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ETF KEY INDICATORS 2012

OVERVIEW AND ANALYSIS

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INTRODUCTION

The European Training Foundation (ETF) supports the vision to make vocational education and training (VET) a driver for lifelong learning and sustainable development, with a special focus on competitiveness and social cohesion. Developing appropriate policies and measuring the effect of these policies requires solid evidence that covers VET and its links with the labour market, economic development, social cohesion, entrepreneurship and innovation.

Evidence-based policy making has acquired considerable interest in recent years. This has paved the way for a renewed emphasis on quantitative indicators that can assist policy makers in formulating, monitoring and evaluating policies and performance.

In 2010 the ETF launched a series of reviews of VET systems in all of its partner countries known as the Torino Process. These assessments were informed by quantitative data based on a collection of relevant VET policy and system indicators. This exercise was repeated in 2012, with the quantitative data collection supported by three statistical workshops that were organised with representatives of national statistical offices and relevant ministries in March 2012.

This paper is the result of the 2012 Torino Process data collection. It is intended to be a ready source of information on the state of play of VET policies and systems in ETF partner countries for national policy makers and the international community. Selected quantitative indicators are presented and analysed. Data for the EU Member States have been added to inspire policy learning and dialogue both between the EU and partner countries, and among the partner countries themselves. A secondary aim of the paper is to raise awareness among policy makers in the partner countries of the importance of indicators in driving the policy cycle, and of the availability and sources of selected VET policy and system indicators in their countries and regions.

This paper is divided into three main chapters. The first describes the data collection process of the Torino Process 2012. In the second chapter, the regional tables with selected quantitative indicators are presented and analysed. The third chapter is an introduction to international developments in VET policy and system indicators. A final chapter draws conclusions and offers suggestions for future steps.

The paper can be read on its own or as a complement to the ETF's Torino Process reports and country studies, and the ETF's labour market reviews. All of these are available from the ETF website[1]. The Torino Process reports provide a more comprehensive evaluation of VET systems and trends in the labour market and in education.

1 See www.etf.europa.eu/web.nsf/pages/Publications_catalogue

1. COLLECTION AND ANALYSIS OF THE 2012 KEY INDICATORS

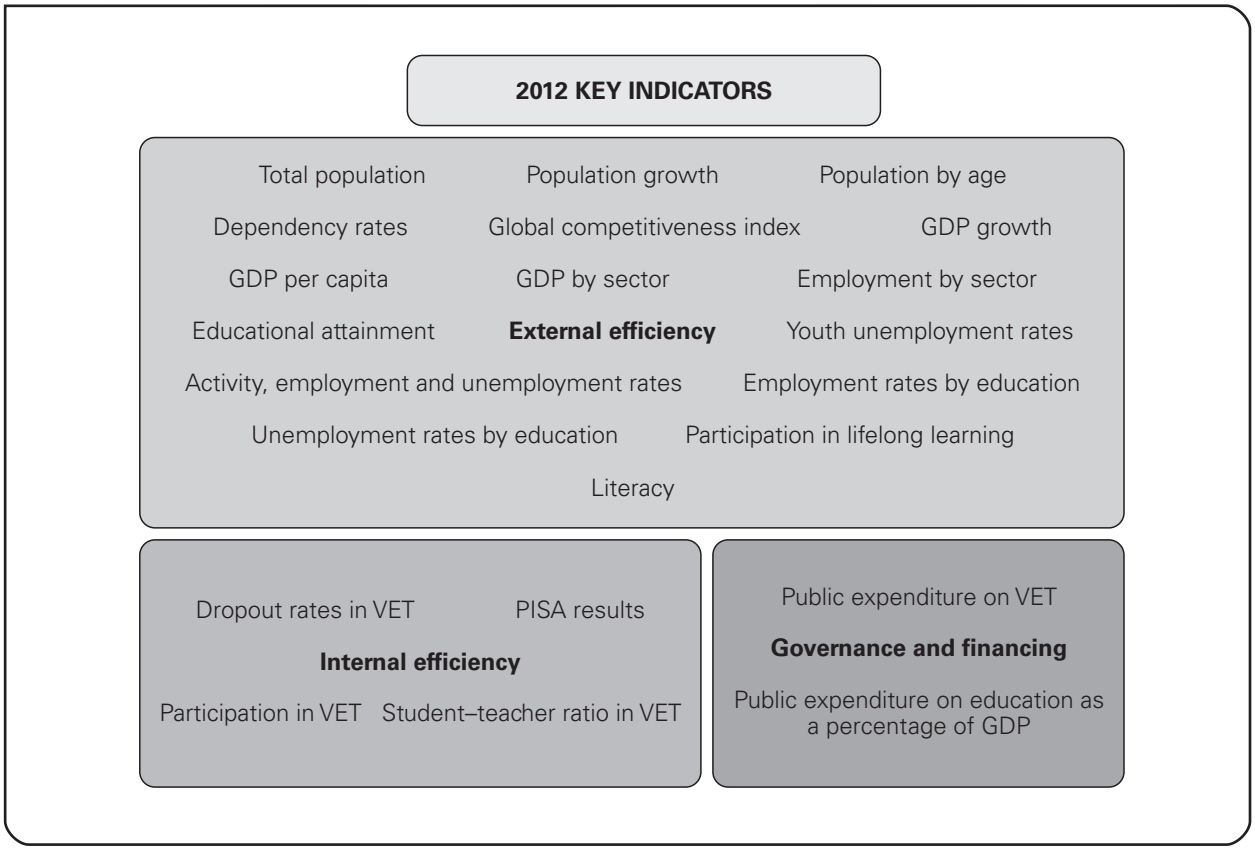
The ETF key indicators were used in the reviews and analyses of the 2012 round of the Torino Process, which assesses the VET systems of all ETF partner countries. The first round of the Torino Process took place in 2010 and the experience gathered here was used to improve the analytical framework for the 2012 reviews and to rework the list of indicators suggested for analysing the VET systems.

1.1 LEARNING FROM THE PAST: THE 2010 EXPERIENCE

One of the main lessons learned after 2010 was that the ETF partner countries had to be more involved in the process and its improvement. With this in mind, the ETF entered into dialogue with national authorities to discuss possible strategies to improve both data reliability and coverage. This dialogue became known as the Torinet.

Together with the outcomes of the work of an Inter-Agency Working Group and the G20 initiative (see Section 3.2), the Torino Process 2010 exercise provided good clues about how the list of indicators of the Torino Process analytical framework could be improved. A new list of key indicators was designed which better fulfilled current analysis needs while maintaining consistency with the 2010 results[2].

Several indicators have been added that refer to the labour market, education and the socio-demographic context of the partner countries. They aim to illustrate the main sections of the analytical framework: external efficiency, internal efficiency, and governance and financing. This paper includes and describes only a fraction of the whole list of indicators used in the analytical framework.



2 See Annex 1, which includes references to the 2010 indicators.

1.2 FEEDBACK FROM THE COUNTRIES: THE TORINET WORKSHOPS

In March 2012 the ETF convened three regional workshops on the theme of evidence gathering for VET policy development. Most of the participants were representatives of relevant ministries (education and labour) and national statistical offices. They held bilateral meetings with ETF country managers and the ETF statistical team to discuss the availability, quality and use of evidence for policy making.

The feedback received confirmed the importance of data collection and the use of evidence for policy development and implementation. The countries stressed the need for reliable sources, the need to bridge the gaps in available data, and the need to exchange ideas and experiences.

1.3 THE 2012 PROCESS: SOURCES AND DATA COLLECTION

The 2012 round of the Torino Process was built up around two main phases.

1. The ETF statistical team started with a search for publicly available data, using both international sources (World Bank, UNDP, UNESCO, OECD, ILO, UNESCO, etc.) and official national websites (ministries of education and labour as well as all national statistical offices) in order to obtain basic data and minimise the workload for the countries.
2. The team then asked for additional indicators to gather more detailed information, mainly about education and VET.

The use of reliable international sources allowed the collection of comparable data, at least for the socio-economic analysis of the countries. Gross domestic product (GDP) and population structure data were collected from the World Bank and data on competitiveness from the World Economic Forum. Moreover, data from the UNESCO Institute for Statistics (UIS) were used where available, including expenditure on education and enrolment of students by education level.

Selected labour market and education data were sourced from the national statistical offices (or online databases) and annual education statistics[3].

Not all data for the Torino Process indicators could be found on official websites. Data on VET and adult education in particular were not always readily available through public sources. For VET analysis, however, some of these are extremely important, such as labour market data detailed by education, participation in lifelong learning, dropout rates and data on expenditure on general education and VET programmes. To gather such data, the ETF approached the national statistical offices or ministries. This work was greatly helped by the good contacts that were made during the regional workshops.

The ETF statistical team prepared a template with the definitions to be followed and the references needed to assure general comparability, such as international classifications. The received data were then consolidated through further dialogue with the provider and the inspection of existing sources.

3 During the process of data collection, some inconsistencies between the national and international data were found. These discrepancies are usually caused by the use of different definitions or classifications. If such differences were found, the ETF statistical team opted for national data, pointing out, however, the differences underlying the data, such as age range references or classifications used.

2. KEY INDICATORS BY REGION

The four regions covered by the ETF mandate are: the Western Balkans and Turkey, the Southern and Eastern Mediterranean, Eastern Europe and Central Asia. This chapter briefly analyses the latest available labour market, education and socio-economic data for these regions using selected key indicators[4]. Trend analysis demands data for several years. Such analysis that takes historical data into account can be found in the Torino Process regional reports[5].

Regional analyses require data comparability which, as explained in the previous chapter, is not always feasible. For this reason the chapter also includes an analysis of the coverage and quality of the key indicators, to furnish the reader and data users with the technical information required to make comparisons across countries.

2.1 WESTERN BALKANS AND TURKEY[6]

The Western Balkans are a group of small countries with populations ranging from 0.6 million in Montenegro to 7.3 million in Serbia (2011 estimates). Turkey had a population of 73.6 million in 2011. Turkey has the highest annual population growth in the region (1.2%). It is followed by Kosovo[7] (1%), with the other countries ranging between -0.4% (Serbia) and 0.4% (Albania). Three out of the eight countries of the region are experiencing population decline: Serbia, Croatia and Bosnia and Herzegovina.

The region has a relatively young population. In all countries, the share of 15-24 year-olds among the total population is above the EU average of 12%. The country with the youngest population is Kosovo (19%). It is followed by Albania (18.5%) and Turkey (17%).

Dependency

The dependency rate refers to the ratio between the working-age population and the combination of those under 15 and those aged 65 and more. Analysing the total dependency rates (from 41% in Bosnia and Herzegovina to 53% in Kosovo) we can observe that everywhere there is roughly one dependent for every potential worker. This means that half of the population must produce income, while the other half must be supported. The ratio is similar in the EU, where the corresponding dependency rate is 50%. In Bosnia and Herzegovina the number of young and old dependents is roughly equal. In Croatia the old slightly outnumber the young. All other countries have more young dependents than old dependents. The difference is most significant in Turkey and Kosovo.

A young population puts further pressure on an education system and requires adequate funding. The available data are insufficiently comparable for a regional analysis, but in all the countries for which data are available education expenditure (as a percentage of GDP) is lower than the EU average of 5.4% (2009). It is 3.5% in Albania (2010), 3.7% in the former Yugoslav Republic of Macedonia, Serbia and Turkey (2010), and 4.3% in Croatia (2009).

