COMPONENT ONE

POPULATION MOBILITY

AND

VOCATIONAL TRAINING IN EUROPE

- SELECTED COUNTRY PROFILES –

November 2018

FOREWORD

China is going through a fundamental transformation from an economy in pursuit of high growth rate to one focusing on higher efficiency and equality, better structured, with more sustainability and relying on innovation. The upgrading of economic development demands that the labour force be equipped with a set of vocational competences quite different from those in the past. Thus it has become vital in the field of vocational training to explore how to promote capacity building of labour force which is compatible with the vision of a more dynamic Chinese economy.

Labour mobility is a key to ensure continued stable economic development in China. As a matter of fact the reality of population movement is year after year a more visible component of the Chinese society. However, the analysis of the phenomenon as well as its regulatory framework and accompanying labour and social policy measures are in a way lagging behind – which may in turn impair the required mobility and harm the pursuance of the goal of harmonious development of the society under the "new normal" economy.

In order to facilitate the transition from mass unskilled labour to skilled employment, which is required to accompany the development of the new normal economy where massive export of raw materials and modest quality cheap goods will no more be the vehicle for national development, it is important to identify the ways and means through which social protection embodies modern, lifelong vocational training technique, in which European experience will prove to be most useful. Chinese and European researches will be conducted in parallel for this important topic.

In pursuing their reflection on how to reform their labour market and vocational training systems accordingly, the Chinese authorities are keen to rely on the rich experience accumulated in European countries, in the form of reports on national experiences as well as direct interaction between European and Chinese specialists.

It was therefore decided to recruit several short-term European experts from countries having considered and completed systemic reforms of their labour market and vocational training systems over the last decade, or the experience of which is known to be particularly rich and efficient in these areas, to produce country briefs reporting on their national experiences – characteristics and monitoring of labour mobility, improving the quality of the labour force, relationship between economic development and vocational training systems. There was particular interest in documenting the experience from Belgium, France, Germany, Italy, Poland and the United Kingdom. A report prepared for the International Organisation for Migrations by Mr. Michele Bruni, project Team leader, on European Labour markets is also included in this volume.

Country briefs were shared with the Chinese academic experts to help in their own analysis. European experts visited China during the fall of 2018 to exchange with their Chinese counterparts. Contents were also presented on the occasion of an international workshop held in Brussels in September 2018 on High quality development and capacity building for labour market in China and in Europe.

Jean-Victor Gruat,
15 November 2018

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EUROPEAN DEMOGRAPHIC TRENDS, LABOUR MARKET EVOLUTION AND SCENARIOS FOR THE PERIOD 2015 – 2020[1]

Michele Bruni, Team Leader, EU-China SPRP

European Union countries scenarios

[1] This chapter is an excerpt from Egypt Labour Market Report, prepared for the International Orgnaisation for Migration – Cairo, 2017.

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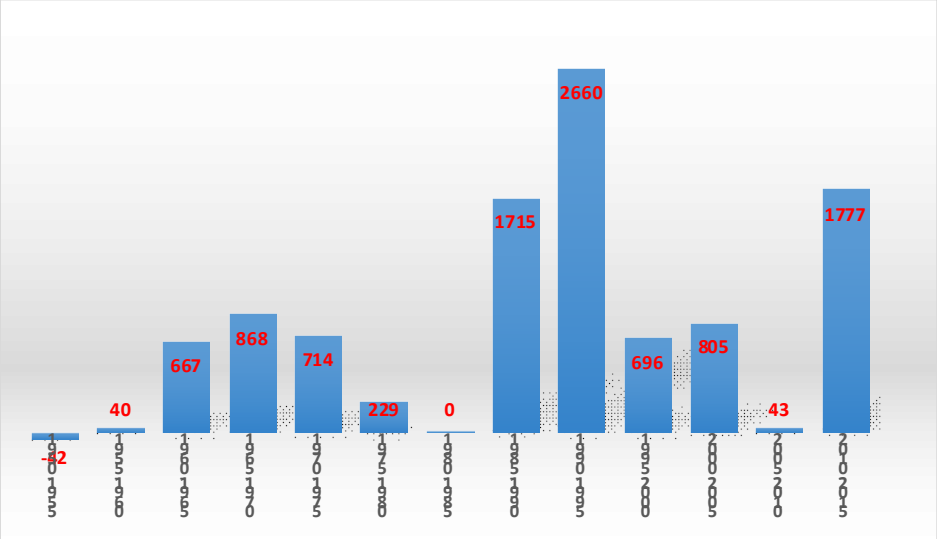
List of acronyms

AD	Additional demand
CBR	Crude birth rate
CDR	Crude death rate
CHMR	Child mortality rate
CMR	Crude mortality rate
GDP	Gross domestic product
IT	Information technology
LEB	Life expectancy at birth
LF	Labour force
RoA	Rate of activity
RoE	Rate of employment
RoU	Rate of unemployment
RoAF	Rate of activity in terms of flow
RoEF	Rate of employment in terms of flow
RoUF	Rate of unemployment in terms of flow
SEL	Structural excess of labour
SSL	Structural shortage of labour
TFR	Total fertility rate
WAP	Working age population

Germany

Germany has been an immigration country since the middle of the 1950s, the migration balance clearly showing a strong cyclical behaviour (Graph G1). Therefore, it could be expected that employment growth conjugated with the drop in supply generated by the demographic trend, affecting the country in the next 15 years, will make immigration necessary to allow and sustain economic and social development.

Graph G1. Migration balance; five-year values in thousands (1950–1955 to 2010–2015)



Source: UN DESA, 2017.

The labour market: A background analysis

Stock analysis. In 2015, Germany's labour market was in a very healthy condition. In spite of the international financial crisis, from 2000 to 2015, employment increased by 2.3 million (+6.1%) with labour force increasing by only 2 million (+5.2%) and unemployment declining by 233,000 (-10.7%) (Table G1). At the same time, immigration flows were not sufficient to offset the natural decline in WAP, so that the total demographic balance was largely negative (-2.1 million, -3.9%).

Table G1. Main labour variables by sex, total and by educational level (International Standard Classification of Education (ISCED) in 2000 and 2015; absolute and percentage change from 2000 to 2015

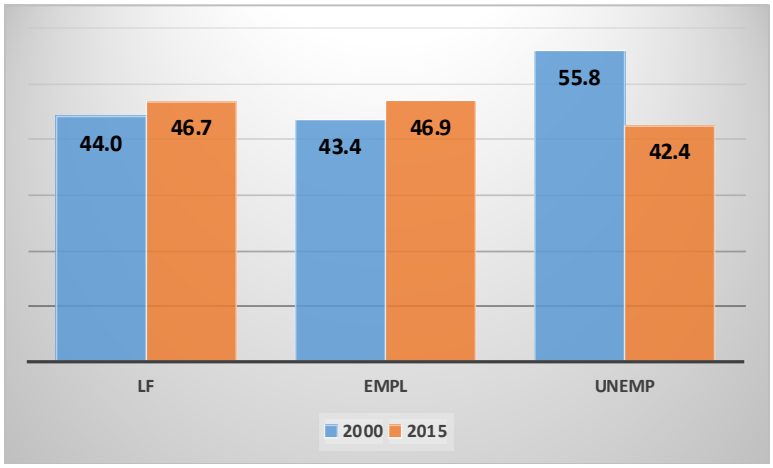
	2000			2015			2000–2015					
	Absolute values						Absolute change			Percentage change		
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
	All levels											
WAP	27,755	27,322	55,077	26,669	26,245	52,914	-1,085	-1,077	-2,163	-3.9	-3.9	-3.9
Labour force	21,875	17,222	39,097	21,926	19,191	41,117	50	1,970	2,020	0.2	11.4	5.2
Employment	20,904	16,009	36,923	20,808	18,368	39,176	-96	2,358	2,253	-0.5	14.7	6.1
Unemployment	972	1,212	2,174	1,118	824	1,941	146	-389	-233	15.0	-32.1	-10.7
	isced 0-2											
WAP	5,887	7,696	13,580	5,043	5,453	10,496	-844	-2,242	-3,084	-14.3	-29.1	-22.7
Labour force	3,688	3,441	7,130	2,947	2,509	5,456	-742	-932	-1,674	-20.1	-27.1	-23.5
Employment	3,323	3,093	6,420	2,577	2,266	4,842	-746	-827	-1,578	-22.5	-26.7	-24.6
Unemployment	365	348	710	370	243	615	5	-105	-96	1.3	-30.1	-13.5
	isced 3-4											
WAP	15,072	15,192	30,261	14,632	15,199	29,831	-441	7	-430	-2.9	0.0	-1.4
Labour force	12,131	10,232	22,364	12,451	11,853	24,304	319	1,621	1,940	2.6	15.8	8.7
Employment	11,563	9,509	21,079	11,874	11,413	23,283	311	1,904	2,204	2.7	20.0	10.5
Unemployment	569	723	1,285	577	440	1,021	8	-283	-264	1.4	-39.2	-20.5
	isced 5-8											
WAP	6,786	4,465	11,257	6,995	5,592	12,587	209	1,127	1,330	3.1	25.2	11.8
Labour force	6,052	3,545	9,598	6,507	4,806	11,313	455	1,260	1,715	7.5	35.5	17.9
Employment	6,018	3,407	9,425	6,368	4,687	11,055	350	1,280	1,630	5.8	37.6	17.3
Unemployment	34	139	173	139	119	258	105	-20	85	309.0	-14.2	49.2

The dynamic of the female component has been much more pronounced than that of men, with women's labour force and employment increasing respectively by 2 and 2.25 million (11.4 and 14.7%), while the number of women unemployed declined by 389,000. On the other side, men's employment slightly declined (-96,000) and labour force slightly increased (+50,000).

As a consequence: (a) the percentage of women in labour force and employment increased getting closer to parity with men; (b) the increase in unemployment affected only men; so that (c) the percentage of women in unemployment declined (from 55.8% to 42.4%) (Graph G2).

The result of the previous trends was a notable improvement in all main labour market indicators. The RoE increased from 67 to 74 per cent. Since the increase in the rate of activity was less pronounced (from 71% to 77.6%), the RoU declined from 5.6 per cent to 4.7 per cent (Table G2).

