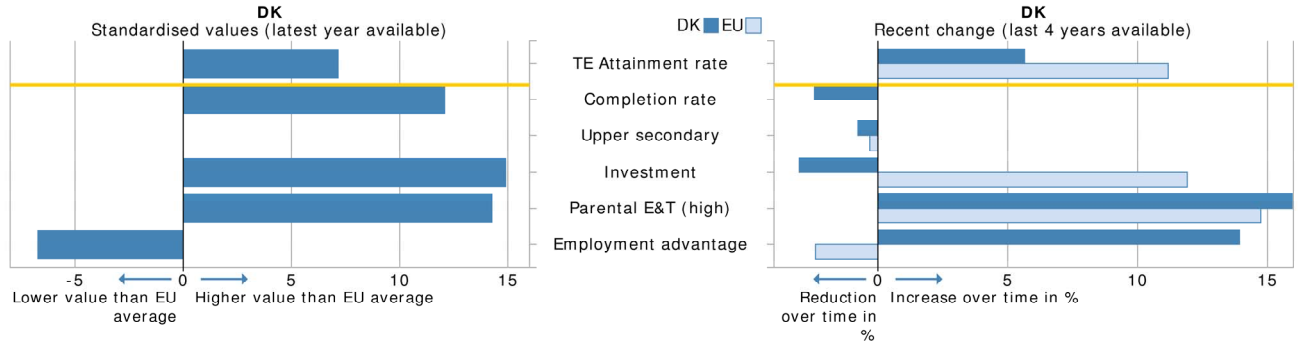
As regards the Europe 2020 target on tertiary education, Denmark's tertiary attainment rate is well above the EU average (43% as against 35.7% in 2012). More women (52.6%) than men (33.7%) have tertiary education, while the differences between native-born (43.5%) and foreign-born (39.3%) are less significant[1].

Figure 4. Tertiary educational attainment of specific population sub-groups



Source: JRC-CRELL. *Note:* TE = tertiary education. See Annex 2 for further information.

Figure 5. Tertiary educational attainment and sub-indicators



Source: JRC-CRELL. *Note:* see Annex 2 for an explanation of the sub-indicators.

The Government set a national target of 60% of the young people to complete at least one tertiary education programme by 2015. To this end, the Agreement on the Budget Bill for 2012 a total of DKK 420 million have been allocated for 2012 and DKK 630 million for 2013 to be spent on higher education.

Lengthy study periods at tertiary level have long been characteristics of the Danish higher education system. Denmark also has one of the longest average transition periods from lower secondary to upper secondary and from higher education to work (on average graduates from tertiary education are nearly 28 years old before they start work in 2011, in 2001 this figure stood at nearly 29 years).

Following a decision in June 2013, changes to the state education grant system (SU) will be gradually implemented from 1 July 2014 to 1 January 2016.2 The main aim of this reform is to create incentives for getting students faster through the education system and into the labour market. One element is that, for students starting their tertiary education more than two years after the qualifying examination, the duration of the State education grant system will be limited to the standard length of the course in question. Other students will be allowed an additional six months for a bachelor's degree and in addition extra six months for a master's degree. This will be complemented by a new framework for higher education supporting the completion of studies and increasing demands on universities for improving their education provision, for example through improving possibilities for students to obtain credits for prior education, or better and more flexible transition between bachelor and master's degree.

1 Source: Eurostat (LFS).

2 For details see Danish Agency for Higher Education and Educational Support (http://www.su.dk/Nyheder/Sider/su-reformenervedtaget.aspx)

6. Facilitating the transition from education to work and reshaping vocational training

Participation of upper secondary students in vocational education and training (VET) is slightly below the EU average (46.1% as against 50.3% in 2011). The high drop-out rate in VET (almost 50 per cent) is linked to the fact that there are not sufficient apprenticeships places available, especially in the context of the current economic crisis. In 2012, 3700 students could not find an apprenticeship place. In fact, employers lacked incentives to create apprenticeship places. Furthermore, low basic skills of VET pupils is another factor contributing to the high drop-out rate.