GDP and competitiveness

Looking at the broader economic conditions in the region, GDP growth is positive year on year, except in Croatia. Turkey had the highest annual GDP growth in 2011 (8.5%). This is much higher than the EU average for the same period (1.5%).

GDP per capita in the region is well below the EU average of 32,000 PPP$. The poorest countries are Albania and Bosnia and Herzegovina with around 9,000 PPP$. The highest GDP per capita can be found in Turkey at 17,500 PPP$.

The competitiveness of the region is rather weak: countries are ranked on the Global Competitiveness Index (GCI; World Economic Forum) in the last quartile of the EU range (from 72 to 95 in 2012). Only Turkey (43) is relatively close to the EU median ranking (39).

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4 While in the tables we maintain the decimals, in the text as a general rule we avoid using decimals to make the reading of the text easier. Exceptionally we maintain the decimals in those cases where we consider them important to see differences among the countries (for instance when the values of the indicators are very low and rounded values might hide important cross-country difference, as happens with GDP growth or with annual population growth).

5 See www.etf.europa.eu/web.nsf/pages/Publications_catalogue

6 The Enlargement region.

7 This designation is without prejudice to positions on status and is in line with UNSCR 1244 and the International Court of Justice's Opinion on Kosovo's declaration of independence – hereinafter 'Kosovo'.

Sectors

A sector analysis shows that services contribute most to GDP. This contribution ranges from 56% in Kosovo to 70% in Montenegro. Agriculture remains important too, particularly in Albania (20%) and Kosovo (17%). The EU average contribution of agriculture to GDP is 1.5%. The dominance of the service sector does not seem to be reflected in the labour market. While employment in services dominates (except in Albania), the share of employment in agriculture is much higher than its contribution to GDP. In other words: agriculture is labour intensive, but has a low productivity. Only in Montenegro and Kosovo is employment in agriculture a strong contribution to GDP.

Employment

Both the levels of economic activity and the employment rates are below the EU average. Activity rates range from 45% in Kosovo to 64% in the former Yugoslav Republic of Macedonia. Employment rates range from 25% in Kosovo to 53% in Albania. In the EU these rates average 71% and 64% respectively. The situation is even worse if we consider female participation in the labour market, with Kosovo and Turkey having very low female activity and employment rates (12% in Kosovo and 28% in Turkey for female employment). We should, however, keep in mind that the official figures do not take into consideration the role played by women in informal employment, which is rather widespread in the partner countries.

Unemployment rates are much higher than the EU average (10% in 2011), especially in Kosovo where the unemployment rate among 15-64 year-olds is around 45%. While better, the situation is far from good in the other countries: 32% in the former Yugoslav Republic of Macedonia, 28% in Bosnia and Herzegovina, 24% in Serbia and 20% in Montenegro. Only Turkey (9%) and Croatia (14%) have unemployment rate figures that are comparable to those found in most EU countries. Except in Kosovo, there is no big difference between (official) male and female unemployment rates.

Youth unemployment remains a huge problem in this region, with unemployment rates among 15-24 year-olds exceeding 50% in half of the countries (Bosnia and Herzegovina, Kosovo, the former Yugoslav Republic of Macedonia and Serbia). Even in Croatia and Montenegro, the figure is higher than 35% while the EU average is 21%. Only Turkey is doing better than the EU average with a youth unemployment rate of 18% (2011). Data from Albania are not comparable since they refer to a different age range (22.5%, ages 15-29).

Torino Process 2012 data allow us to analyse employment and unemployment by education level. It appears that the employment rate of those with at least secondary education[8] is generally higher than the average employment rate of the total population. But the unemployment rate for the same group is also higher than the average. This means that better educated people are generally more active (either employed or unemployed but actively seeking for a job) than others.

Education

Educational attainment data show that only in Croatia the share of population (above age 15) with at least upper secondary education (70%) is higher than the average in the EU (67.5%). For the other countries the figure is lower. The weakest educational attainment can be found in Turkey where those who completed at least upper secondary education account for less than 30% of the working-age population.

These differences are echoed in the data on adult literacy rates for 2010, which also suggest a gender gap in literacy. PISA results also show that reading proficiency is well below the EU average with particularly poor literacy rates in Albania and Montenegro.

With regard to VET, a large proportion of students are enrolled in secondary VET institutions: more than 70% in Bosnia and Herzegovina, Croatia and Serbia, 67% in Montenegro, 58% in Macedonia, 55% in Kosovo, and 44% in Turkey. Only in Albania is this figure below 15%. Finally, the region has a low rate of participation in lifelong learning[9] compared to EU: from 0.1% in Montenegro to 4.3% in Serbia. The corresponding EU figure is 8.9%.

8 We refer here to upper secondary only or complete secondary or upper secondary together with post-secondary education.

9 Defined using the age frame 25-64 years old (see definitions in Annex 2).

TABLE 2.1 TORINO PROCESS KEY INDICATORS 2012 – WESTERN BALKANS AND TURKEY

Indicator	Year	EU 27	AL	BA	HR	XK	MK	ME	RS	TR
External efficiency										
Total population (million)	2011	47.30[1]	3.22*	3.75*	4.41*	1.79*	2.06*	0.63*	7.26*	73.64*
Annual population growth (%)	2011	2.74	0.36	-0.21	-0.25	1.04	0.16	0.12	-0.42	1.21
Share of 15-24 in the total population (%)	2011	11.7	18.5*(10)	13.4*(10)	11.7*(10)	19.3	15.0	14.0	12.3*(10)	16.8
Total dependency rates (%)	2011	49.8[2]	46.9	40.7	47.5	53.2	41.4	46.3	46.7	47.2
Young dependency rates (%)	2011	23.4[2]	32.4	20.7	21.9	42.9	24.4	27.9	25.7	38.2
Old dependency rates (%)	2011	24.5[2]	14.5	20.0	25.6	10.3	16.9	18.4	21.1	9.0
Global Competitiveness Index (rank, out of 144)	2012/13	[3-39-96][3]	89	88	81	n/a	80	72	95	43
Annual GDP growth (%)	2011	1.5	3.00	1.71	-0.04	5.00	3.04	2.54	1.78	8.49
GDP per capita, PPP (current international $)	2011	32,665[1]	8,944	9,089	20,031	2,650[4]	11,666	13,612	11,919	17,499
Agriculture, value added (% of GDP)	2011	1.5(10)	20.0	8.7	5.5	17.4(10)	11.1	10.1	9.0	9.2
Industry (incl. construction), value added (% of GDP)	2011	25.5(10)	19.4	26.2	27.4	26.7	27.5	20.0	26.6	27.1
Services, value added (% of GDP)	2011	73.0(10)	60.6	65.1	67.1	55.9	61.4	69.9	64.3	63.8
Share of employed in agriculture (%, 15+)	2011	5.0	41.5(10) (15-64)	20.9	16	4.4	18.7 (15-79)	4.2	21.2 (15-64)	25.5
Share of employed in industry (incl. construction) (%, 15+)	2011	25.2	20.8(10) (15-64)	16.3	15	23.7	30.0 (15-74)	9.4	26.9 (15-64)	26.5
Share of employed in services (%, 15+)	2011	69.8	37.7(10) (15-64)	62.8	68	71.9	51.3 (15-79)	86.4	51.9 (15-64)	48.1
Activity rates (%, 15-64)	2011	71.2	62.2(10)	53.8	60.8	44.5	64.2	57.3	59.4	53.2
Activity rates, female (%, 15-64)	2011	64.9	52.8(10)	41.2	54.4	26.0	51.2	50.9	50.7	31.0
Employment rates (%, 15-64)	2011	64.3	53.4(10)	38.7	52.4	24.5	43.9	45.9	45.4	48.4

Indicator	Year	EU 27	AL	BA	HR	XK	MK	ME	RS	TR
Employment rate, female (%, 15-64)	2011	58.5	54.4 (10)	28.7	47.0	11.6	35.3	40.7	38.3	27.8
Unemployment rates (%, 15-64)	2011	9.7	14.2 (10)	28.0	13.9	44.9	31.6	19.9	23.6	9.0
Unemployment rates, female (%, 15-64)	2011	9.8	15.9 (10)	30.5	13.6	55.5	31.0	20.1	24.3	10.3
Youth unemployment rates (%, 15-24)	2011	21.3	22.5 (10) (15-29)	57.9	36.1	64.6	55.3	37.1	50.9	18.4
Youth unemployment rates, female (%, 15-24)	2011	20.7	20.7 (10) (15-29)	60.5	36.8	72.6	54.8	39.3	57.1	20.7
Completion of at least upper secondary education (%, total aged 15+) [6]	2011	67.5 (15-74)	46.7 (08) (15-74)	56.8 11	70.1 (15-74)	43.5	59.3 (15-74)	61 11	63.3 11	28.8 (15-74)
Adult literacy rates (%, 15+)	2010	98. 4 (09)	95.9 (08)	97.9*	98.8*	96.2 7 (11)	97.3*	98.4*	97.9*	90.8 (11)
Adult literacy rates, female (%, 15+)	2010	md	94.7 (08)	96.5*	98.2*	md	95.9*	97.4*	96.7*	87.3
Internal efficiency										
Participation in VET (% of upper secondary) [8]	Lay	49.9 (10)	14.2 (10)	72.3 (12)	71.5 (10)	54.8 (11)	58.4 (12)	67.3 (12)	74.2 (10)	43.6 (11)
Public expenditure on education (% of GDP)	2011	5.4* (09)	3.5 (10)	md	4.3 (09)	md	3.7 (10)	md	3.7 (10)	3.7 (10)
PISA results, % of students at proficiency level 1 or below in reading	2009	19.6	56.6	n/a	22.5	n/a	n/a	49.5	32.9	24.5
PISA results, % of students at proficiency level 1 or below in science	2009	md	57.3	n/a	18.5	n/a	n/a	53.6	34.4	29.9
PISA results, % of students at proficiency level 1 or below in mathematics	2009	md	67.7	n/a	33.2	n/a	n/a	58.4	40.5	42.2
Employment rates by education level, upper secondary (%, 15-64)	2011	68.3 10	53.6 (09)	41.4 11	55.7 10	34.3 (15+)	49.4 10	49.2	47.3	51.9 10
Unemployment rates by education level, upper secondary (%, 15-64)	2011	9.0 10	15.7 (09)	30.0	14.6 10	42.9 (15+)	31.6 10	20.6	26.1	10.7 10

Indicator	Year	EU 27	AL	BA	HR	XK	MK	ME	RS	TR
Participation in lifelong learning, % of 25-64 year-olds having participated in lifelong learning	2011	8.9	2.0(09)	md	2.3	md	3.4	0.1	4.3	2.9
Dropout rates in upper secondary VET	2011	md	2.2[12]	md	md	4.5[12(10)]	md	3.81(12)	1.5	md
Student–teacher ratio in upper secondary VET[13]	2011	md	11(12)	md	6.4(10)	16.5	13.7(10)	12.4(12)	9(12)	18.5(12)
Governance and financing										
Public expenditure in upper secondary VET (% of total education spending)	2011	md	0.74	md	md	7[14(09)]	md	23.7(12)	23.3(10)	md

Notes: (1) weighted average; (2) weighted average on 24 countries; (3) [min-median-max]; (4) EUR; (5) administrative data; (6) AL: labour force; BA: secondary + higher education; ME: vocational after primary + secondary general + secondary vocational + tertiary; RS: secondary + higher education + university; (7) population 10+; (8) ME: secondary schools; TR: secondary education; (9) post-secondary vocational; (10) upper secondary + post-secondary non-tertiary; (11) secondary school; (12) % of dropped out; (13) ME: purely VET schools; TR: secondary VET; (14) expenditure on education and vocational training as a percentage of total expenditure in the education sector; (*) estimated; md – missing data; n/a – not applicable.
Country codes: AL – Albania; BA – Bosnia and Herzegovina; HR – Croatia; XK – Kosovo; MK* – former Yugoslav Republic of Macedonia; ME – Montenegro; RS – Serbia; TR – Turkey. (*) Two-letter code yet to be defined. XK is the provisional code used by Eurostat. The provisional code MK does not affect the definitive denomination of the country to be attributed after the conclusion of the negotiations currently taking place in the United Nations.*
Sources: World Bank; Eurostat; United Nations Development Programme; World Economic Forum; Organisation for Economic Cooperation and Development; UNESCO Institute for Statistics; Institute of Statistics of the Republic of Albania; Agency for Statistics of Bosnia and Herzegovina; Croatian Bureau of Statistics; Statistical Office of Kosovo; State Statistical Office of the Republic of Macedonia; Montenegro Statistical Office; Statistical Office of the Republic of Serbia; Turkish Statistical Institute; Ministry of Education and Science – Albania; Ministry of Education, Science and Technology – Kosovo; Ministry of Education and Sports – Montenegro.