Graph G2. Labour force, employment and unemployment: percentage of women (2000 and 2015)



Due to the decline in WAP, also men's RoE improved (from 75.3% to 78%), while that of women climbed to 70 per cent from an initial value of 58.6 per cent. Therefore, the gender

differential dropped from 16.7 percentage points to 8 percentage points. Moreover, the RoU of women declined below that of men (4.3% versus 5.1%).

Table G2. Main labour indicators by sex and educational level in 2000 and 2015 and absolute change from 2000 to 2015

	2000			2015			2000-15		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
	All levels								
RoA	78.8	63.0	71.0	82.2	73.1	77.7	3.4	10.1	6.7
RoE	75.3	58.6	67.0	78.0	70.0	74.0	2.7	11.4	7.0
RoU	4.4	7.0	5.6	5.1	4.3	4.7	0.7	-2.7	-0.8
	isced 0-2								
RoA	62.7	44.7	52.5	58.4	46.0	52.0	-4.2	1.3	-0.5
RoE	56.4	40.2	47.3	51.1	41.6	46.1	-5.4	1.4	-1.1
RoU	9.9	10.1	10.0	12.6	9.7	11.3	2.7	-0.4	1.3
	isced 3-4								
RoA	80.5	67.4	73.9	85.1	78.0	81.5	4.6	10.6	7.6
RoE	76.7	62.6	69.7	81.1	75.1	78.0	4.4	12.5	8.4
RoU	4.7	7.1	5.7	4.6	3.7	4.2	-0.1	-3.4	-1.5
	isced 5-8								
RoA	89.2	79.4	85.3	93.0	85.9	89.9	3.8	6.5	4.6
RoE	88.7	76.3	83.7	91.0	83.8	87.8	2.4	7.5	4.1
RoU	0.6	3.9	1.8	2.1	2.5	2.3	1.6	-1.4	0.5

In summary, in the first 15 years of the century, Germany witnessed a pronounced increase in employment and a progressive feminization of its labour force. Moreover, the decline of the local WAP was not completely matched by immigration, and this contributed to a notable improvement of all main labour market indicators.

Another very relevant tendency of this period is the improvement in the educational level of the labour force and the employed. Starting from the demand side, the increase in the employment level was the result, on the one hand, of the decrease of 1.6 million people with low education (-24.6%), and, on the other hand, of the increase of 2.2 million with intermediate education (10.5%) and of 1.6 million with high education (17.3%). As a consequence, in 2015, the percentages of employed in the three educational levels were equal respectively to 12.4 per cent, 59.4 per cent and 28.2 per cent, the average educational level being a little higher for women than for men.

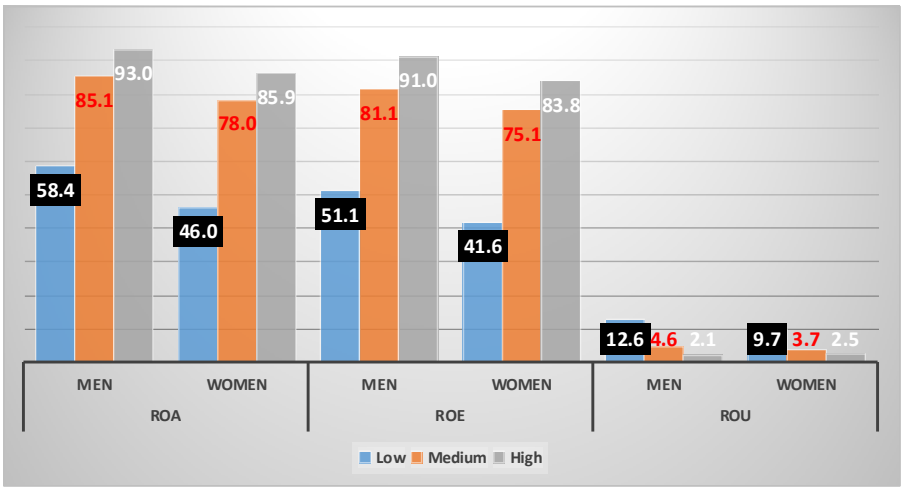
Table G3. Main economic variables; percentage composition by sex and educational level (2015)

	2000			2015			2000-15		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
	WAP								
Low	21.2	28.1	24.6	18.9	20.8	19.8	-2.3	-7.4	-4.8
Medium	54.3	55.5	54.9	54.9	57.9	56.4	0.5	2.4	1.5
High	24.5	16.3	20.4	26.2	21.3	23.8	1.8	5.0	3.4
	LF								
Low	16.9	20.0	18.2	13.5	13.1	13.3	-3.4	-6.9	-5.0
Medium	55.5	59.4	57.2	56.8	61.8	59.2	1.4	2.4	2.0
High	27.7	20.6	24.6	29.7	25.1	27.5	2.0	4.5	3.0
	Employment								
Low	15.9	19.3	17.4	12.4	12.3	12.4	-3.5	-7.0	-5.0
Medium	55.3	59.4	57.1	57.0	62.1	59.4	1.7	2.7	2.3
High	28.8	21.3	25.5	30.6	25.5	28.2	1.8	4.2	2.7
	Unmemployment								
Low	37.7	28.8	32.8	34.1	30.3	32.5	-3.7	1.6	-0.3
Medium	58.8	59.8	59.3	53.2	54.8	53.9	-5.6	-4.9	-5.3
High	3.5	11.5	8.0	12.8	14.9	13.6	9.3	3.4	5.6

The educational level of the supply of labour was slightly lower for both men and women and still lower was the educational level of WAP. However, the lowest average educational level was that of the unemployed. In this case, the people with the lowest educational level were almost one third, while the people with high education only 13.6 per cent. It should be underlined that the educational level of unemployed women was slightly higher than that of men.

This situation is well reflected by the main labour market indicators (Table G2). As usual, the RoA and RoE are directly related to the educational level, while the RoU is inversely related. Moreover, the range of women rates is wider than that of men, which means education makes a difference especially for women. As shown by Graph G2, men's rates of participation range from 58.4 per cent to 93 per cent and those of women from 46 per cent to 85.9 per cent so that the gender differential is inversely related to education, declining from 12.4 to 7.1 percentage points. The situation is quite similar for the RoE.

Graph G3. Main economic indicators by sex and educational level (2015)



The RoUs present, on the contrary, an inverse relationship with education, ranging from 12.6 per cent for men with low education to 2.1 per cent for men with high education and from 9.7 to 2.5 per cent for women. This could be interpreted as confirming that education makes a difference, and it pays to study. An alternative equally possible explanation is that people with high education are becoming the relatively more scarce resource.

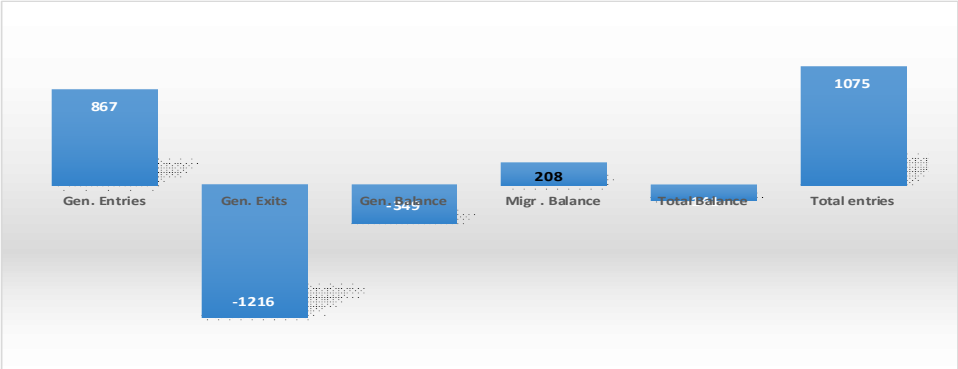
Generational flow analysis. Between 2000 and 2015, WAP has been affected by a natural decline of 5.2 million due to the interaction of generational entries and exits, only partially offset by a positive migration balance that can be estimated above 3.1 million. Taking into consideration natural entries and the migration balance, total entries amount to around 16.1 million, which corresponds to a little less than 1.1 million per year.

Table G4. WAP, generational flows (2000–2015)

	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
	2000-2005			2005-2010			2010-2015			2000-2015		
Gen. Entries	2,508	2,361	4,869	2,110	1,997	4,106	2,107	1,927	4,034	6,725	6,284	13,009
Gen. Exits	-3,531	-3,276	-6,803	-3,457	-3,116	-6,554	-2,455	-2,441	-4,881	-9,442	-8,833	-18,238
Gen. Balance	-1,023	-915	-1,935	-1,347	-1,120	-2,447	-347	-515	-847	-2,717	-2,550	-5,229
Migr . Balance	826	799	1,622	38	64	83	792	634	1,411	1,656	1,498	3,116
Total Balance	-197	-116	-313	-1,309	-1,056	-2,364	445	120	564	-1,061	-1,052	-2,113
Total entries	3,334	3,160	6,491	2,148	2,061	4,189	2,899	2,561	5,445	8,381	7,781	16,125

Translating these data on yearly average values (Graph G4), generational entries into WAP have been equal to 867,000, generational exits to -1,216,000. This has generated a negative generational balance of -349,000, which has been only partially offset by a migration balance of 208,000. The result was a total balance of -141,000. Therefore average yearly entries into WAP have been equal to 1,075,000.

Graph G4. WAP; yearly average generational flows in the period 2000–2015



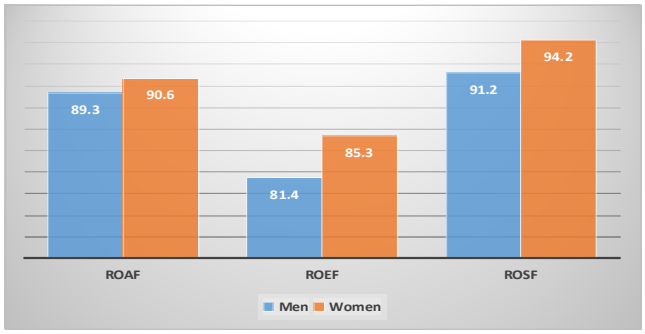
In the same time, total entries into labour force and employment were equal to 14.4 and 13.3 million, which translated into average yearly values of 961,000 and 888,000 per year. This implies RoAF of 89.4 per cent, a RoEF of 82.6 and therefore a rate of success of 92.4 per cent.