To this end, vocational education and training is being reformed and negotiations are on the way with social partners and municipalities. The reform should further strengthen the roles of guidance centres and trade committees for matching VET with labour market needs, develop incentives for the creation of more apprenticeship places and support high-quality and attractive vocational upper secondary education through the application of the European Quality Assurance Framework for VET and also through the introduction of training placements abroad in VET programmes (including considering the introduction of shorter programmes for the most vulnerable young people). The Expert Committee on Vocational Youth Education set up in 2012 by the Danish Government (with representatives of trade unions and employers) is due to make its final proposals in autumn 2013 in order to find a lasting solution to the continuing problem of a lack of private apprenticeships and high drop-out rates. There are discussions on introducing flexible, shorter VET cycles for the most vulnerable learners. The reform also aims to strengthen the role of guidance centres and trade committees and support high-quality and attractive upper secondary VET.

The reform is backed up by financial resources. The government devotes more than DKK 1 billion in 2012 and 2013 to VET. The budget agreement 2012 provides funding for 10.400 additional apprenticeship places and for creating 1.500 extra in-school training places. The 2013 budget agreement includes provision of 3.1 billion DKK in the period 2013-2016 to ensure quality in vocational training and strengthen the so-called education guarantee (ensure the apprenticeship places).

Transition from school to the labour market for young people has become more challenging. The employment rate of graduates (ISCED 3-6) aged 20-34, who have graduated no more than three years ago, decreased from a pre-crisis level of 90.8% in 2007 to 84.1% in 2012, while remaining markedly above the EU average (75.6%). Furthermore, the share of young people aged 18-24 not in employment and not in any education and training increased from 5.7% in 2008 to 8.8% in 2012, although it remains one of the lowest in the EU.

For 2013, in order to fight youth unemployment, the government proposed a new package stimulating job rotation, apprenticeships and vocational education. DKK 300 million are allocated to provide education for the unemployed who will lose their unemployment benefits in 2013 and DKK 600 million are allocated between 2012 and 2016 to tackle youth unemployment.

7. Upgrading skills through lifelong learning

The Survey of Adult Skills (PIAAC[3]) shows that adults (aged 16-65) in Denmark perform significantly above the EU average in numeracy and above the EU average both in literacy and in problem solving in technology rich (ICT) environments. The proportion of adults with no ICT experience is very low (2%, compared to an EU average of 12%).

The performance of young people (aged up to 29) with tertiary education is not significantly better than of those with upper secondary education. Furthermore, the gap in literacy proficiency is rather large between the foreign- and native-born (26 points in literacy i.e. equivalent to 4 years of education) compared to the EU average.

Lifelong learning is deeply rooted in the Danish tradition and culture. Denmark is one of the EU leaders in adult participation in lifelong learning with a rate of 31.6% in 2012 against an EU average of 9%. More women participate in lifelong learning (37.8%) than men (25.4%), but there is no significant difference between native-born (31.6%) and foreign-born (31.5%)[4].

While in adult education in the EU by far the most learning activities are of non-formal nature, this is less the case in Denmark, where almost 6% of adults report having participated in formal learning during the last twelve months (EU: 2.4%)[5].

Access to enterprise-provided vocational training is as well high, with 85% of enterprises reporting to have offered such courses (EU: 66%)[6]. Nevertheless, the majority of learning happens outside companies: more than three times as many adults report to have participated in "other job-related learning activities" than in activities sponsored by enterprises[7].

[3] Volume I of the Education and Training Monitor (chapter 6) provides an overview of the results of the survey. Skills levels are presented either in terms of average score points or proportion of adults at a given proficiency level in literacy or numeracy (level 1 to 5) or problem solving in technology-rich (ICT) environments (level 1 to 3 or no ICT experience).

[4] Eurostat, LFS 2011.

[5] Eurostat, AES 2011.

[6] Source: Eurostat, CVTS 2011.

[7] Eurostat, AES 2011.