2.2 SOUTHERN AND EASTERN MEDITERRANEAN[10]

Countries in the Southern and Eastern Mediterranean region are demographically diverse, encompassing populations of just 4 million in the occupied Palestinian territory to 82.5 million in Egypt.

Dependency

Except for Israel (15%), all have young populations with a share of 15-24 year-olds around 20%. This is much higher than the average for the EU (12%). There are several countries in the region where the 'dependents' (those between ages 0 and 15 and those above age 64) are more numerous than the potential 'producers'. The most striking example is the occupied Palestinian territory where there are more than eight dependents for every ten people of working age. There are almost three Palestinians younger than 15 years old for each 'potential worker' (ages 15-64). The countries' very young populations put a lot of pressure on their education systems which must be financed by relatively few wage earners. The dependency rate for those aged 65 and above is very different from that of the EU. Only three countries have figures above 10%, one of which is Israel with 17%.

GDP and competitiveness

The basic economic data compare rather unfavourably to those of the EU. Outside Israel, whose GDP is comparable to the EU average, Libya and Lebanon have the highest GDP per capita at roughly half of the EU average. None of the other countries have more than one-third of the EU average. The economic weakness of the region is also reflected in the Global Competitiveness Index, where the first country to appear after Israel (ranked 26th) is Jordan (ranked 64th). The EU median ranking is 39. Tunisia, Syria and the occupied Palestinian territory were not part of the Index. Four countries in the region are better ranked than the worst EU Member State.

GDP growth in the region has been stronger than in Europe. With the exception of Tunisia (-1.8%), all countries have performed better than the EU average, with Morocco (4.5%), Israel (4.8%) and the occupied Palestinian territory (6.3%) as the leading countries. This would suggest that the global economic crisis affects the region less than it does the EU.

Sectors

Divided by sector, the economic data show notable differences among the countries of the region. In most, the service sector is the strongest contributor to GDP. In the case of Lebanon, the contribution of services to GDP (72%) gets very close to the EU average (73%). Jordan follows closely (66%). Only in Libya and Algeria is the contribution of industry (78% and 62% respectively) higher than that of services (20% and 31%). This is more linked to the extraction of natural resources (oil, gas) and construction than to manufacturing. In Morocco and Egypt, the contribution of agriculture to GDP is around 15%. In Syria it is even more than 20%.

When we compare these figures with employment in the different sectors, we can see that agriculture is the most labour intensive sector. In Morocco for instance, almost 40% of the employed population works in agriculture while it contributes only 15% to Moroccan GDP. Egypt has similar figures (30% of employment generating 14% of GDP). In all countries, most people are employed in services, except in Morocco, where more people are employed in agriculture.

Employment

One of the key characteristics of the Southern and Eastern Mediterranean labour markets is the existence of important gender differences for most of the indicators. Two further features in the region are low employment and activity rates and high youth unemployment rates.

Beginning with activity rates, the values only reach 50% in three countries (Israel, Libya and Egypt). Only in Israel do women have an activity rate over 50%. In the other countries the activity rate among women is very small compared to the total activity rate, ranging from 11% in Syria to 30% in Libya.

The employment rate in the region is also very low, particularly when compared to the average for the EU. Again, the figures are much lower for women than for men. Unemployment rates are higher than the EU average and unemployment affects women as a group more severely. Not only do fewer women participate in the labour market, when they participate they are also more likely to be unemployed than men.

10 European Neighbourhood South region.

Finally, youth unemployment is a critical issue in the region with a rate close to 30% or higher in four of the countries. Tunisia (42%) and the occupied Palestinian territory (36%) are the countries with the worst records. Again, like other labour market indicators, unemployment rates for young women exceed those of young men, particularly in Syria where youth unemployment among women reaches 70%.

Education

Educational attainment is also quite poor, but the average hides considerable differences among the individual countries. Morocco has the lowest educational attainment: only 17% of the population have at least upper secondary education and adult literacy is lower than 60%. Other education figures are quite different. Adult literacy in Israel and the occupied Palestinian territory is above 90%, closely followed by Libya, Jordan and Lebanon. Gender differences in literacy in the region are not nearly as marked as they are in labour statistics. The same applies to educational attainment. Women and men in the region are educated similarly but it is more difficult for women to be active in the labour market and find a job.

Few things can be said about VET due to the poor availability of reliable data. Participation in upper secondary VET does not reach 30% of the total in upper secondary education except in Israel and Egypt.

Only three countries (Israel, Jordan and Tunisia) participated in the latest round of PISA. In Tunisia, more than half of the students attained level 1 or below in reading and science, while three-quarters scored level 1 or less in mathematics. The figures for Jordan were only slightly better. Students in Israel put up a better performance but still scored below the EU average. Another important indicator for the region would be the dropout rate. We asked for dropout rates in VET, but could only source these data from Israel so we have no picture of the situation in the other countries.

Education expenditure (as a percentage of GDP) is not much different from the EU average. It seems that countries in the region are making efforts to reform their education systems but there is still room for improvement, not least in collecting the data required to improve evidence-based policy making in general education and VET.

TABLE 2.2 TORINO PROCESS KEY INDICATORS 2012 – SOUTHERN AND EASTERN MEDITERRANEAN

Indicator	Year	EU 27	DZ	EG	IL	LY	JO	LB	MA	PS	SY	TN
External efficiency												
Total population (million)	2011	47.30[1]	36.0*	82.5*	7.8*	6.4*	6.2*	4.3*	32.3*	4.0*	20.8*	10.7*
Annual population growth (%)	2011	2.74	1.4	1.7	1.8	1.1	2.2	0.8	1.0	2.9	1.8	1.0(10)
Share of 15-24 in the total population (%)	2011	11.7	19.8*	19.6*	14.7*	17.6*	21.4*	17.7*	19.5*	21.2*	20.3*	18.8*
Total dependency rates (%)	2011	49.8[2]	45.9	57.3	60.8	54.0	69.4	46.1	49.7	80.9	67.3	43.3
Young dependency rates (%)	2011	23.4[2]	39.1	49.2	43.8	47.2	62.7	35.3	41.4	75.8	60.6	33.3
Old dependency rates (%)	2011	24.5[2]	6.8	8.1	17.0	6.8	6.7	10.7	8.3	5.1	6.7	10.0
Global Competitiveness Index (rank, out of 144)	12/13	[3-39-96][3]	110	107	26	113	64	91	70	n/a	n/a	n/a
Annual GDP growth (%)	2011	1.5	2.5	1.8	4.8	2.1(09)	2.6	3.0	4.5	6.3(05)	3.2	-1.8
GDP per capita, PPP (current international $)	2011	32,665[1]	8,714.6	6,324	28,047	16,855(09)	6,007	14,709	4,986	2,465(05)	5,262	9,415
Agriculture, value added (% of GDP)	2011	1.5(10)	6.9(10)	13.9	md	1.9(08)	3.3	6.2	15.1	md	22.9(09)	8.3
Industry (incl. construction), value added (% of GDP)	2011	25.5(10)	62.1(10)	36.7	md	78.2(08)	31.1	21.4	29.9	md	30.6(09)	33.3
Services, value added (% of GDP)	2011	73.0(10)	30.9(10)	49.3	md	19.9(08)	65.6	72.4	55.1	md	46.5(09)	58.3
Share of employed in agriculture (%, 15+)	2011	5.0	10.8	29.2	1.4	md	1.9	6(09)	39.8	11.5	13.3	17.7(10)
Share of employed in industry (incl. construction) (%, 15+)	2011	25.2	30.8	23.5	19.9	md	18.5	21(09)	21.9	26.8	31.5	33 3(10)
Share of employed in services (%, 15+)	2011	69.8	58.4	47.1	78.7	md	79.6	73(09)	38.3	61.7	55.3	49.3(10)
Activity rates (%, 15-64)	2011	71.2	40 (15+)	51.3	57.4 (15+)	53.4* (15+)	39.0 (15+)	48(09) (15+)	49.2 (15+)	43.6 (15+)	40.1(10) (15+)	47.2(10) (15+)
Activity rates, female (%, 15-64)	2011	64.9	14.2 (15+)	23.9	52.7 (15+)	30.4* (15+)	14.7 (15+)	23(09) (15+)	25.5 (15+)	17.3 (15+)	10.6(10) (15+)	24.9(10) (15+)
Employment rates (%, 15-64)	2011	64.3	36 (15+)	41.3 (15+)	54.2 (15+)	49.2*(10)	34.1 (15+)	47.6(09) (15+)	44.8 (15+)	30.6	39.0(10) (15+)	44.3