Table G5. Labour force and employment; net generational flows (2000–2015)

	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
	2000–2005			2005–2010			2010–2015			2000–2015		
	Labour force											
Entries	**2,900**	**2,590**	**5,403**	**2,037**	**2,204**	**4,200**	**2,547**	**2,259**	**4,805**	**7,484**	**7,053**	**14,409**
Exits	**-2,574**	**-1,601**	**-4,089**	**-2,597**	**-1,877**	**-4,433**	**-2,262**	**-1,605**	**-3,867**	**-7,433**	**-5,083**	**-12,389**
Balance	**326**	**989**	**1,314**	**-560**	**327**	**-233**	**285**	**654**	**939**	**50**	**1,970**	**2,020**
	Employment											
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
	2000–2005			2005–2010			2010–2015			2000–2015		
Entries	**1,854**	**1,807**	**3,550**	**2,294**	**2,430**	**4,723**	**2,675**	**2,404**	**5,046**	**6,823**	**6,641**	**13,319**
Exits	**-3,125**	**-1,611**	**-4,635**	**-1,911**	**-1,321**	**-3,231**	**-1,886**	**-1,354**	**-3,207**	**-6,922**	**-4,286**	**-11,073**
Balance	**-1,271**	**196**	**-1,085**	**383**	**1,109**	**1,492**	**789**	**1,050**	**1,839**	**-99**	**2,355**	**2,246**
RoAF	87.0	82.0	83.2	94.9	107.0	100.3	87.8	88.2	88.2	89.3	90.6	89.4
RoEF	55.6	57.2	54.7	106.8	117.9	112.7	92.3	93.9	92.7	81.4	85.3	82.6
Rate of success	63.9	69.8	65.7	112.6	110.2	112.5	105.0	106.4	105.0	91.2	94.2	92.4

The differences between the flow rates of men and women are quite limited and present interesting peculiarities. Between 2000 and 2015, 89.3 per cent of the young men that entered WAP did also enter the labour force, while the percentage of entries into employment was 81.4 per cent; the corresponding rates for women were 90.6 per cent and 85.3 per cent. In conclusion, women had not only a higher propensity to enter the labour market, but also a higher success rate (94.2% versus 91.2%) (Graph G5)

Graph G5. Rates of activity, rates of employment and rates of success in terms of flow by sex (2010–2015)



Employment flow data clearly show that in the last 15 years, the situation of the German labour market has been progressively improving (Graph G6). After a first period of intense restructuring in which generational exits prevailed over generational entries, exits stabilized around a value of 640,000, while entries have been progressively increasing and in the last five-year period exceeded 1 million per year.

Graph G6. Employment, generational entries, exits and balance; 2000–2005, 2005–2010, 2010–2015

The gross flows inclusive of inter-educational level passages allow to estimate the structure of entries into labour force and employment by educational level.

The educational level of both entries into the labour force and employment has progressively increased. The percentage of people with low and intermediate education has declined, while the percentage of people with high education has increased. In both cases, men are characterized by higher percentages of the low and high education levels, women by a higher percentage of the intermediate level. It should also be observed that while at the beginning of the period the average education level of labour demand in terms of flow was higher than that of the labour supply, by now the opposite is true.

In conclusion, at present in Germany, more than one third of labour demand is directed towards people with high education, a little less than 50 per cent towards people with intermediate education and only around 17 per cent towards people with low education.

Table G6. Labour force: Gross entry flows, absolute values and percentage composition by educational level (2000–2015)

	2000-2005			2005-2010			2010-2015			2000-2015		
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
	Absolute values											
ISCED 0-2	751	645	1,388	613	441	1,054	527	422	946	1,890	1,507	3,388
ISCED 3-4	1,641	1,602	3,189	1,346	1,439	2,734	1,381	1,460	2,753	4,369	4,502	8,676
ISCED 5-8	806	605	1,407	874	906	1,744	1,101	846	1,942	2,781	2,357	5,092
Total	3,198	2,852	5,985	2,832	2,786	5,531	3,009	2,728	5,641	9,039	8,366	17,157
	Percentage composition											
ISCED 0-2	23.5	22.6	23.2	21.6	15.8	19.0	17.5	15.5	16.8	20.9	18.0	19.7
ISCED 3-4	51.3	56.2	53.3	47.5	51.6	49.4	45.9	53.5	48.8	48.3	53.8	50.6
ISCED 5-8	25.2	21.2	23.5	30.8	32.5	31.5	36.6	31.0	34.4	30.8	28.2	29.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table G7. Employment: Gross entry flows, absolute values and percentage composition by educational level (2000–2015)

	2000-2005			2005-2010			2010-2015			2000-2015		
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
	Absolute values											
ISCED 0-2	630	491	1,083	546	399	938	544	438	971	1,719	1,328	2,992
ISCED 3-4	1,138	1,213	2,278	1,388	1,533	2,906	1,454	1,594	2,962	3,980	4,339	8,145
ISCED 5-8	702	525	1,194	897	950	1,812	1,102	837	1,928	2,701	2,312	4,934
Total	2,471	2,229	4,554	2,831	2,882	5,656	3,099	2,868	5,861	8,400	7,979	16,071
	Percentage composition											
ISCED 0-2	25.5	22.0	23.8	19.3	13.9	16.6	17.5	15.3	16.6	20.5	16.6	18.6
ISCED 3-4	46.1	54.4	50.0	49.0	53.2	51.4	46.9	55.6	50.5	47.4	54.4	50.7
ISCED 5-8	28.4	23.6	26.2	31.7	33.0	32.0	35.6	29.2	32.9	32.2	29.0	30.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

The scenarios: The stock approach

Continuing its historical trend, in absence of migration, in the next 15 years, WAP is expected to decline by 8.5 million, which corresponds to an average of 566,000 people per year, down to 44.5 million (Table G8).

Table G8. WAP, labour force and employment (2015) and in alternative hypothesis of labour force participation and employment growth in 2020, 2025 and 2030; values in thousands

	WAP	Labour force		Employment		
		A	B	1	2	3
2015	52,964	41,117	41,117	35,977	35,977	35,977
2020	50,944	40,113	40,301	36,688	37,043	37,399
Diff	-2,020	-1,004	-816	711	1,066	1,422
2025	48,020	38,343	38,697	37,413	38,141	38,877
Diff.	-2,924	-1,770	-1,604	725	1,098	1,478
2030	44,468	35,999	36,491	38,152	39,272	40,413
Diff.	-3,552	-2,344	-2,206	739	1,131	1,536
2015-30	-8,496	-5,118	-4,626	2,175	3,295	4,436
	-566	-341	-308	145	220	296

In order to evaluate the labour needs (that in the present analytic context are defined as the difference between the increase in supply and the increase in demand), the following assumptions are made.

For the labour force, two alternative scenarios are assumed that take into consideration the extremely high level already reached by the German WAP, and especially by women:

(a) The rate of activity will progressively increase by the half percentage points registered in the previous 15-year period (+3.3 percentage points); and
(b) The rate of activity will progressively increase by 4.4 percentage points, that is by two thirds the increase registered in the previous 15-year period.

For employment, three different situations will be considered. More specifically, employment will increase:

(a) At a rate equal to two thirds that registered between 2000 and 2015 (5.9% over the 15-year period);
(b) At a rate equal to that registered between 2000 and 2015 (8.9%); and
(c) At a rate equal to four thirds that registered between 2000 and 2015 (11.9%).

Table G8 makes explicit the implication of these assumptions for labour force and employment. In Scenario A, labour force will decline by 5.1 million and in Scenario B by 4.7 million, which correspond to average yearly values of -341,000 and -308,000. At the same time, employment is projected to increase by around 2.2 million, 3.3 million and 4.4 million respectively, the yearly average values being 145,000, 220,000 and 296,000.

Crossing the two labour force scenarios with the three employment scenarios, six scenarios of labour needs and migration balance can be obtained. As already indicated, the labour shortage is computed as the difference between the change in labour supply (labour force) and labour demand (employment). The computations show (Table G9) that labour needs range between a minimum of 6.8 million (Scenario B1) and a maximum of 9.5 million (Scenario A3). If an elasticity of the migration balance to the labour needs of 1.3 is further assumed, an estimate of yearly migration balances between 589,000 and 828,000 can be obtained.

It is therefore evident that even under the most "favourable" conditions (the rate of activity reaching a world "record" of 82.1 percentage points and a modest expansion in employment equal to an average value of 0.4% per year), migration will not be an option but a necessity.

Table G9. Germany's labour shortage and migration balance in six scenarios of labour participation and employment growth in the 2015–2030 period

	A1	A2	A3	B1	B2	B3
	Labour shortage					
2015-2020	-1,715	-2,070	-2,425	-1,526	-1,882	-2,237
2020-2025	-2,495	-2,868	-3,248	-2,329	-2,702	-3,082
2025-2030	-3,083	-3,475	-3,880	-2,945	-3,337	-3,742
2015-2030 (Tot.)	-7,293	-8,413	-9,554	-6,801	-7,920	-9,062
2015-2030 (Yearly)	-486	-561	-637	-453	-528	-604
	Estimated migration balance					
2015-2020	2,229	2,691	3,153	1,984	2,446	2,909
2020-2025	3,244	3,729	4,223	3,028	3,513	4,007
2025-2030	4,008	4,517	5,045	3,829	4,338	4,865
2015-2030 (Tot.)	9,481	10,937	12,421	8,841	10,297	11,780
2015-2030 (Yearly)	632	729	828	589	686	785

Table G10 shows that once migration is linked to labour needs, WAP and labour force will increase, the growth being positively related to employment expansion and inversely related to the rate of participation. However, unemployment as well as the rate of unemployment are projected to slightly increase in all scenarios.

Table G10. Main labour market variables and main labour market indicators in 2015 and in six scenarios of labour force participation and employment growth in 2030

	WAP	LF	Empl	Unemp	RoA	RoE	RoU
	2015						
	52,964	41,117	39,176	1,941	77.6	74.0	5.0
	2030						
A1	53,949	43,674	41,351	2,323	81.0	76.6	5.3
A2	55,405	44,853	42,471	2,382	81.0	76.7	5.3
A3	56,888	46,054	43,612	2,442	81.0	76.7	5.3
B1	53,309	43,747	41,351	2,396	82.1	77.6	5.5
B2	54,764	44,941	42,471	2,470	82.1	77.6	5.5
B3	56,248	46,159	43,612	2,547	82.1	77.5	5.5

The scenarios in terms of flows: Labour needs by educational level

The previous analysis in terms of flows has allowed to estimate the flow labour demand and flow labour supply by educational level over the 2000–2015 period. This approach provides the way to estimate scenarios of the future labour demand in terms of flow that will be expressed by the German economic system and the future labour supply that will be generated by the people present in Germany in 2015, both by educational level. The labour needs in alternative hypotheses of labour demand can then be computed.

To carry on this exercise, a series of additional assumptions is needed. To estimate the future level of the supply of labour in terms of flow, it has been assumed that:

(a) Entries in WAP in the 2015–2030 period will be equal to the number of young people that were in the age bracket 0–14 in 2015; and

(b) 90 per cent of them (just a little more than the 88.2% registered between 2010 and 2015) will enter the labour market.

The labour demand in terms of flow is equal to the sum of the replacement demand and the additional demand. It can be assumed that:

(a) Replacement demand will be equal to the employed in 50–64 age group in 2015; and

(b) Additional demand will be taken equal to the values used in the stock scenarios.

This process will produce one estimate of labour supply and three estimates of labour demand. Table G11 summarizes the values of WAP, labour supply and labour demand in terms of flows generated by the previous hypothesis.

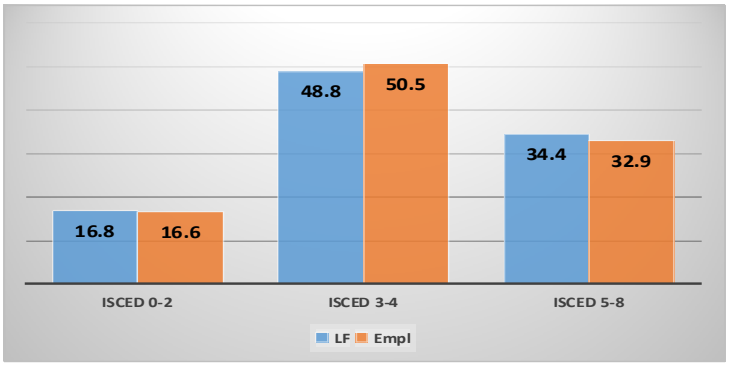
A simple inspection of the data shows that generational exits from employment are higher not only of generational entries into the labour force, but also of generational entries into WAP. This situation would be already sufficient to generate the need of foreign labour unless the increase in labour productivity would largely exceed the rate of growth in production.

Table G11. WAP, labour supply in terms of flows, replacement demand, additional demand and labour demand in terms of flow in three alternative scenarios of employment growth (2015–2030)

Entries into WAP		Entries into LF		Enties into employment		
				RD	AD	LDF
15 year values						
10,397	A	9,358	1	13,002	2,175	15,177
			2		3,295	16,296
			3		4,436	17,438
Average yearly values						
693	A	624	1	867	145	1,012
			2		220	1,086
			3		296	1,163

For what concerns the percentage share of the three educational levels of labour supply and labour demand, for simplicity, it can be assumed that they will remain equal to those registered between 2010 and 2015 (Graph G7).

Graph G7. Shares of educational levels for the labour supply in terms of flows and the labour demand in terms of flows; average values for the period 2015–2030



Using these data, the structure of the labour supply in terms of flow, the structure of the three labour demands by educational level were computed and shown in Table G12.

Table G12. Entries into labour force (labour supply in terms of flow) and entries into employment (entries into employment) by educational level in three scenarios of employment growth; 2015–2030

	Labour supply in terms of flow	Labour demand in terms of flow in alternative scenarios		
	Scenario A	1	2	3
	Absolute values in thousand			
ISCED 0-2	1,569	2,514	2,699	2,888
ISCED 3-4	4,567	7,670	8,235	8,812
ISCED 5-8	3,221	4,994	5,362	5,738
Total	9,358	15,177	16,296	17,438
Yearly	624	1,012	1,086	1,163

Finally, the labour needs are computed as the difference between the labour supply and the labour demand in terms of flows for each educational level, as well as the share of each educational level on the total demand (Table G13).

Table G13. Labour needs by educational level in three scenarios of employment growth; total values and percentage composition; 2015–2030

	Labour needs in alternative scenarios		
	Absolute values		
	A1	A2	A3
ISCED 0-2	-944	-1,130	-1,319
ISCED 3-4	-3,102	-3,668	-4,245
ISCED 5-8	-1,773	-2,141	-2,517
Total	-5,819	-6,939	-8,080
Yearly	-388	-463	-539
	Percentage composition by educational level		
	A1	A2	A3
ISCED 0-2	16.2	16.3	16.3
ISCED 3-4	53.3	52.9	52.5
ISCED 5-8	30.5	30.9	31.1
Total	100.0	100.0	100.0

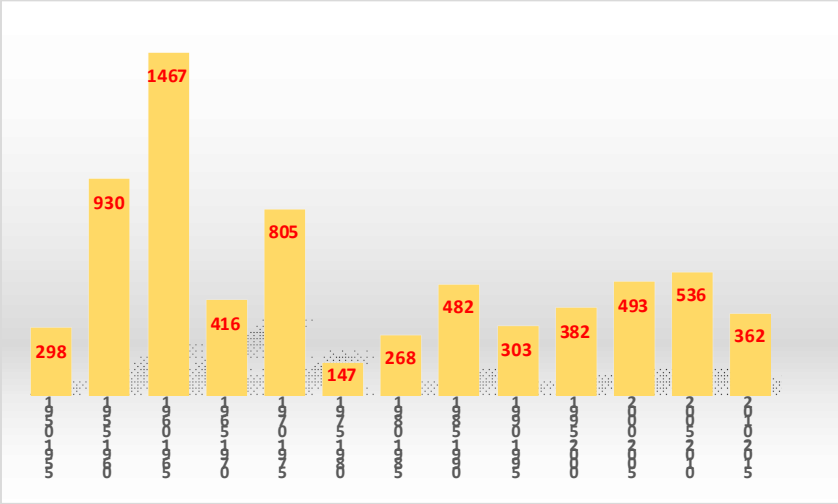
These data suggest the following observations:

- The three scenarios of labour needs obtained with the flow methodology corresponds quite closely to the intermediate scenarios computed with the stock methodology and therefore support the previous conclusions on the extremely important role that immigration will have to play;
- The need of foreign labour increases with the size of the demand and will range from 388,000 and 539,000 workers per year that represent between 38.3 per cent to 43.6 per cent of the labour demand in terms of flow; and
- The educational level of the immigrants needed by the German economy will be quite high and not too far from the average level of present employment.

France

France has been an immigration country since the the beginning of the 1950s, the migration balance clearly showing a strong cyclical behaviour (Graph F1). Therefore, it can safely be expected that France will continue to need foreign labour to allow economic growth and sustain social development.

Graph F1. Migration balance; five-year values in thousands (1950–1955 to 2010–2015)



The labour market: A background analysis

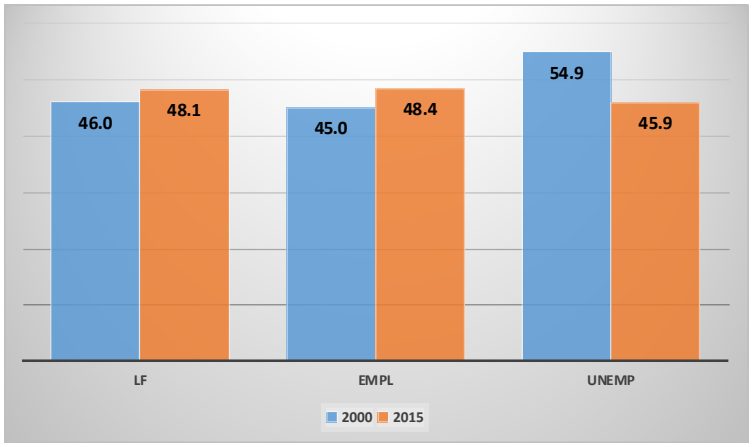
Stock analysis. In France, from 2000 to 2015, employment increased by 3.1 million (+13.4%), labour force by 3.5 million (13.7%) and therefore unemployment did expand by a little more than 400,000 (+15.7%) and passed the 3 million mark (Table F1). Finally, WAP grew by 3.6 million (+9.7%).

Table F1. Main labour variables by sex; total and by educational level (2000 and 2015); absolute and percentage change from 2000 to 2015

	2,000			2015			2000-2015					
	Absolute values						Absolute change			Percentage change		
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
	All levels											
WAP	18,415	18,902	37,317	20,083	20,844	40,927	1,668	1,942	3,610	9.1	10.3	9.7
LF	13,853	11,808	25,660	15,127	14,037	29,164	1,275	2,229	3,504	9.2	18.9	13.7
Empl	12,665	10,364	23,029	13,478	12,640	26,119	813	2,276	3,090	6.4	22.0	13.4
Unemp	1,187	1,444	2,631	1,649	1,397	3,045	461	-47	414	38.9	-3.3	15.7
	isced 0-2											
WAP	7,033	7,927	14,960	5,165	5,453	10,617	-1,868	-2,474	-4,342	-26.6	-31.2	-29.0
LF	4,380	3,766	8,146	2,820	2,510	5,330	-1,560	-1,256	-2,815	-35.6	-33.3	-34.6
Empl	3,792	3,100	6,892	2,278	1,935	4,213	-1,514	-1,165	-2,679	-39.9	-37.6	-38.9
Unemp	588	666	1,254	543	575	1,118	-46	-91	-137	-7.8	-13.7	-10.9
	isced 3-4											
WAP	7,878	7,060	14,938	9,268	8,539	17,808	1,390	1,479	2,870	17.6	20.9	19.2
LF	6,430	4,913	11,343	7,236	5,933	13,169	806	1,020	1,826	12.5	20.8	16.1
Empl	5,981	4,328	10,310	6,448	5,270	11,718	467	942	1,409	7.8	21.8	13.7
Unemp	449	585	1,034	788	663	1,451	340	78	418	75.7	13.4	40.4
	isced 5-8											
WAP	3,489	3,902	7,391	5,599	6,820	12,419	2,110	2,919	5,028	60.5	74.8	68.0
LF	3,041	3,129	6,170	5,056	5,750	10,805	2,014	2,621	4,635	66.2	83.8	75.1
Empl	2,891	2,935	5,826	4,708	5,397	10,105	1,817	2,462	4,279	62.9	83.9	73.5
Unemp	150	194	344	347	353	700	197	159	356	131.5	82.0	103.6

The dynamic of the female component has been much more pronounced than that of men, with women's labour force and employment increasing at around the same amount (little more than 2.2 million), while the number of unemployed women slightly declined (-47,000). On the other side, men's employment increased less than the labour force. As a consequence: (a) the percentage of women in labour force and employment has notably increased getting close to parity with men; (b) the increase in unemployment affected only men; so that (c) the percentage of women in unemployment declined (Graph F2).