Indicator	Year	EU 27	DZ	EG	IL	LY	JO	LB	MA	PS	SY	TN
Employment rates, female (%, 15-64)	2011	58.5	11.8	17.0	49.7 (15+)	26.3*(10)	12.2 (15+)	21.1(07)	22.9 (15+)	md	10.1(10) (15+)	20.8
Unemployment rates (%, 15-64)	2011	9.7	10.0	12.0	5.4 (15+)	md	12.9 (15+)	6(09)	8.9 (15+)	18.7 (15+)	9.2(10) (15+)	18.3 (15+)
Unemployment rates, female (%, 15-64)	2011	9.8	17.2	22.7	5.7 (15+)	md	21.2 (15+)	10(09)	10.2 (15+)	28.6 (15+)	26.8(10) (15+)	27.4 (15+)
Youth unemployment rates (%, 15-24)	2011	21.3	22.4 (16-24)	29.7	12.6 (18-24)	md	29.9	md	17.9	35.7	24.5	42.3
Youth unemployment rates, female (%, 15-24)	2011	20.7	38.1 (16-24)	53.2	11.9 (18-24)	md	47.0	30(09) (15-19)	17,4	53.5	70.1	30.94(07)
Completion of at least upper secondary education (%, total aged 15+)	2011	67.5 (15-74)	29.1	43.8 (25+)	74.7	md	41.2[6]	31.67(07) (3+)	17[8]	35.5(09)	23.8[9]	31.7(07)
Adult literacy rates (%, 15+)	2010	98.4(09)	72.6(06)	72.0	97.8[5](09)	89.2*	92.6	89.6(07)	56.1(09)	94.9	83.4	77.6(08)
Adult literacy rates, female (%, 15+)	2010	md	63.9(06)	63.5	md	82.7*	89.2	86(07)	43.9(09)	92.2	76.9	70.9(08)
Employment rates by education level, upper secondary (%, 15-64)	2011	68.34	38,0 (ISCED 2+3)	md	md	md	md	md	35.9(09) (ISCED 3+4)	md	29.9 (ISCED 2+3)	41.9(07) (ISCED 3+4)
Unemployment rates by education level, upper secondary (%, 15-64)	2011	9.04	8,6 (ISCED 2+3)	16.1 (ISCED 3+4)	md	md	md	md	md	md	19.1 (ISCED 2+3)	13.4(07) (ISCED 3+4)
Participation in lifelong learning, % of 25-64 year-olds having participated in lifelong learning	2011	8.9	md	md	md	md	md	md	md	md	md	md
Internal efficiency												
Participation in VET (% of upper secondary)	Lay	49.9 (10)	12.1(06)	50.7(09)	35.3	md	14.8(09)	27.4(10)	12.4(07)	6.1(10)	21.3(10)	10.9(09)
PISA results, % of students at proficiency level 1 or below in reading	2009	19.6	n/a	n/a	26.6(10/11)	n/a	48.1	n/a	n/a	n/a	n/a	50.1
PISA results, % of students at proficiency level 1 or below in science	2009	md	n/a	n/a	33.1	n/a	45.6	n/a	n/a	n/a	n/a	53.7

Indicator	Year	EU 27	DZ	EG	IL	LY	JO	LB	MA	PS	SY	TN
PISA results, % of students at proficiency level 1 or below in mathematics	2009	md	n/a	n/a	39.4	n/a	65.3	n/a	n/a	n/a	n/a	73.6
Dropout rates in upper secondary VET	2011	md	md	md	3.0(10/11)	md	md	md	md	md	md	md
Student–teacher ratio in upper secondary VET	2011	md	md	md	md	md	md	md	md	md	md	md
Governance and finance												
Public expenditure on education (% of GDP)	2011	5.4*(09)	4.3(08)	3.8	5.8(09)	md	4.9	1.8(09)	5.4	md	4.9	4.6(09)
Public expenditure on upper secondary VET (% of total education spending)	2011	md	md	md	8.5(09) (all VET)	md	3.2	md	md	md	md	md

Notes: (1) weighted average; (2) weighted average on 24 countries; (3) [min-median-max]; (4) upper secondary + post-secondary non-tertiary; (5) less accurate data; (6) secondary + intermediate diploma + bachelor and above; (7) secondary + university; (8) secondaire + supérieur; (9) secondary + intermediate institutes + over university; (*) estimated; md – missing data; n/a – not applicable.
Country codes: DZ – Algeria; EG – Egypt; IL – Israel; LY – Libya; JO – Jordan; LB – Lebanon; MA – Morocco; PS – Palestine; SY – Syria; TN – Tunisia.
Sources: World Bank; Eurostat; United Nations Development Programme; World Economic Forum; Organisation for Economic Cooperation and Development; UNESCO Institute of Statistics; International Labour Organisation – KILM database; MEDA-ETE; State Statistical Office – Algeria; Central Agency for Public Mobilization and Statistics – Egypt; Central Bureau of Statistics – Israel; Department of Statistics – Jordan; Central Administration of Statistics – Lebanon; Haut Commissariat au Plan – Morocco; Palestinian Central Bureau of Statistics; Central Bureau of Statistics – Syria; National Institute of Statistics – Tunisia.

2.3 EASTERN EUROPE[11]

The ETF partner countries in Eastern Europe are quite diverse in country size and population. The three Caucasus countries – Armenia, Azerbaijan and Georgia – have small population sizes. So do the Republic of Moldova[12] and Belarus. Ukraine on the other hand has around 46 million inhabitants and Russia almost 142 million (2011). The share of the young population (ages 15-24) is higher than the EU average in all seven countries, ranging from 14% in Ukraine to 21% in Azerbaijan (2010).

Dependency

The dependency rates are lower than the EU average, ranging from 38% in Azerbaijan and Moldova to 45% in Armenia and Georgia. This suggests that nearly half of the population must be supported by the other half who are in the productive age (defined here as aged 15-64 years). In most of the countries (except Azerbaijan), the pattern of an ageing population can be detected: we find around two people over the age of 65 for every ten people in the productive age. Belarus, Moldova, Russia and Ukraine experienced either no population growth in 2011 or even a decline.

GDP and competitiveness

GDP growth was positive in 2011. All countries reached well above the average GDP growth in the EU except for Azerbaijan, where GDP grew only by 1%. GDP per capita differs greatly from country to country. In Armenia, Georgia and Moldova GDP per capita amounted to only around 6,000 PPP$ or lower in 2011. The slightly wealthier countries of this region include Ukraine (7,251 PPP$ in 2011), Azerbaijan (10,136 PPP$ in 2011) and Belarus (15,040 PPP$ in 2011). The richest country of this group is Russia with 21,358 PPP$ in 2011. This is also reflected in the Global Competitiveness Index, where the lowest ranked countries are Moldova (87th place out of 144), Armenia (82nd) and Georgia (77th). The best ranked country is Azerbaijan which ranked 46th in the 2012/13 index.

Sectors

The sector contributing most to GDP in all countries except Azerbaijan is the service sector. In Azerbaijan, industry generated 67% of GDP in 2011[13]. The contribution of agriculture is still high in Armenia (21% of GDP in 2011) and Moldova (14% of GDP in 2011). The industrial sector is still important, especially in Azerbaijan, Armenia, Belarus, Russia and Ukraine, where its contribution to GDP is higher than the equivalent average in the EU. As regards employment, we can see that the highest share of employed work can be found in the service sector, except in Georgia, where agriculture takes this position. Indeed, throughout the region the agricultural sector absorbs an important part of the labour force despite its generally low contribution to GDP.

Employment

Outside Moldova, the activity levels of Eastern Europe are close to or even higher than the EU average (71% in 2011). Gender differences are generally small. The employment rates vary from 44% in Moldova to 71% in Azerbaijan. Unemployment levels are high in Armenia (19% in 2011) and Georgia (17% in 2011). Unemployment levels in the other countries are lower than the EU average (10% in 2011). No large gender differences can be seen here either. Youth unemployment in the Eastern European countries is higher than total unemployment. This situation is particularly alarming in Armenia and Georgia, where the rates were 39% (in 2010) and 36% (in 2011) respectively. However, in four of the six countries for which we have data, the youth unemployment rate is below the EU average.

Education

Educational attainment in the region is high. The vast majority of those aged 15 and above (around 90%, except in Moldova) have at least upper secondary education. Educational attainment is higher among women than among men in Georgia, Armenia, Russia and Ukraine. The overall high educational attainment is also reflected in high adult literacy rates. Almost the entire adult population is estimated to be literate.

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11 European Neighbourhood East region and Russia.

12 Hereinafter 'Moldova'.

13 However, a large part of the industrial sector accounts for oil and gas extraction and not manufacturing *per se*.

Education expenditure is below the EU average (5.4% of GDP in 2009), except in Moldova, where the education budget covered 9.1% of GDP in 2010.

Only two countries from this region took part in the PISA testing. While the students from Russia scored rather well (only around one-quarter of the students scored at proficiency level 1 or below), the scores of the Azeri students were rather weak, especially in reading and science where around 70% of students scored only at proficiency level 1 or below.

Participation in VET differs much throughout the region, where the sector still has difficulty redefining itself. The share of students in upper secondary VET is very small in Armenia (6.4% in 2010), Georgia (1.2% in 2008) and Belarus (2.6% in 2007) but in Russia and Azerbaijan almost half of the students at the upper secondary level attend vocational education. Although data are incomplete for some countries, we can see that expenditure on VET is generally rather small. It is around 5% of the education budget in Armenia (in 2011 – only ISCED 3 VET), 4% in Georgia (in 2012) and 9% in Ukraine (in 2011 – only ISCED 3 VET).

Data (although incomplete) suggest that dropout rates in upper secondary VET are not high and do not exceed 6%. The student–teacher ratios in upper secondary VET also range widely from 5.3 in Armenia (2011) to 23 in Belarus (2011). Almost no data relating to lifelong learning are available, except for Moldova where only 1% of the population aged 25-64 took part in training in 2010. The ETF report on continuing vocational training in Eastern Europe (2013) suggests an increased demand for CVT in all countries with Belarus and Russia as frontrunners.

Looking at the relationship between employment and educational attainment we can see that people with primary or secondary VET generally appear to have better employment opportunities than people with only secondary general education. Only in Azerbaijan does the situation seem to be the opposite. Unemployment among higher education graduates is a growing problem. In several countries it is higher than unemployment among VET graduates.

TABLE 2.3 TORINO PROCESS KEY INDICATORS 2012 – EASTERN EUROPE

Indicator	Year	EU 27	AM	AZ	BY	GE	MD	RU	UA
External efficiency									
Total population (million)	2011	47.3[1]	3.10	9.11	9.48	4.49	3.56	141.93	45.71
Annual population growth (%)	2011	2.7	0.3	1.3	-0.2	0.7	-0.1	0.0	-0.4
Share of 15-24 in the total population (%)	2010	11.7	18.0	20.8	14.1	15.7	18.0	14.4	14.0
Total dependency rates (%)	2011	49.8[2]	45.3	37.7	40.0	44.6	38.4	39.0	42.2
Young dependency rates (%)	2011	23.4[2]	29.4	28.9	21.1	23.9	22.9	21.2	20.4
Old dependency rates (%)	2011	24.5[2]	15.9	8.9	18.9	20.7	15.5	17.7	21.9
Global Competitiveness Index (rank, out of 144)	12/13	[3-39-96][3]	82	46	n/a	77	87	67	73
Annual GDP growth (%)	2011	1.5	4.6	1.0	5.3	7.0	6.4	4.3	5.2
GDP per capita, PPP (current international $)	2011	32,665[1]	5,829.0	10,136.1	15,040.3	5,502.5	3,391.9	21,358.3	7,250.5
Agriculture, value added (% of GDP)	2011	1.5(10)	20.7	5.8	8.1	7.2	13.5	4.0(10)	8.3
Industry (incl. construction), value added (% of GDP)	2011	25.5(10)	37.1	66.8	41.0	18.2	12.4	36.7(10)	31.4
Services, value added (% of GDP)	2011	73.0(10)	42.2	27.4	50.9	74.6	74.2	59.3(10)	60.3
Share of employed in agriculture (%, 15+)	2011	5.0	38.6(10) (15-75)	37.9	10.4 (men 16-59; women 16-54)	53.4(07)	27.5	7.9(10) (15-72)	16.8 (15-70)
Share of employed in industry (incl. construction) (%, 15+)	2011	25.2	17.4(10) (15-75)	14.1	34.1 (men 16-59; women 16-54)	10.4(07)	18.7	27.7(10) (15-72)	21.0 (15-70)
Share of employed in services (%, 15+)	2011	69.8	44.0(10) (15-75)	48.1	55.5 (men 16-59; women 16-54)	36.2(07)	53.7	64.4(10) (15-72)	62.2 (15-70)
Activity rates (%, 15-64)	2011	71.2	64.1(10)	75.0	65.5*(10)	71.5	47.0	67.7(10) (15-72)	67.3