Graph F2. Labour force, employment and unemployment: percentage of women; 2000 and 2015 and difference



The result of the previous trends was an increase of the RoA of 2.5 percentage points, of the RoE of 2.1 points, and of the RoU of 0.2 percentage points. Also, the main labour market indicators clearly show the different trends of women and men variables. In the case of women, the RoA and the RoE increased respectively by 4.9 and 5.8 percentage points, while the RoU declined by 2.3 percentage points; in the case of men, the RoE declined by 1.7 percentage points, the RoA increased by 0.1 percentage points and the RoU by 2.3 percentage points (Table F2). Therefore, all gender differentials declined: in 2015, men RoA and RoE exceeded those of women by only 5.7 and 5 percentage points respectively, while the RoU of

women (that in 2010 was higher than that of men), in 2015 was slightly lower (9.9% versus 10.9%).

Table F2. Main labour indicators by sex and educational level (2000 and 2015) and absolute change from 2000 to 2015

	2000			2015			2000-15		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
	All levels								
RoA	75.2	62.5	68.8	75.3	67.3	71.3	0.1	4.9	2.5
RoE	68.8	54.8	61.7	67.1	60.6	63.8	-1.7	5.8	2.1
RoU	8.6	12.2	10.3	10.9	9.9	10.4	2.3	-2.3	0.2
	isced 0-2								
RoA	62.3	47.5	54.5	54.6	46.1	50.2	-7.7	-1.4	-4.2
RoE	53.9	39.1	46.1	44.2	35.6	39.7	-9.7	-3.5	-6.3
RoU	13.4	17.7	15.4	19.0	22.9	20.9	5.6	5.2	5.5
	isced 3-4								
RoA	81.6	69.6	75.9	78.0	69.6	74.0	-3.6	0.0	-2.0
RoE	75.9	61.3	69.0	69.7	61.8	65.9	-6.2	0.5	-3.1
RoU	7.0	11.9	9.1	10.6	11.1	10.9	3.7	-0.8	1.7
	isced 5-8								
RoA	87.2	80.2	83.5	90.1	84.4	87.0	3.0	4.2	3.5
RoE	82.9	75.2	78.8	84.2	79.2	81.5	1.3	4.0	2.6
RoU	4.9	6.2	5.6	6.6	6.1	6.3	1.7	-0.1	0.8

Another very relevant trend registered in this period is the improvement in the educational level of the people in working age, labour force and employment. Starting from the demand side, the increase in the employment level was the result, on the one hand, of the decrease of 2.7 million people with low education (-38.9%), and on the other hand, of the increase of 1.4 million people with intermediate educational level (13.7%), but especially of 4.3 million with high education (73.4%). Very similar trends characterized the labour force.

Therefore, in 2015, 38.8 per cent of the employed and 36.9 per cent of the labour force had high educational levels, with WAP registering a lower percentage of 30.4 per cent. On the other hand, the percentage of people with low education in employment and labour force had declined to 16.2 per cent and 18.2 per cent, respectively. In this case, the percentage in WAP was higher: 26 per cent. The intermediate education level, with share of around 44–45 per cent, remains the largest component in WAP, labour force and employment (Table F3).

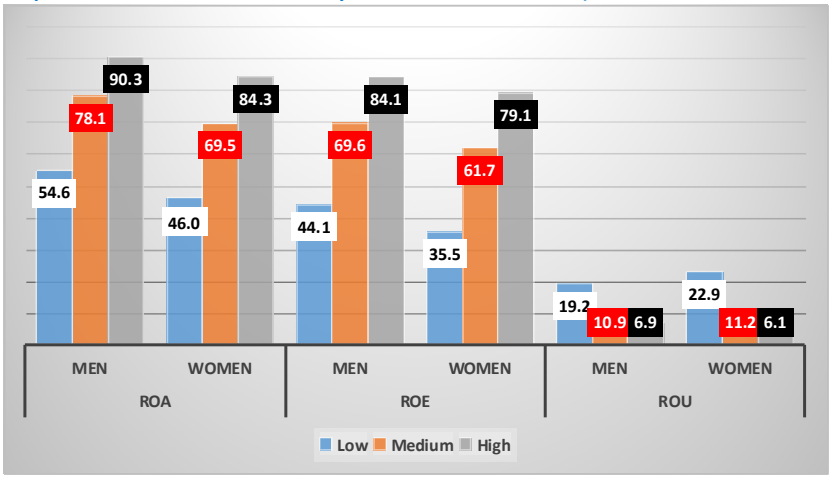
Table F3. Main economic variables; percentage composition by sex and educational level (2010 and 2015) and change between 2010 and 2015

	2000			2015			2000-15		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
	WAP								
Low	38.2	42.0	40.1	25.8	26.2	26.0	-12.4	-15.8	-14.1
Medium	42.8	37.4	40.1	46.3	41.0	43.6	3.4	3.6	3.5
High	19.0	20.7	19.8	28.0	32.8	30.4	9.0	12.1	10.6
	LF								
Low	31.6	31.9	31.7	18.7	17.7	18.2	-13.0	-14.2	-13.6
Medium	46.4	41.6	44.2	47.9	41.8	44.9	1.5	0.2	0.7
High	22.0	26.5	24.0	33.4	40.5	36.9	11.5	14.0	12.8
	Employment								
Low	29.9	29.9	29.9	17.0	15.4	16.2	-13.0	-14.6	-13.7
Medium	47.2	41.8	44.8	48.0	41.8	45.0	0.8	0.1	0.2
High	22.8	28.3	25.3	35.0	42.8	38.8	12.2	14.5	13.5
	Unmemployment								
Low	49.6	46.1	47.7	32.8	36.2	34.5	-16.8	-9.9	-13.2
Medium	37.8	40.5	39.3	46.9	41.6	44.3	9.1	1.1	5.0
High	12.6	13.4	13.0	20.3	22.1	21.2	7.7	8.8	8.2

Regarding unemployment, a few observations are in order. In the first place, in 2000, the unemployed with low educational level were almost half of the total (47.7%), followed by those with an intermediate educational level (39.3%), while only 13 per cent of the unemployed had high education level. As already seen, in the following 15 years, the average level of education increased in all labour market related sub-populations and unemployment was not an exception. The increase in the stock of unemployed was the result of a decline of those with low education and an increase of those with intermediate and high education. As a consequence, the share of the first group lost 13.2 percentage points and declined to 34.5 per cent, while the shares of the other two groups increased respectively to 44.3 per cent and 21.2 per cent.

The main indicators by educational level confirm two well-known aspects of labour force participation: (a) the education-specific rates of activity and employment are positively related to educational level; and (b) the range of women's rates is wider than that of men, which means education makes a difference especially for women.

Graph F3. Main economic indicators by sex and educational level (2015



As shown by Graph F3, men's rates of participation range from 54.6 per cent to 90.1 per cent and those of women from 46.1 per cent to 84.4 per cent so that the gender differential is inversely related to education, declining from 10.5 to 4.7 percentage points.

The RoUs present, on the contrary, an inverse relationship with education, ranging from 19.0 per cent for men with low education to 6.6 per cent for men with high education and from 22.9 per cent to 6.1 per cent for women. This could be interpreted as confirming that education makes a difference, and it pays to study. These data can be interpreted as showing that people with high education are becoming the relatively more scarce resource.

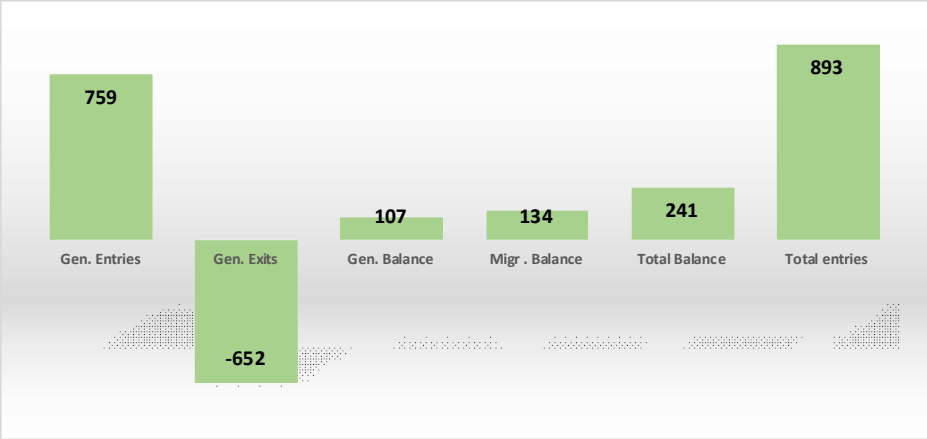
Generational flow analysis. Between 2000 and 2015, WAP has been affected by a natural increase of 1.6 million and by a positive migration balance that is estimated at 2.0 million. Taking into consideration natural entries and the migration balance, total entries into WAP amount to around 13.4 million.

Table F4. WAP, generational flows (2000–2015)

	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
	2000-2005			2005-2010			2010-2015			2000-2015		
Gen. Entries	1,943	1,890	3,834	1,876	1,811	3,686	1,967	1,895	3,862	5,786	5,596	11,382
Gen. Exits	-1,462	-1,394	-2,752	-1,575	-1,498	-3,074	-1,981	-1,998	-3,959	-5,019	-4,890	-9,784
Gen. Balance	481	497	1,082	300	312	613	-14	-103	-97	768	706	1,598
Migr . Balance	296	420	612	160	190	349	445	626	1,051	901	1,236	2,013
Total Balance	777	917	1,694	460	502	962	431	523	954	1,668	1,942	3,610
Total entries	2,240	2,310	4,446	2,035	2,001	4,036	2,412	2,521	4,913	6,687	6,832	13,395

Translating these data on yearly average values (Graph F4), generational entries into WAP have been equal to 759,000, generational exits to -652,000. This has generated a positive generational balance of 107,000, which has been increased by a migration balance of 134,000. Therefore, average yearly entries into WAP have been equal to 893,000.

Graph F4. WAP, yearly average generational flows in the period 2000–2015



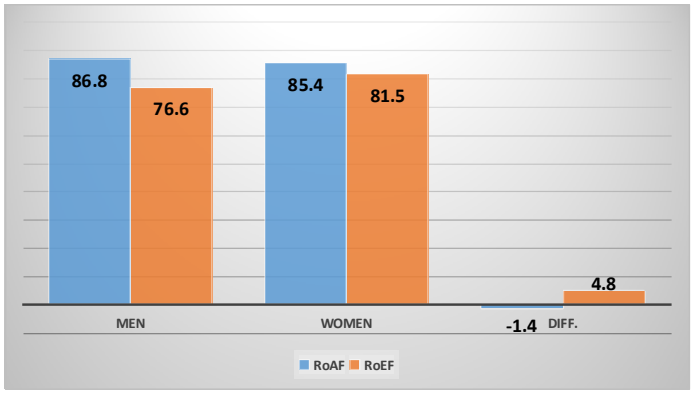
At the same time, total entries into labour force and employment were equal to 11.6 and 10.7 million, which translated into average yearly values of 771,000 and 713,000 and in a total ROAF of 86.4 per cent and total RoEF of 79.8 per cent. The success rate was therefore of 92.4 per cent.

Table F5. Labour force and employment – Net generational flows (2000–2015)

	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
	2000-2005			2005-2010			2010-2015			2000-2015		
	Labour force											
Entries	2,016	1,952	3,945	1,906	1,967	3,853	1,885	1,916	3,774	5,807	5,835	11,572
Exits	-1,444	-992	-2,413	-1,619	-1,365	-2,963	-1,470	-1,249	-2,692	-4,532	-3,606	-8,068
Balance	573	960	1,532	287	602	889	415	667	1,082	1,275	2,229	3,504
	Employment											
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
	2000-2005			2005-2010			2010-2015			2000-2015		
Entries	1,896	2,042	3,925	1,693	1,854	3,528	1,535	1,669	3,160	5,124	5,566	10,613
Exits	-1,271	-827	-2,085	-1,558	-1,280	-2,820	-1,525	-1,219	-2,699	-4,355	-3,326	-7,605
Balance	625	1,215	1,840	135	574	709	10	451	461	770	2,239	3,009
RoAF	90.0	84.5	88.7	93.6	98.3	95.5	78.2	76.0	76.8	86.8	85.4	86.4
RoEF	84.7	88.4	88.3	83.2	92.7	87.4	63.7	66.2	64.3	76.6	81.5	79.2
RoSF	94.1	104.6	99.5	88.8	94.3	91.6	81.5	87.1	83.7	88.2	95.4	91.7

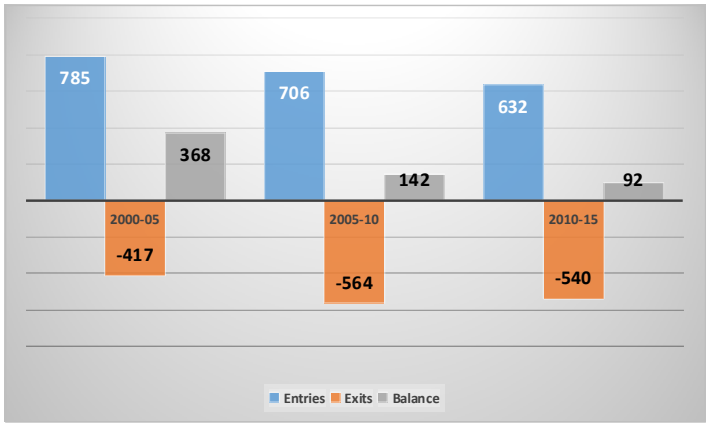
Notable differences exist, however, between the flow rates of men and women. Between 2000 and 2015, 86.8 per cent of the young men that entered WAP did also enter the labour force, but only 76.6 per cent succeeded in finding a job; the corresponding values for women were 85.4 and 81.5 per cent. Therefore, the propensity of women to enter the labour market was slightly lower than that of men (Graph F5), but their rate of success was notably higher: 95.4 per cent versus 88.2 per cent.

Graph F5. RoA and RoE in terms of flow by sex and gender differentials (2000–2015)



Also, the French labour market was affected by the financial crisis. This is clearly shown by the progressive decline of the yearly entries into employment from 785,000 to 706,000 to 632,000 while exits present a positive trend with a maximum of 564,000 between 2005 and 2010 (Graph F6). Therefore, the decline in the employment balance was due both to the decline in entries and the increase in exits. It should be noted that the percentage of women over total entries has always been above 50 per cent (around 52% with a maximum of 57% in the last period).

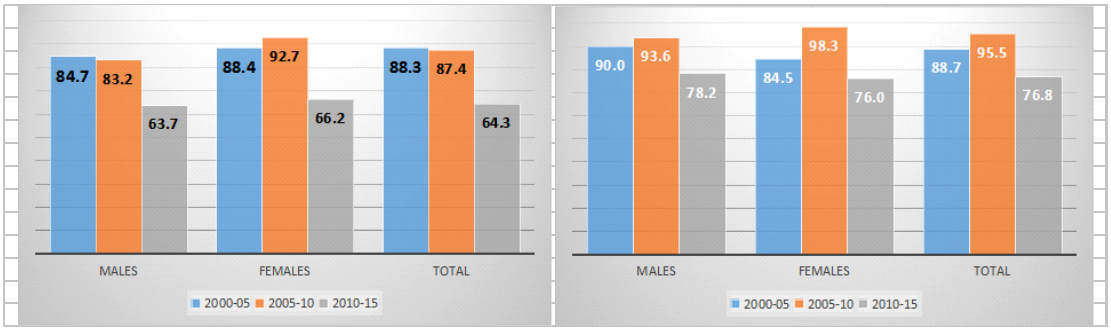
Graph F6. Employment: Generational entries, exits and balance (2000–2005, 2005–2010, 2010–2015)



These trends are well captured by the RoE in terms of flow. The total rate declines from 88.3 per cent, to a value of 87.4 per cent and then to 64.3 per cent (Graph F7). It should be underlined that the rates of women were constantly notably higher than those of men, reaching a maximum of 92.7 per cent in the second period, while those of men present the same trend of the total.

Graph F7. RoE and RoA in terms of flow by sex, 2000–2005, 2005–2010 and 2010–2015

F.5a. RoE F.5b. RoA



The RoAF peaked in the second period and present a smaller range of values, the total rates being included between a maximum of 95.5 per cent between 2005 and 2010 and a minimum of 76.8 per cent in the following period. Women's rates exceeds those of men only in the second period.

The gross flows, inclusive of inter-educational level passages, allow estimating the structure of entries into labour force and employment by educational level. Starting from the average values of the labour demand in terms of flow over the15-year period, it can be observed that:

(a) Almost one half of entries into employment was represented by people with high education, 10.6 per cent by people with low education and 39.7 per cent by people with intermediate education (Table F6);
(b) The average educational level of the women that entered the employment area was much higher than that of men, so much so that 52.7 per cent of women that entered the employment area had high education, while the percentage of men was of only 46 per cent; and
(c) For both men and women, the average educational level of entries into labour force has been slightly lower than that of the entries into employment (Table F7).

Table F6. Employment: Gross entry flows; absolute values and percentage composition by educational level (2000–2015)

	2000-2005			2005-2010			2010-2015			2000-2015		
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
	Absolute values											
ISCED 0-2	326	379	682	189	215	371	90	50	128	604	645	1,181
ISCED 3-4	856	771	1,596	760	698	1,437	750	630	1,380	2,367	2,099	4,413
ISCED 5-8	794	931	1,686	805	945	1,732	931	1,176	2,107	2,530	3,052	5,525
Total	1,976	2,081	3,964	1,754	1,859	3,540	1,771	1,857	3,615	5,501	5,796	11,120
	Percentage composition											
ISCED 0-2	16.5	18.2	17.2	10.8	11.6	10.5	5.1	2.7	3.5	11.0	11.1	10.6
ISCED 3-4	43.3	37.0	40.3	43.3	37.6	40.6	42.4	33.9	38.2	43.0	36.2	39.7
ISCED 5-8	40.2	44.7	42.5	45.9	50.9	48.9	52.6	63.4	58.3	46.0	52.7	49.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

The decline in the number of total entries into employment that have been previously observed affected mainly the people with low education whose entries declined from 682,000 to 128,000 and people with intermediate education, whose entries declined from 1.596 million to 1.38 million. On the contrary, entries by people with high education increased from 1.69 million to 2.1 million. As a consequence, the entries' share of people with high reduction

increased from 42.5 per cent to 58.3 per cent, while that of people with low education declined from 17.2 per cent to 3.5 per cent. It should be underlined that between 2005 and 2010, women with high education started to represent the absolute majority (50.9%) of women entries and the percentage increased to 63.4 per cent in 2010–2015. In this last period also, men's entries became the absolute majority (58.3%).