Indicator	Year	EU 27	AM	AZ	BY	GE	MD	RU	UA
Activity rates, female (%, 15-64)	2011	64.9	54.9(10)	73.3	62.0*(10)	55.8 (15+)	44.9	62.3(10) (15-72)	61.8
Employment rates (%, 15-64)	2011	64.3	53.3	70.9	50.1*(10) (15+)	59.3	43.8	62.7(10) (15-72)	61.9
Employment rate, female (%, 15-64)	2011	58.5	46.3	70.0	45.3*(10) (15+)	48.5 (15+)	42.3	58.0(10) (15-72)	57.5
Unemployment rates (%, 15-64)	2011	9.7	19.3	5.5	0.6[4] (men 16-59; women 16-54)	17.0	6.8	7.5(10; 15-72)	8.0
Unemployment rates, female (%, 15-64)	2011	9.8	20.7	6.5	0.6[4] (16-54)	13.1 (15+)	5.7	6.9(10) (15-72)	7.0
Youth unemployment rates (%, 15-24)	2011	21.3	38.9(10)	14.7	md	35.6	14.9	17.2(10)	18.6
Youth unemployment rates, female (%, 15-24)	2011	20.7	48.0(10)	14.1	md	40.7(08)	15.8	17.5(10)	18.7
Completion of at least upper secondary education (%, total aged 15+)	2011	67.5 (15-74)	87.6(10)	86.7	93.9(09) (ISCED 2 incl.)	90.1*(08)	69.2	88.1(10) (15-72)	87.9 (15-70)
Adult literacy rates (%, 15+)	2010	98.4(09)	99.6*	99.8(09)	99.6(09)	99.7*	98.5*	99.6*(09)	99.7*
Adult literacy rates, female (%, 15+)	2010	md	99.4*	99.7(09)	99.5(09)	99.7*	98.1*	99.5*(09)	99.6*
Employment rates by education level, upper secondary VET (%, 15-64)[6]	2011	68.37	65.3	68.4 (15+)	md	74.5 (15+)	52.3	72.4(10) (15-72)	md
Unemployment rates by education level, upper secondary VET (%, 15-64)[6]	2011	9.07	18.2	5.7 (15+)	md	10.3 (15+)	7.3	7.9(10) (15-72)	md
Participation in lifelong learning, % of 25-64 year olds having participated in lifelong learning	2011	8.9	md	md	md	md	1.0(10)	md	md
Internal efficiency									
Participation in VET (% of upper secondary)	Lay	49.9(10)	6.4(10)	44.5(10)	2.6(07)	1.2(08)	20.1(11)	48.5(09)	28.6(10)
PISA results, % of students at proficiency level 1 or below in reading	2009	19.6	na	72.7	n/a	n/a	n/a	27.4	n/a

Indicator	Year	EU 27	AM	AZ	BY	GE	MD	RU	UA
PISA results, % of students at proficiency level 1 or below in science	2009	md	na	70.0	n/a	n/a	n/a	22	n/a
PISA results, % of students at proficiency level 1 or below in mathematics	2009	md	na	45.3	n/a	n/a	n/a	28.5	n/a
Dropout rates in upper secondary VET	2011	md	3.8	md	4.1[8]	md	md	md	5.9
Student–teacher ratio in upper secondary VET	2011	md	5.3	md	23[9]	md	md	md	8.0[5(10)]
Governance and financing									
Public expenditure on education (% of GDP)	2011	5.4[(09)]	3.2[(10)]	3.3[(09)]	4.5[(09)]	3.2*[(09)]	9.1[(10)]	4.1[(08)]	5.3[(07)]
Public expenditure on upper secondary VET (% of total education spending)	2011	md	4.8	5.2[(07)]	md	4.1[(12)]	md	md	8.5

Notes: (1) weighted average; (2) weighted average on 24 countries; (3) [min-median-max]; (4) administrative data; (5) data refer to all VET; (6) GE, RU: primary VET; AZ: vocational education; MD: secondary professional; (7) upper secondary + post-secondary non-tertiary; (8) data refer to TVET; (9) data refer to full-time public TVET; (*) estimated; md – missing data; n/a – not applicable.
Country codes: AM – Armenia; AZ – Azerbaijan; BY – Belarus; GE – Georgia; MD – Moldova; RU – Russia; UA – Ukraine.
Sources: World Bank; Eurostat; United Nations Development Programme; UNESCO Institute of Statistics; World Economic Forum; Organisation for Economic Cooperation and Development; International Labour Organisation – KILM database; State Statistical Committee of Azerbaijan; National Statistical Service of the Republic of Armenia; National Statistical Committee of the Republic of Belarus; National Bureau of Statistics of the Republic of Moldova; Russian Federation Federal State Statistics Service; State Statistics Service of Ukraine.

2.4 CENTRAL ASIA

Out of the five partner countries in Central Asia, Kyrgyzstan, Turkmenistan and Tajikistan have populations of between 5 and 7 million inhabitants. The other two, Kazakhstan and Uzbekistan, have larger populations: 17 and 29 million respectively. In all five countries the percentage of young people is large and growing. In 2010, the share of 15-24 year-olds was estimated to be between 19% in Kazakhstan to 24% in Tajikistan.

Dependency

This is also reflected in the dependency rates that show the relation between the number of non-working age persons (below 15 and above 64 years old) and the number of persons in the working age (15-64). This ranges between 46% in Kazakhstan and 67% in Tajikistan, indicating a high burden on the productive part of the population. The figure is largely accounted for by the young population. There are about four children (six in Tajikistan) younger than 15 years for every ten people aged 15-64. In general, these data show that the populations of Central Asia are very young. This may present challenges for the education systems that need to accommodate them as well as for the local labour markets in which they will soon seek employment.

GDP and competitiveness

GDP growth in 2011 was strong in all five countries, ranging between 7% in Kyrgyzstan and 9.9% in Turkmenistan, which suggests a recovery of the economies after the crisis. The least economically developed countries are Tajikistan and Kyrgyzstan, which are considered low-income countries by the World Bank. The GDP per capita of Tajikistan is 2300 PPP$ while that for Kyrgyzstan is 3,400 PPP$. In the region's biggest economy, Kazakhstan, the GDP per capita is more than one-third of the EU average (2011). These low GDP values are also reflected in the latest Global Competitiveness Index, where Kyrgyzstan and Tajikistan were ranked only at the 127th and 100th place respectively (out of 144 countries). Kazakhstan improved its rank from 72nd in 2011 to 51st in 2012. While this position is still a little below the EU median range it is much higher than the lowest ranked EU Member States. Turkmenistan and Uzbekistan do not take part in the evaluation.

Sectors

For all countries except Turkmenistan, the sector contributing most to GDP is the service sector. In Turkmenistan industry contributes more. The contribution of the service sector ranges from 45% of GDP in Uzbekistan to 60% in Tajikistan. Interestingly, the agricultural sector is still relatively large, contributing some 20% to GDP in Tajikistan, Kyrgyzstan and Uzbekistan. Large industrial sectors are primarily found in Kazakhstan and Turkmenistan, most of them related to these countries' rich natural resources.

The agricultural sector is still an important employer in all countries (although no recent data are available for Turkmenistan and Uzbekistan). In Tajikistan, more than half of those employed between ages 15 and 75 worked in agriculture (2009). This is very different in EU Member States, where both the contribution of agriculture to GDP and the sector's role in employment are very small.

Employment

The activity rates range between 52% (Tajikistan, 2009) and 78% (Kazakhstan, 2011). The latter is much higher than the EU average of 71% for the working age population. Yet, relatively large gender differences can be observed in all the countries except Kazakhstan. The biggest gap is found in Tajikistan, where the activity rate for working-age women was only 40% in 2009, compared to 52% for men. Activity rates are around 10% higher in Turkmenistan and Uzbekistan and even 15% higher in Kyrgyzstan.

The situation is similar for employment rates. The employment level is lowest in Tajikistan (46%, 2009) and highest in Kazakhstan (74%, 2011) and employment levels among women are consistently lower than among men. Unemployment rates range between 5% in Kazakhstan (2011) and 12% in Tajikistan (2009). The youth unemployment rate is higher than the overall unemployment rate in Kyrgyzstan and Tajikistan but still lower than the EU average. No data are available for Turkmenistan and Uzbekistan. Nevertheless, the existence of an active policy of job creation for young graduates in Uzbekistan (see Torino Process report, 2012) suggests a high youth unemployment rate.

Education

The education profile of the population aged 15 years and over is rather strong as 71% of the population in Tajikistan (in 2009) to 90% of the population in Kazakhstan (in 2011) have attended at least upper secondary education. This is higher than the average for EU Member States. There are no significant gender differences, except in Tajikistan where men are generally more schooled than women. The high educational attainment is also reflected in high adult literacy rates both for males and females. Almost the whole population of age 15 and above is considered to be literate in all five Central Asian countries. This is still a legacy of the Soviet Union.

The budget for education (as a percentage of GDP) is below the EU average in Kazakhstan (3.1%, 2009) and Tajikistan (4.6%, 2010). In Kyrgyzstan and Uzbekistan it is higher, at 6% and 8% (2010) respectively. In the international PISA test results, available only for Kyrgyzstan and Kazakhstan, the countries rank poorly, with the majority of students scoring low in all three domains: reading, science and mathematics. So while attainment is high, there seems to be scope for improvement in the quality of education.

Participation figures for VET vary from country to country. In Uzbekistan, 64% of the pupils at the upper secondary level attended vocational education in 2006[14]. In the other countries the share of students attending the VET education at the upper secondary level range from 11% in Tajikistan (2010) to 24% in Kazakhstan (2011). Both figures are much lower than the share of VET students at this education level in the EU (50%). In Uzbekistan (2010) 24% of the total education budget was allocated to *secondary* VET compared to just 5% in Kyrgyzstan and 4% in Tajikistan (2011) for *all of* VET. When comparing employment statistics of groups with different educational backgrounds, we can see that employment among people with primary or secondary VET is higher than among people with only secondary general education.

14 However, government statistics nowadays indicate that over 90% of cohort students choose vocational colleges in Uzbekistan.