Table F7. Labour force; Gross entry flows; absolute values and percentage composition by educational level (2000–2015)

	2000-2005			2005-2010			2010-2015			2000-2015		
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
	Absolute values											
ISCED 0-2	336	271	534	295	260	522	137	573	679	769	1,104	1,736
ISCED 3-4	915	737	1,619	847	763	1,591	1,002	770	1,772	2,764	2,271	4,981
ISCED 5-8	860	984	1,808	829	949	1,765	1,062	1,293	2,355	2,750	3,225	5,928
Total	2,111	1,992	3,961	1,971	1,972	3,878	2,201	2,636	4,806	6,283	6,600	12,645
	Percentage composition											
ISCED 0-2	15.9	13.6	13.5	15.0	13.2	13.5	6.2	21.7	14.1	12.2	16.7	13.7
ISCED 3-4	43.3	37.0	40.9	43.0	38.7	41.0	45.5	29.2	36.9	44.0	34.4	39.4
ISCED 5-8	40.7	49.4	45.7	42.0	48.1	45.5	48.3	49.0	49.0	43.8	48.9	46.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Similar long-term trends characterized the labour force (Table F7). Some differences must however be underlined. In the first place, the presence of people with low education in the supply did not decline. Therefore, the percentage of generational entries into labour force with intermediate and high education was lower than that of entries into employment. In conclusion, the average educational level of labour demand has become higher than that of supply.

In conclusion, it should be underlined that over the 15-year period, the following are being considered:

(a) The average educational level of both the entries into the labour force and into employment progressively increased;

(b) The educational group most affected by the decline in labour demand was the group with low education; and

(c) Women entering the labour market and especially employment had, on the average a higher educational level than men.

The scenarios: The stock approach

In absence of migration, from 2015 to 2030, French WAP is expected to decline by 1.1 million (which corresponds to an average yearly rate of -75,000 people per year) down from 40.9 million to 39.8 million (Table F8).

Table F8. WAP, labour force and employment (2015) and in alternative hypothesis of labour force participation and employment growth (2020, 2025 and 2030); values in thousands

	WAP	Labour force		Employment		
		A	B	1	2	3
2015	40,927	29,164	29,164	26,119	26,119	26,119
2020	40,638	29,295	29,464	26,897	27,287	27,676
Diff	-289	132	301	779	1,168	1,557
2025	40,489	29,525	29,861	27,699	28,507	29,326
Diff.	-149	229	397	802	1,220	1,650
2030	39,808	29,359	29,856	28,525	29,782	31,075
Diff.	-681	-166	-6	826	1,275	1,749
2015-30	-1,119	195	692	2,406	3,663	4,956
	-75	13	46	160	244	330

In order to evaluate the labour needs (that in the present analytic context are defined as the difference between the increase in supply and the increase in demand), the following assumptions were made.

For the labour force, two alternative scenarios were assumed:

(a) The rate of activity will progressively increase by the same percentage points as in the previous 15-year period (+2.5 percentage points); and
(b) The rate of activity will progressively increase by 3.7 percentage points, that is by 1.5 more percentage points than in the previous 15-year period.

For employment, three different situations will be considered. More specifically, employment will increase:

(a) At a rate equal to two thirds that registered between 2000 and 2015 (8.9% over the 15-year period);
(b) At a rate equal to that registered between 2000 and 2015 (13.4%); and
(c) At a rate equal to four thirds that registered between 2000 and 2015 (17.9%).

Table F8 shows the implication of these assumptions for labour force and employment. In Scenario A, labour force will increase by 195,000 and in Scenario B by 692,000, which correspond to average yearly values of 13,000 and 46,000 respectively. At the same time, employment is projected to increase in the three scenarios by around 2.4 million, 3.7 million and almost 5 million, the yearly average values being 160,000, 244,000 and 330,000.

Crossing the two labour force scenarios with the three employment scenarios, six scenarios of labour needs and migration balance can be obtained. As already indicated, the labour shortage is computed as the difference between the change in labour supply (labour force) and labour demand (employment).

In the six scenarios thus obtained (Table F9), the labour shortage ranges between a minimum of 1.7 million (Scenario B1) and a maximum of 4.7 million (Scenario A3). Assuming an elasticity of the migration balance to the labour needs of 1.3, an estimate of the yearly average migration balance between 149,000 and 413,000 is obtained. It is therefore evident that even under the most “favourable” conditions (an increase in the rate of activity of 3.7 percentage points and a modest expansion in employment equal to an average value of 0.6% per year), migration will not be an option but a necessity.

Table F9. Labour shortage and migration balance in six scenarios of labour participation and employment growth in the period 2015–2030

	A1	A2	A3	B1	B2	B3
	Labour shortage					
2015-2020	-647	-1,036	-1,426	-478	-867	-1,257
2020-2025	-573	-991	-1,421	-405	-823	-1,253
2025-2030	-992	-1,441	-1,914	-832	-1,281	-1,755
2015-2030 (Tot	-2,211	-3,468	-4,761	-1,715	-2,971	-4,265
2015-2030 (Yea	-147	-231	-317	-114	-198	-284
	Estimated migration balance					
2015-2020	841	1,347	1,853	621	1,128	1,634
2020-2025	744	1,288	1,847	526	1,070	1,629
2025-2030	1,289	1,873	2,489	1,081	1,665	2,281
2015-2030 (Tot	2,875	4,508	6,189	2,229	3,863	5,544
2015-2030 (Yea	192	301	413	149	258	370

Table F10 shows that once migration is linked to labour needs, WAP will not decline but increase, the increase being positively related to employment growth; at the same time, labour force will increase, the growth being positively related to employment expansion and inversely related to the rate of participation. Unemployment, as well as the rate of unemployment, are projected to decline in all scenarios, the improvement being directly related to employment expansion and inversely related to the increase in the rate of activity.

Table F10. Main labour market variables and main labour market indicators (2015) and in six scenarios of labour force participation and employment growth (2030)

	WAP	LF	Empl	Unemp	RoA	RoE	RoU
	2015						
	40,927	29,164	26,119	3,045	71.3	63.8	10.4
	2030						
A1	42,682	31,479	28,525	2,954	73.8	66.8	9.4
A2	44,316	32,684	29,782	2,902	73.8	67.2	8.9
A3	45,997	33,924	31,075	2,849	73.8	67.6	8.4
B1	42,037	31,527	28,525	3,002	75.0	67.9	9.5
B2	43,671	32,753	29,782	2,971	75.0	68.2	9.1
B3	45,352	34,013	31,075	2,939	75.0	68.5	8.6

The scenarios in terms of flows: Labour needs by educational level

The previous analysis in terms of flows has allowed to estimate the flow labour demand and flow labour supply by educational level over the 2000–2015 period. This approach provides a way to estimate scenarios of the future labour demand in terms of flow that will be expressed by the French economic system and the future labour supply that will be generated by the people present in France in 2015, both by educational level. The labour needs in alternative hypotheses of labour demand and supply will then be computed. To carry on this exercise, a series of additional assumptions are needed.

(a) Entries in WAP in the 2015–2030 period will be equal to the number of young people that were in the 0–14 age bracket in 2015;
(b) For what relates to labour force, two scenarios were built assuming that the percentage of entries into the labour force with respect to the entries into WAP (the RoAF) will be equal:

(i) to the rate registered between 2000 and 2015 (86.4%); and (ii) to the rate registered in the same period by men (86.8%), which implies a complete alignment of women's behaviour to men's behaviour.

The labour demand in terms of flow is equal to the sum of the replacement demand and the additional demand. To compute the labour demand in terms of flow, it can be assumed that:

(a) The replacement demand will be equal to the number of the employed in the 50–64 age group in 2015, that will necessarily exit the labour market for age-related reasons; and

(b) The additional demand will be taken equal to the values used in the stock scenarios.

This process does therefore produce two estimates of labour supply and three estimates of labour demand in terms of flow that are shown, together with the estimate of the entries into WAP in Table F11.

Table F11. Entries into WAP, labour force and employment in alternative scenarios (2015–2030)

Entries into WAP		Entries into LF		Enties into employment		
				RD	AD	LDF
15 year values						
11,503	A	9,937	1	7,520	2,406	9,926
	B	9,989	2		3,663	11,183
			3		4,956	12,476
Average yearly values						
767	A	662	1	501	160	662
	B	666	2		244	746
			3		330	832

A simple inspection of the data shows that:

(a) Generational exits from employment are lower than generational entries into the labour force;

(b) Therefore the level of labour shortage will depend on the level of additional demand; and

(c) In two scenarios generational entries into employment are higher than generational entries into labour force, and in one generational entries into employment are not only higher than entries into labour force, but also of the entries into WAP.

Finally, concerning the percentage share of the three educational levels of labour supply and labour demand we have assumed, in a conservative vein, that in the next 15 years, the structure of entries into labour force and employment will have the same structure as the one registered in the previous 15 (Graph F8). This hypothesis is justified by the consideration that the strong trends detected in the 2000–2015 period could be more the result of cyclical oscillations than of structural trends. It should also be underlined that the average educational level of the demand in terms of flow is higher than that of the supply in terms of flow.

Graph F8. Projected shares of educational levels for the labour supply and the labour demand in terms of flows; average values for the period 2015–2030

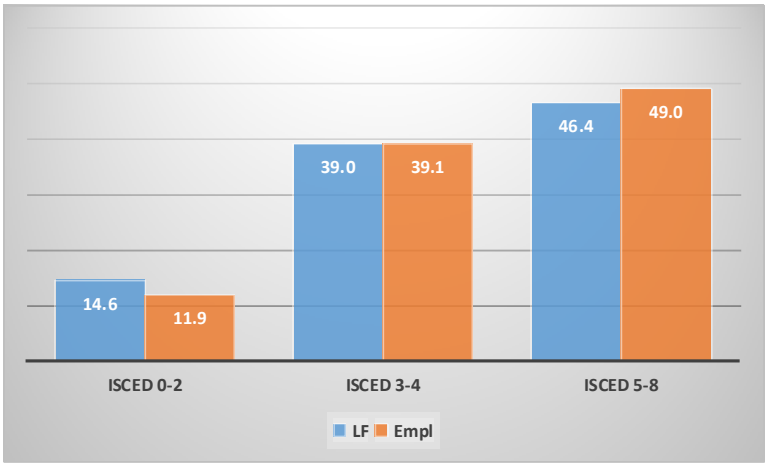


Table F12 reports the entries in labour force and employment by educational level in the alternative hypotheses of labour force participation and (employment) growth.