TABLE 2.4 TORINO PROCESS KEY INDICATORS 2012 – CENTRAL ASIA

Indicator	Year	EU 27	KZ	KG	TJ	TM	UZ
External efficiency							
Total population (million)	2011	47.3[1]	16.56	5.51	6.98	5.11	29.34
Annual population growth (%)	2011	2.7	1.4	1.1	1.4	1.3	2.7
Share of 15-24 in the total population (%)	2010	11.7	18.7	22.7	23.5	21.8	22.4
Total dependency rates (%)	2011	49.8[2]	46.0	52.1	66.5	49.1	49.6
Young dependency rates (%)	2011	23.4[2]	36.2	45.5	60.8	43.0	43.1
Old dependency rates (%)	2011	24.5[2]	9.8	6.5	5.7	6.1	6.4
Global Competitiveness Index (rank, out of 144)	12/13	[3-39-96][3]	51	127	100	na	na
Annual GDP growth (%)	2011	1.5	7.5	7.0	7.4	9.9	8.3
GDP per capita, PPP (current international $)	2011	32,665[1]	13,189.2	2,423.8	2,340.2	9,184.4	3,309.9
Agriculture, value added (% of GDP)	2011	1.5(10)	5.3	19.8	19.9	12.0	18.9
Industry (incl. construction), value added (% of GDP)	2011	25.5(10)	44.3	28.7	20.2	54.0	36.1
Services, value added (% of GDP)	2011	73.0(10)	50.4	51.5	60.0	34.0	45.0
Share of employed in agriculture (%, 15+)	2011	5.0	26.5	31.2(10)	52.9(09) (15-75)	md	38.5*(99)
Share of employed in industry (incl. construction) (%, 15+)	2011	25.2	19.0	21.1(10)	15.6(09) (15-75)	md	19.4*(99)
Share of employed in services (%, 15+)	2011	69.8	54.6	47.7(10)	31.5(09) 15-75)	md	42.1*(99)
Activity rates (%, 15-64)	2011	71.2	78.2	68.0(10)	51.6(09)	63.6*(10)	63.9*(10)
Activity rates, female (%, 15-64)	2011	64.9	74.3	56.2(10)	39.6(09)	49.2*(10)	50.5*(10)

Indicator	Year	EU 27	KZ	KG	TJ	TM	UZ
Employment rates (%, 15-64)	2011	64.3	73.9	62.0 (10)	45.6 (09)	54.0* (10) (15+)	54.0* (10) (15+)
Employment rate, female (%, 15-64)	2011	58.5	69.6	50.6 (10)	35.4 (09)	41.4* (10) (15+)	42.4* (10) (15+)
Unemployment rates (%, 15-64)	2011	9.7	5.4	8.7 (10)	11.6 (09)	md	0.4 5(08)
Unemployment rates, female (%, 15-64)	2011	9.8	6.3	10.0 (10)	10.6 (09)	md	md
Youth unemployment rates (%, 15-24)	2011	21.3	4.6	16.7 (10)	16.7 (09)	md	md
Youth unemployment rates, female (%, 15-24)	2011	20.7	5.0	20.3 (10)	13.7 (09)	md	md
Completion of at least upper secondary education (%, total aged 15+)	2011	67.5 (15-74)	90.2	81.6 (10)	71.2 (09) (15-75)	md	md
Adult literacy rates (%, 15+)	2010	98.4 (09)	99.7*	99.2 (09)	99.7*	99.6*	99.4*
Adult literacy rates, female (%, 15+)	2010	md	99.6*	99.0 (09)	99.6*	99.5*	99.2*
Internal efficiency							
Participation in VET (% of upper secondary)	Lay	49.9 (10)	23.9 (11)	15.2 (10)	10.7 (10)	md	63.8 (06)
PISA results, % of students at proficiency level 1 or below in reading	2009	19.6	58.6	83.3	na	na	na
PISA results, % of students at proficiency level 1 or below in science	2009	md	55.4	81.9	na	na	na
PISA results, % of students at proficiency level 1 or below in mathematics	2009	md	59.2	86.6	na	na	na
Employment rates by education level, upper secondary VET (%, 15-64)[7]	2011	68.3[8]	76.7 (15+)	77.4 (10) (15+)	68.6 (09) (15-75)	md	md
Unemployment rates by education level, upper secondary VET (%, 15-64)[7]	2011	9.0[8]	4.1 (15+)	5.6 (10) (15+)	11.9 (09) (15-75)	md	md
Participation in lifelong learning, % of 25-64 year-olds having participated in lifelong learning	2011	8.9	md	md	md	md	md

Indicator	Year	EU 27	KZ	KG	TJ	TM	UZ
Dropout rates in upper secondary VET	2011	md	md	md	md	md	md
Student–teacher ratio in upper secondary VET	2011	md	16.0[6]	md	md	md	md
Governance and financing							
Public expenditure on education (% of GDP)	2011	5.4*(09)	3.1(09)	6.0(10)	4.6*(10)	4.3(09)	8.3(10)
Public expenditure in upper secondary VET (% of total education spending)[4]	2011	md	md	5.0	3.8	md	24.0(10)

Notes: (1) weighted average; (2) weighted average on 24 countries; (3) [min-median-max]; (4) TJ: primary and secondary VET; KG: vocational education; (5) administrative data; (6) data refer to ISCED 4 VET; (7) KZ, KG, TJ,: primary VET; (8) upper secondary + post-secondary non-tertiary; (*) estimated; md – missing data; n/a – not applicable.
Country codes: KZ – Kazakhstan; KG – Kyrgyzstan; TJ – Tajikistan; TM – Turkmenistan; UZ – Uzbekistan.
Sources: World Bank; Eurostat; United Nations Development Programme; UNESCO Institute of Statistics; World Economic Forum; Organisation for Economic Cooperation and Development; The Agency of Statistics of the Republic of Kazakhstan; National Statistical Committee of the Kyrgyz Republic; Statistical Agency under President of the Republic of Tajikistan; International Labour Organisation – KILM database; The State Committee of the Republic of Uzbekistan on Statistics; LABORSTA database.

3. INTERNATIONAL DEVELOPMENTS REGARDING INDICATORS

3.1 THE EDUCATION AND TRAINING 2020 BENCHMARKS

International comparisons are a valuable tool for discovering policy strengths and weaknesses. Recognising this, the ETF has gradually increased their use in its work with the partner countries. The most important current EU benchmarks for these comparisons are the Education and Training 2020 (ET 2020) targets, which drive education and training development and progress in the EU Member States.

The ETF made an overview of the availability of information by which progress towards these benchmarks can be measured across the four regions.

The Western Balkan countries and Turkey are more naturally engaged in comparison with the EU than other partner countries because they are potential candidates for accession. Croatia is even considered an acceding country with an expected entry date of 1 July 2013. For this reason, relevant indicators were more readily available in these countries. But even in these countries we still encountered availability problems. We found no relevant data for Kosovo, tertiary educational attainment figures were lacking for most of the countries and coverage of participation in lifelong learning was incomplete. Sometimes the information was not sufficiently updated. In other cases the used age ranges were different from those used in the EU.

Indicators that are compatible with the ET 2020 benchmarks are rarely published in the countries of the Southern and Eastern Mediterranean. Yet, labour market data do exist, as do indicators referring to employment for the population aged 20-64 and the share of early school leavers. From these, it should be possible to calculate comparable data. On the other hand, reliable and current education data are scarce, in particular data referring to adult education.

The data needed for comparison with the ET 2020 benchmarks are quite readily available in the countries of Eastern Europe, while more gaps remain in Central Asia. In general, partner countries in Eastern Europe are more often exposed to the EU indicators and the available data sources are relatively complete and detailed. This allows us to calculate those indicators that are not generally published. From these regions too, there is almost no information on adult education.

The partner countries are generally quite motivated to follow EU examples and to set up benchmarks for their own education systems.

3.2 THE INTER-AGENCY GROUP AND THE G20

The Inter-Agency Group on TVET was established to pursue systematic cooperation and improved coordination between key international agencies supporting TVET. The working group's prime focus is on developing countries. The other agencies in the group are UNESCO and its Institute for Statistics, the International Labour Organisation, the OECD, the Asian Development Bank, the World Bank and several bilateral donor agencies who are active observers.

During the last two years the ETF has chaired the work of its working group that specifically covers indicators. This working group agreed on a minimum set of indicators to be used as a monitoring tool for education and training system developments. The indicators were designed to be used by national authorities. They were not expressly designed for comparative purposes.

To enrich the Torino Process work, the ETF nonetheless chose to compare its indicators in regional reports. These indicators included those suggested by the Inter-Agency Group's working group on indicators.

Although the level of detail can be quite different, there is considerable overlap between the indicators used by the ETF in the Torino Process and the indicators considered by the Inter-Agency Group, in particular in areas related to participation and the cost and quality of education. The existing differences between the two are mainly a result of the fact that in gathering the Torino Process indicators, the ETF takes into account the actual availability of the information. After all, the main objective of the Torino Process is to provide an existing base of evidence for ongoing VET analysis. The Inter-Agency Group's list, on the other hand, is designed as a monitoring tool for individual countries, so all relevant indicators that ought to be (but not necessarily are) available are included.

Yet, the gaps hint at areas where future Torino Process indicators can be improved, such as in apprenticeship, the demand for VET, the utilisation of skills, and ICT. The Torino Process indicators are evaluated before each round so a future round may start taking these areas (or some of these areas) into account.

The G20 summit in Seoul in 2010 requested that by 2014 the OECD, the World Bank, the ILO and UNESCO 'develop internationally comparable and practical indicators of skills for employment and productivity in developing countries, particularly [low-income countries]'. The OECD and the ILO have drafted a first proposal for such indicators and are currently in the process of assessing their global availability. The ETF has been engaged in this process by passing on feedback from its partner countries, in particular Tajikistan and Kyrgyzstan, on the feasibility of these G20 indicators. Should a comparable database become operational by 2014, the ETF will avail itself of it and support ETF partner countries in submitting the required information.

CONCLUSIONS AND FUTURE STEPS

The trends and the data availability across the four regions vary greatly. As a result, generally, comparisons between countries *within* a region are possible, but that comparisons made across the regions will be less accurate.

The most fruitful course of action is therefore to continue gathering regional key indicators and to conduct analysis at the same level. In regions where more data are available and where more sophisticated indicators can be collected (such as in the Western Balkans and Turkey) more extensive sets of key indicators can be collected in future years. ETF projects in the latter region already routinely use more indicators than can be reliably collected in the other regions. This allows for a more in-depth analysis of education and training and labour market issues in the Western Balkans and Turkey than in the other regions. Future key indicator publications may take advantage of this fact.

The annexes to this document outline the ETF key indicators and their definitions, as well as the ET 2020 benchmarks and details on the data coverage and quality in the four regions. Because data gaps were found in all countries it is important to continue to improve existing data collections, so that policy making to a greater extent can be based on the use of evidence, both quantitative and qualitative.

In the future, efforts should be made to ensure the creation of a stable core list of ETF key indicators, which might allow a longitudinal analysis to see trends within our partner countries for a core group of indicators. Still, incremental changes are likely to occur in order to accommodate changes in interest and political emphasis.

ANNEXES

ANNEX 1. LIST OF KEY INDICATORS 2012

Indicator	Abbreviation	
	2012	2010
Total population (World Bank)	POP.1	POP.1
Population growth rates (World Bank)	POP.2	
Population by age group (UNDP/NSO)	POP.3	
Total dependency rates (World Bank/NSO)	DEP.1	ADD.3
Young dependency rates (World Bank/NSO)	DEP.2	ADD.3
Old dependency rates (World Bank/NSO)	DEP.3	ADD.3
Educational attainment of population by gender (15+) (NSO/Eurostat)	ATT.1	ATT.1
Illiteracy/literacy rates by gender (UIS/NSO)	ILL.1	ILL.1
Annual GDP growth (%) (World Bank/NSO)	GDP.1	
GDP per capita, PPP (current international $) (World Bank/NSO)	GDP.2	ADD.2
Employment by main sectors (15+) (NSO/Eurostat)	EMP.3	EM.4
GDP by main sectors (World Bank/NSO)	GDP.3	ADD.1
Global Competitiveness Index (World Economic Forum)	COM.1	ADD.6
Activity rates by gender (15+) (NSO/Eurostat)	ACT.1	ACT.1.2
Employment rates by gender (15+) (NSO/Eurostat)	EMP.1	
Unemployment rates by gender (15+) (NSO/Eurostat)	UNE.1	
Youth unemployment rates, by gender (15-24) (NSO/Eurostat)	UNE.3	
Changes in employment by status and gender (15+) (NSO/Eurostat)	EMP.4	EM.3
Total enrolment by education level and programme (UIS/NSO)	ENR.1	ENR.1
Public expenditure on education by level (UIS/ministries of finance)	EXP.1	
PISA results (OECD)	PISA.1	ADD.4
Employment rates by gender and education level (15-64) (NSO/Eurostat)	EMP.2	EM.1
Unemployment rates by gender and education level (15-64) (NSO/Eurostat)	UNE.2	UN.1
Participation in lifelong learning (UIS/ministries of labour)	LLL.1	LLL.1
Participation in VET in percentage by field of study (UIS/ministries of labour)	ENR.2	ENR.3
Dropout rates in upper secondary education, general education and VET, by gender (NSO/ministries of education)	DRO.1	DRO.1
Student–teacher ratio by programme (NSO/ministries of education)	TEA.1	TEA.1
Public expenditure on VET (% of total spending on education) (ministries of finance)	EXP.2	EXP.1.3

Note: The shaded rows refer to the additional detailed indicators for which the ETF asked the countries for support. In parentheses are included the most common sources.

ANNEX 2. DEFINITION OF SELECTED INDICATORS

Definition	Indicator
The **total dependency rate** refers to the number of persons under age 15 plus the number of persons aged 65 or older for every 100 persons aged 15-64.	DEP.1
The **child dependency rate** refers to the number of persons under age 15 for every 100 persons aged 15-64.	DEP.2
The **aged dependency rate** refers to the number of persons aged 65 or older for every 100 persons aged 15-64.	DEP.3
The **Global Competitiveness Index** (GCI) is a tool that measures the microeconomic and macroeconomic foundations of national competitiveness. Competitiveness is defined as the set of institutions, policies and factors that determine the level of productivity of a country. (World Economic Forum, *The Global Competitiveness Index 2012-2013*)	COM.1
Annual percentage growth rate of GDP at market prices based on constant local currency. Aggregates are based on constant USD 2000. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. (World Bank, World Development Indicators)	GDP.1
PPP GDP is the gross domestic product converted to international dollars using purchasing power parity rates. An **international dollar** has the same purchasing power over GDP as the US dollar has in the United States. **GDP** at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. (World Bank, World Development Indicators)	GDP.2
Activity rates (labour force participation rates) represent the labour force as a percentage of the population of working age (typically 15-64 years). The labour force comprises persons in employment and unemployed persons.	ACT.1
The **total employment rate** is calculated by dividing the number of working-age persons in employment by the total population of the same age group. (Eurostat)	EMP.1
Status in employment refers to the status of an economically active person with respect to his or her employment, that is, the type of explicit or implicit contract of employment with other persons or organisations that the person has in his or her job. The economically active population is classified by status in employment as follows: ■ employees, among whom it may be possible to distinguish between employees with stable contracts (including regular employees) and other employees; ■ employers; ■ own-account workers; ■ contributing family workers; ■ members of producers' co-operatives; ■ persons not classifiable by status.	EMP.4

Definition	Indicator
The **total unemployment rate** refers to the number of unemployed persons of age 15 and over as a percentage of the labour force. (Eurostat)	UNE.1
The **youth unemployment rate** refers to unemployed persons aged 15–24 as a percentage of the labour force aged 15-24.	UNE.3
Educational attainment is defined as the highest grade completed within the most advanced level attended in the education system of the country where the education was received.	ATT.1
The **illiteracy rate** refers to the percentage of the population of age 15 and over who cannot both read and write (with understanding) a short, simple statement on their everyday lives. The **literacy rate** refers to the percentage of the population aged 15 years and over who can both read and write (with understanding) a short, simple statement on their everyday lives.	ILL.1
Lifelong learning encompasses all learning activity undertaken throughout life with the aim of improving knowledge, skills and competences, within a personal, civic, social and or employment-related perspective. Here it is understood to mean that an individual has participated in training in the four-week reference period prior to the interview. (It is assumed that data will come from labour force surveys or similar.)	LLL.1
The **dropout rate** is the proportion of pupils or students from a cohort enrolled in a given level at a given school year who are no longer enrolled in the following school year.	DRO.1
The **student–teacher ratio** refers to the average number of pupils or students per teacher at a specific level of education in a given school year.	TEA.1
Level of education: An ordered set of categories, intended to group educational programmes in relation to gradations of learning experiences and the knowledge, skills and competencies which each programme is designed to impart. The concept of the ISCED level reflects the degree of complexity and specialisation of the content of an educational programme, from foundational to complex (UNESCO). For instance, lower secondary education (ISCED level 2) or primary education (ISCED level 1) are levels of education.	TEA.1
Educational programme: A coherent set or sequence of educational activities designed and organized to achieve pre-determined learning objectives or accomplish a specific set of educational tasks over a sustained period. Within an educational programme, educational activities may also be grouped into sub-components variously described in national contexts as 'courses, 'modules', 'units', and/or 'subjects'. A programme may have major components not normally characterized as courses, units, or modules – for example, play-based activities, periods of work experience, research projects and the preparation of dissertations (UNESCO). In this report we broadly distinguish between general and vocational programmes.	TEA.1

ANNEX 3. DATA COVERAGE AND QUALITY

Western Balkans and Turkey

The level of coverage of the 2012 key indicators in the Western Balkans and Turkey was generally high, but the data quality was not equally good for all areas.

Statistics referring to the socio-economic context, such as population and GDP data, have been collected from international sources in order to guarantee regional comparability. The main source of this kind of data is the World Bank which releases up-to-date information (2011) for almost all of the countries. The main problem is Kosovo because its data are still not available in most international databases, but the release of the last Census (2011) by the national statistical office compensated for this. In some cases, such as GDP by sector in Albania, we have used updated data from the national statistical office after confirming that the data were comparable.

Two international indicators have been considered: the Global Competitive Index of the World Economic Forum, and the PISA results of the OECD. In the first only Kosovo is absent, while Kosovo, Bosnia and Herzegovina and the former Yugoslav Republic of Macedonia did not take part in the last round of PISA.

The coverage of labour market indicators is quite satisfactory: almost all of the countries have data coming from recent labour force surveys (2011 or 2012), with the exception of Albania, whose data refer to 2009-10, and Kosovo where the last labour force survey was carried out in 2009. The main problem with labour market indicators is the demarcation of age ranges where some countries use a range of 15-74 or 15-79 instead of the more common 15+ and where Albania uses 15-29 instead of 15-24 to indicate youth. This obviously affects the overall analysis. There are no noteworthy problems with the 15-64 age range, which is used for some of the indicators. This ensures good regional comparability for these indicators.

Labour force surveys guarantee a good level of comparability within the region. This is good for general labour market indicators, such as employment rates by gender. The situation is quite different for detailed information, such as labour market indicators broken down by education level. The latter are not available for most of the countries. Data for Croatia, the former Yugoslav Republic of Macedonia and Turkey are available from Eurostat. Where they are published locally, such as in Kosovo, there may be comparability problems because data typically refer to national classifications. The problem with national classifications became particularly manifest when we had to analyse the population by education level and half of the countries referred to their own education levels.

The situation is even worse for data specifically related to VET. We tried to overcome this problem by directly asking the countries to provide this information but we were only able to gather the required information from half of the countries. Despite this, from those countries who replied we obtained all the details we needed for the analysis: employment and unemployment rates by education level and programme. So while the data may not be readily available to the general public, they do exist in these countries and can be made available to data analysts.

Public expenditure on education also presented problems. When information is available it tends to be several years old, even for figures such as public expenditure on education as a share of GDP. Only three countries provided expenditure details on education broken down by programme (Albania, Montenegro and Serbia). Student–teacher ratios are also difficult to obtain.

Data on enrolment by level (i.e. ISCED or general/VET/higher education) were generally easy to find but some countries referred to a national classification of the education system. This can create problems for a regional comparison as these typically do not distinguish between ISCED levels 2 and 3.

Data on participation in VET by field of study are available online for the former Yugoslav Republic of Macedonia and Montenegro (2012). We also received it for Albania, Bosnia and Herzegovina and Serbia (2011-12). There are no comparable data for the others (Croatia, Kosovo and Turkey).

Information on participation in lifelong learning is usually available. It is missing only for Bosnia and Herzegovina, while Kosovo only provided data on registered unemployed people who participate in VET. Dropout rates are also hard to find, particularly for VET.

We can conclude that coverage of the Western Balkans and Turkey is good for socio-economic indicators and general labour market data, while the availability of detailed education data could still be improved, particularly on expenditure, dropouts and VET.

Southern and Eastern Mediterranean

Data coverage in the Southern and Eastern Mediterranean region is generally poorer than in the other regions, but it varies strongly depending on the theme. Demographic data are readily available and economic data are generally quite recent, but the coverage of educational data is low, particularly for VET. The information that is available, however, is generally up to date. For demographic and economic data, as for the other regions, we have tried to use international sources to increase comparability. Demographic data usually come from the World Bank and the UNDP. Economic data have also been collected from international sources, particularly the World Bank and the World Economic Forum. We only lack GDP by sectors for Israel and the occupied Palestinian territory and the Global Competitiveness Index for three countries that did not participate in the study (the occupied Palestinian territory, Syria and Tunisia).

Labour market data are generally readily available in the region. Only Libya lacks some indicators[15]. Nevertheless, comparison is sometimes made difficult by the use of different age ranges in indicators such as youth unemployment. Algeria uses ages 16-24 while Israel uses 18-24. For some countries (Libya, Syria and Tunisia) we did not find updated labour market information and had to rely on old data from 2009 or 2010. For female employment in Lebanon we had to go back as far as 2007.

More problematic still are educational data for the region, particularly for VET programmes. One problem with educational data is the use of different national classifications for education levels instead of ISCED levels. This of course affects comparability. Another problem is that some of the data are very old. For participation in VET in upper secondary education in Algeria we had to go back as far as 2006. Sometimes indicators are completely absent. For the student–teacher ratio in upper secondary VET we have no data at all. For some other indicators we have data from very few countries. Finally, we only have PISA indicators for three countries as none of the others participated in the study.

All in all, the data coverage in the region is reasonable. It is good for socio-economic indicators (demography, economy) with very few exceptions. It is less strong for labour market indicators, which are lacking for some of the countries. It is poor for education, where we have only few indicators for most of the countries.

Eastern Europe

Data coverage of the key indicators in 2012 is good, especially concerning the socio-economic and labour market indicators. The coverage of education varies widely among indicators and countries.

Demographic and economic data have been collected mainly from international sources such as the World Bank in order to ensure comparability across the region. The coverage of these data is good and current.

The labour market data are broad and up-to-date too. Most of the countries carry out labour force surveys. Belarus is the only country in which only administrative labour market data have been published so far. The only two problems with respect to the comparability of labour market data we encountered are the reference age used for the labour force surveys and the use of national education level classifications.

The reference age for labour force surveys is usually 15+, but is more restricted in the case of Armenia (15-75 years old), Russia (15-72 years old) and Ukraine (15-70 years old). When comparing data across countries, indicators must obviously use the same age range.

Countries use their own education level classification systems rather than the international ISCED standard. These cannot necessarily be matched, which complicates data comparison across different countries.

The coverage of education data is good, although data are not always publicly available. This was particularly the case for dropout rates, education expenditure, enrolment by education level and teacher–student ratios. Lifelong learning indicators were poorly covered.

In sum, the data coverage for the region is good. Only a few gaps have been identified, mainly related to adult education.

Central Asia

Socio-economic and labour market data coverage of the key indicators in 2012 is relatively good for Kazakhstan, Kyrgyzstan and Tajikistan. For Turkmenistan and Uzbekistan data access has been difficult.

15 The scope of this document is not to go into details on labour market information coverage and methodology, but to give a broad picture of the situation in relation to our different indicators. Nevertheless, it is important to note that Libya does not carry out labour force surveys, while Lebanon does, but only on an irregular basis.

Demographic and economic data have been collected mainly from international sources, such as the World Bank, to ensure comparability across the region. The coverage of these data is good and current.

Thanks to the (periodical) publishing of labour market data in Kazakhstan, Kyrgyzstan and Tajikistan, figures for these countries are available for the assessment of vocational education. We did, however, encounter problems with the currency of these data. Tajikistan only carries out one labour force survey every five years. This makes assessing recent labour market trends difficult. Kyrgyzstan carries out a survey every year but publication of the data is often delayed: in 2012 only data for 2010 were readily available to the public.

Another possible problem is the discrepancy in age ranges used in labour statistics, which is 15 years and older in Kyrgyzstan and Kazakhstan while it is 15-75 in Tajikistan. Therefore, to assure data comparability, the indicators must be processed before the same age ranges can be compared.

Finally, countries use their own education level classification systems rather than the international ISCED standard. These cannot necessarily be matched, which complicates data comparison across different countries.

The coverage of detailed education data, particularly data referring to VET (including dropout rates and student–teacher ratios) and lifelong learning, is rather poor. Data that are available are often out of date. This holds particularly true for education expenditure figures.

All in all, the data coverage for the region is average. It is good for the socio-economic and labour market indicators, but relatively poor for indicators related to education. Data for Turkmenistan and Uzbekistan are not publicly available.

ANNEX 4. EDUCATION AND TRAINING 2020 BENCHMARKS

Indicators	Benchmarks	
Gross domestic expenditure on research and development as a percentage of GDP	3%	EU 2020
Employment rate (age 20-64)	75%	
Early school leavers – percentage of 18-24 year-olds with at most lower secondary education and not in further education or training	Less than 10%	EU 2020 / ET 2020
Educational attainment – percentage of 30-34 year-olds who have successfully completed university or university-like education	At least 40%	EU 2020 / ET 2020
Four-year-olds in education – participation rate*	At least 95%	ET 2020
Lifelong learning* – percentage of 25-64 participating in education and training	15%	ET 2020
Percentage of pupils with low performance in the reading scale (level 1 or below)*	Less than 15%	ET 2020
Percentage of pupils with low performance in the mathematics scale (level 1 or below)*		
Percentage of pupils with low performance in the science scale (level 1 or below)*		

(*) The indicator refers to the Council conclusions of 12 May 2009 on a strategic framework for European cooperation in education and training (ET 2020).

ANNEX 5. COMPARISON OF THE INTER-AGENCY GROUP AND ETF INDICATORS

	Inter-Agency Group		ETF Torino Process indicators 2012 *(other ETF)*	Degree of match
	Indicators	**Definitions**		
1. Indicators measuring finance				
C1	**1.1 Spending in formal TVET**	It is calculated as the percentage of formal TVET spending of the total education spending, by education level. It should be expressed by: ■ public expenditure ■ private expenditure (if at all available).	**Public expenditure on VET as a percentage of the total public spending on education**	**100%**
C2	**1.2 Total TVET spending per student**	It is calculated by education level, if possible, as the ratio between the total spending in TVET education and the number of enrolled students in TVET programmes.	*(Cost per pupil attending VET programmes)*	**100%**
C3	**1.3 Share of companies providing apprenticeship**	It is calculated as the percentage of companies that allocate financial resources for apprenticeship purposes in the total number of companies registered in the economy.	*(Percentage of firms offering formal training)*	**100%**
C3	**1.4 Share of apprenticeship spending in labour cost**			
2. Indicators measuring access and participation				
C1	**2.1 Enrolment in school-based TVET by sex as a share of formal enrolment**	Calculated by dividing the number of pupils (students) enrolled in a given level of TVET by the total population enrolled in formal education at the same level, and multiplying the result by 100. Breakdown by sex and education level for TVET and split into education and training if possible.	**Number of VET students as a proportion of the total number of pupils and students by level and sex**	**100%**
C1	**2.2 Enrolment by type of TVET programme**	Calculated by dividing the number of individuals enrolled in a given TVET programme regardless of age by the estimated overall enrolment in all programmes (TVET as well as general), and multiplying the result by 100.	**Participation in VET in percentage by field of study**	**90%**
C3	**2.3 Work-based learning participation rate**			
C3	**2.4 Equity**			

Inter-Agency Group			ETF Torino Process indicators 2012 *(other ETF)*	Degree of match
	Indicators	**Definitions**		
C3	**2.5 Unsatisfied demand for TVET**			
C2	**2.6 Typology of admission policies to formal school-based TVET**			
C2	**2.7 Transition paths from upper secondary TVET education**	Percentage of upper-secondary TVET graduates who continue to study in post-secondary non-tertiary TVET programmes, by sex. Percentage of upper-secondary TVET graduates who found a job within one year of graduation. Percentage of upper-secondary TVET graduates who continue to study in tertiary education.	*(Percentage of VET students who continue to higher levels of education)*	**66%**
C3	**2.8 Policies on articulation with schooling/higher education**			
3. Quality and innovation indicators				
C1	**3.1 Student–teacher ratio in TVET and general programmes**	It is calculated as the number of students divided by the number of teacher at each education level in respective TVET and general secondary institutions disaggregated by type of institution and programme or field of study.	**Student–teacher ratio by programme**	**75%**
C1	**3.2 Completion rate in TVET and general programmes**	Three indicators are calculated: 1. percentage of those completing initial TVET programmes; 2. percentage of those completing continuous TVET programmes; 3. percentage of those completing general secondary programmes. Dropout rates could also be calculated to measure the internal efficiency of TVET programmes. It would especially be important to have information on why students drop out of programmes, i.e. dropout rates by reason for dropping out.	**Dropout rates in upper secondary education, general education and VET, by sex**	**100%**
C2	**3.3 Share of apprentices completing registered programmes (by trade, age and sex)**			
C2	**3.4 Share of qualified teachers in TVET and in general programmes**			

Inter-Agency Group			ETF Torino Process indicators 2012 *(other ETF)*	Degree of match
	Indicators	**Definitions**		
C3	**3.5 Relevance of quality assurance systems for TVET providers**			
C3	**3.6 Investment in training of teachers and trainers**	Two indicators are calculated: 1. percentage of teachers and trainers participating at accredited in-service training programmes among total number of registered teachers and trainers; 2. total amount of funds annually invested per teacher and trainer in teachers' and trainers' further education and training.	*(Funds invested in teacher training and/or regularity of teacher training for ensuring quality)*	**100%**
C4	**3.7 Utilisation of acquired skills at the workplace**			
C4	**3.8 Share of ICT training activities in TVET**			
C4	**3.9 Satisfaction of employers with TVET graduates**			
4. Relevance of TVET: measuring labour market transitions				
C1	**4.1 Employment-to-population ratio (by sex and age and level of educational attainment)**	The employment-to-population ratio is defined as the proportion of a country's working-age population that is employed. The youth and adult employment-to-population ratios are the proportion of the youth and adult populations – persons aged, typically, 15-24 years and 25 years and over – that are employed.	**Activity rates by sex (15+)**	**60%**
C1	**4.2 Unemployment rate (by sex and age and level of educational attainment)**	The unemployment rate is defined mathematically as the quotient resulting from dividing the total number of unemployed (for a country or a specific group of workers) by the corresponding labour force, which itself is the sum of the total persons employed and unemployed in the group.	**Unemployment rates by sex and education level (15-64)**	**80%**
C1	**4.3 Employment status (by sex and age and level of educational attainment)**	Breaking down employment information by status in employment provides a statistical basis for describing workers' behaviour and conditions of work, and for defining an individual's socio-economic group (salaried workers, own-account workers (self-employed with/without hired employees), contributing family work workers).	**Changes in employment by status and sex (15+)**	**60%**

Inter-Agency Group			ETF Torino Process indicators 2012 *(other ETF)*	Degree of match
	Indicators	**Definitions**		
C1	**4.4 Employment by economic sector (by sex and age and level of educational attainment)**	This indicator disaggregates employment into three broad sectors – agriculture, industry and services.	**Employment by sector**	**40%**
C1	**4.5 Employment by occupation (by sex and age)**			
C1	**4.6 Literacy rate (by sex and age)**	It is calculated as the adult and youth literacy rate by sex and age. In case of youth, the indicator reflects the levels and distribution of the knowledge and skills base of this age segment of the labour force. It therefore provides an indication of the capacity of countries to achieve social and economic goals.	**Illiteracy/literacy rates by sex**	**65%**
C2	**4.7 Informal employment rate (by sex and age and level of educational attainment)**			
C2	**4.8 Time-related underemployment rate (by sex and age and level of educational attainment)**			
C3	**4.9 Working poverty rate (by sex and age)**			
C3	**4.10 Average real earnings by occupation and industry (by sex and age)**			
C3	**4.11 Number of vacant jobs**	It is calculated as the number of vacant positions by occupation and economic activity.	*(Job vacancies)*	**40%**
C3	**4.12 Net job creation**			
C3	**4.13 Youth outside labour force**			
C3	**4.14 Discouraged workers (by sex and age)**			
Context indicators				
DEM	**Population by five-year age group**		**Population by age group**	**90%**
DEM	**Population growth rate**		**Population growth rate**	**100%**
DEM	**Share of urban population**			

	Inter-Agency Group		ETF Torino Process indicators 2012 *(other ETF)*	Degree of match
	Indicators	**Definitions**		
DEM	**Life expectancy at birth**			
DEM	**Infant mortality rate**			
ECO	**GDP per capita in PPP (USD)**		**GDP per capita in PPP (USD)**	**100%**
ECO	**GDP growth rate**		**GDP growth rate**	**100%**
ECO	**Sectoral contribution to value added (agriculture, industry, transport, etc.)**		**GDP by main sector (value added; agriculture, industry and service)**	**100%**
ECO	**Export of goods and services (% of GDP)**			
ECO	**Total external debt stock (USD)**			
SOC	**Poverty rate**		*(Poverty rate)*	**100%**
SOC	**Income share held by highest/lowest 10% of population**			
SOC	**Human Development Index**		*(Human Development Index)*	**100%**
SOC	**Ratio of girls to boys in education, by level**			

Legend: C1 – category 1: indicators for which data is readily available; C2 – category 2: indicators for which data is not readily available; C3 – category 3: indicators for which data is often not available; DEM – demographic indicators; ECO – economic indicators; SOC – social indicators.
Note: Definitions of education terminology (e.g. level of education, TVET programme, field of study) are the same in both sets since both the Inter-Agency Group and the ETF use UNESCO definitions.

ABBREVIATIONS AND ACRONYMS

ET 2020	Education and Training 2020
ETF	European Training Foundation
EU	European Union
Eurostat	Statistical Office of the European Union
GDP	Gross domestic product
ICT	Information and communication technology
ILO	International Labour Organisation
ISCED	International Standard Classification of Education
NSO	National statistical office
OECD	Organisation for Economic Cooperation and Development
PISA	Programme for International Student Assessment
PPP	Purchasing power parity
TVET	Technical and vocational education and training
UIS	UNESCO Institute for Statistics
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
VET	Vocational education and training

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