Table F12. Entries into labour force and employment by educational level in alternative scenarios (2015–2030)

	Labour supply in terms of flow in alternative scenarios		Labour demand in terms of flow in alternative scenarios		
	A	B	1	2	3
	Absolute values in thousand				
ISCED 0-2	1,364	1,371	1,055	1,188	1,326
ISCED 3-4	3,915	3,935	3,939	4,438	4,951
ISCED 5-8	4,659	4,683	4,932	5,557	6,199
Total	9,937	9,989	9,926	11,183	12,476
Yearly	662	666	662	746	832

Finally, labour needs were computed as the difference between the labour supply and the labour demand in terms of flows for each educational level, as well as the share of each educational level on the total demand (Table F13).

Table F13. Labour needs by educational level in three scenarios of employment growth; total values and percentage composition; 2015–2030

	Labour needs in alternative scenarios					
	Absolute values					
	A1	A2	A3	B1	B2	B3
ISCED 0-2	310	176	39	317	183	46
ISCED 3-4	-25	-503	-1,012	-4	-503	-1,016
ISCED 5-8	-274	-874	-1,267	-250	-874	-1,517
Total	11	-1,245	-2,539	63	-1,194	-2,487
Yearly	1	-83	-169	4	-80	-166
	Percentage composition by educational level					
ISCED 0-2						
ISCED 3-4	8.2	36.5	44.4	1.7	36.5	40.1
ISCED 5-8	91.8	63.5	55.6	98.3	63.5	59.9

Starting from the total, it can be observed that in two scenarios, those with the lowest employment growth, the total supply, as already seen, appears to be just sufficient. However, when the single educational groups are analysed:

(a) The supply of those with the lowest educational level is sufficient in all scenarios;

(b) The supply of people with intermediate education is almost sufficient in the two scenarios with the lowest employment growth; and

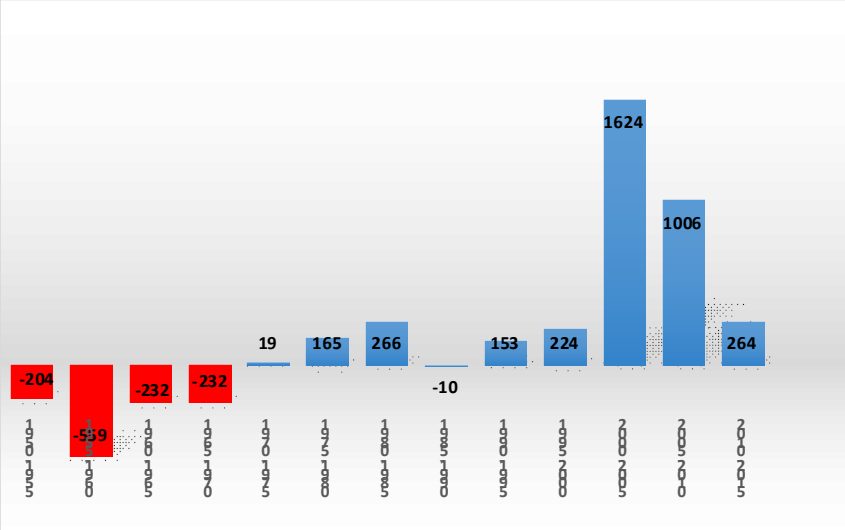
(c) The supply of people with high education is insufficient in all scenarios.

In conclusion, if employment will grow less than in the previous 15-year period, France will need a small number of migrants with high education, mainly with high education; if it will grow of the same amount, almost two thirds of economic migrants should have a high educational level. If the rate of growth will be higher, the need of both groups will increase, the increase being more pronounced for the people with intermediate education.

Italy

As shown by the following graph, Italy has been an emigration country until the middle of the 1970s to then become an immigration country with relevant inflows starting in the 1990s. Therefore, it should not come as a surprise if Italy will need foreign labour also in the next 15 years, especially if the economic downturn that has affected the country following the international financial crisis will come to an end.

Graph I1. Italy's migration balance; five-year values in thousands (1950–1955 to 2010–2015)



Source: UN DESA, 2015.

The labour market: A background analysis

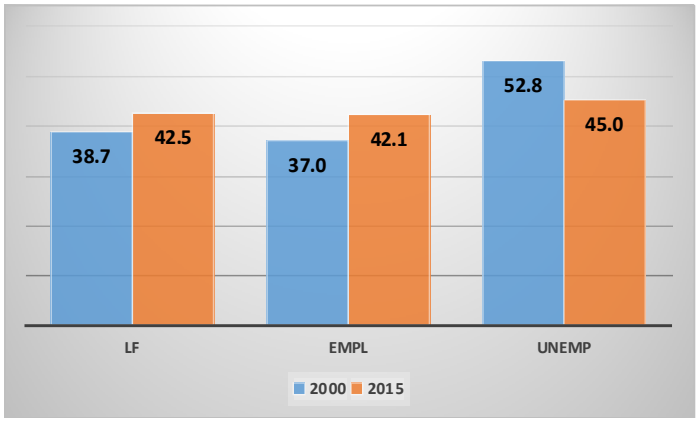
Stock analysis. In 2015, Italy's labour market was not yet out from the international financial crisis and still far from having totally absorbed its consequences. However, in spite of the big downturn in employment registered starting in 2008, a long-run perspective shows that from 2000 to 2015 employment increased by 1.35 million (+6.6%), labour force by 1.8 million, while unemployment increased by almost half a million (+19.3%), passing the 3-million mark. (Table I1). Finally, immigration flows were sufficient to cause a small increase in WAP (+1%), more than counterbalancing the negative natural balance that had affected the population in working age.

Table I1. - Main labour variables by sex; total and by educational level (2000 and 2015); absolute and percentage change (2000 to 2015)

	2,000			2015			2000-2015					
	Absolute values						Absolute change			Percentage change		
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
	All levels											
WAP	19,232	19,411	38,644	19,414	19,621	39,035	182	209	391	0.9	1.1	1.0
LF	14,188	8,968	23,156	14,382	10,615	24,997	194	1,647	1,841	1.4	18.4	8.0
Empl	12,992	7,628	20,620	12,718	9,255	21,973	-274	1,627	1,353	-2.1	21.3	6.6
Unemp	1,196	1,340	2,536	1,664	1,361	3,025	468	20	488	39.1	1.5	19.3
	isced 0-2											
WAP	10,661	10,790	21,443	8,528	7,816	16,344	-2,133	-2,974	-5,099	-20.0	-27.6	-23.8
LF	7,204	3,370	10,573	5,453	2,745	8,198	-1,751	-626	-2,376	-24.3	-18.6	-22.5
Empl	6,500	2,772	9,254	4,623	2,270	6,893	-1,877	-502	-2,361	-28.9	-18.1	-25.5
Unemp	703	599	1,319	830	475	1,304	126	-124	-15	18.0	-20.7	-1.1
	isced 3-4											
WAP	6,987	7,097	14,090	8,303	8,347	16,650	1,316	1,249	2,560	18.8	17.6	18.2
LF	5,546	4,380	9,927	6,673	5,159	11,831	1,126	778	1,904	20.3	17.8	19.2
Empl	5,115	3,743	8,877	5,967	4,504	10,471	852	762	1,594	16.7	20.4	18.0
Unemp	432	638	1,051	706	654	1,360	274	17	310	63.6	2.6	29.5
	isced 5-8											
WAP	1,583	1,523	3,109	2,583	3,458	6,041	999	1,935	2,932	63.1	127.1	94.3
LF	1,438	1,217	2,655	2,257	2,712	4,968	819	1,494	2,313	56.9	122.7	87.1
Empl	1,377	1,111	2,488	2,128	2,480	4,608	751	1,369	2,121	54.6	123.3	85.2
Unemp	61	107	168	129	231	360	68	125	192	110.8	116.9	114.7

The dynamic of the female component has been much more pronounced than that of men, with women's labour force and employment growing by the same amount (little more than 1.6 million) and leaving the number of women unemployed almost constant (+20,000). On the other hand, men's employment declined by 274,000, with labour force increasing by almost 200,000. As a consequence, the increase in unemployment affected almost only the male component of the labour force (Graph I2).

Graph I2. Labour force, employment and unemployment; percentage of women (2010 and 2015)



The result of the previous trends was an increase of the the RoA of 4.1 percentage points, of the RoE of 2.9 points, and of the RoU of 1.1 percentage points. Also, the main labour market indicators clearly show the different behaviour of men and women. In the case of women, the RoA and the RoE increased both by 7.9 percentage points, while the RoU declined by 2.1 percentage points; in the case of men, the RoE declined by 2 percentage points, the RoA increased by 0.3 percentage points and the RoU by 3.1 percentage points (Table I2).

Table I2. Main labour indicators by sex and educational level (2000 and 2015) and absolute change (2000 to 2015)

	2000			2015			2000-15		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
	All levels								
RoA	73.8	46.2	59.9	74.1	54.1	64.0	0.3	7.9	4.1
RoE	67.6	39.3	53.4	65.5	47.2	56.3	-2.0	7.9	2.9
RoU	8.4	14.9	11.0	11.6	12.8	12.1	3.1	-2.1	1.1
	isced 0-2								
RoA	67.6	31.2	49.3	63.9	35.1	50.2	-3.6	3.9	0.8
RoE	61.0	25.7	43.2	54.2	29.0	42.2	-6.8	3.4	-1.0
RoU	9.8	17.8	12.5	15.2	17.3	15.9	5.5	-0.5	3.4
	isced 3-4								
RoA	79.4	61.7	70.5	80.4	61.8	71.1	1.0	0.1	0.6
RoE	73.2	52.7	63.0	71.9	54.0	62.9	-1.3	1.2	-0.1
RoU	7.8	14.6	10.6	10.6	12.7	11.5	2.8	-1.9	0.9
	isced 5-8								
RoA	90.8	80.0	85.4	87.4	78.4	82.2	-3.4	-1.5	-3.2
RoE	87.0	73.0	80.0	82.4	71.7	76.3	-4.6	-1.2	-3.7
RoU	4.2	8.8	6.3	5.7	8.5	7.2	1.5	-0.2	0.9

A major consequence of these trends was a notable decline in the gender differentials that remained however extremely large when compared with those of other European Union countries, the RoA and RoE of men exceeding those of women by 20 and 18.3 percentage points respectively, while the RoU of women remained higher, but the difference with that of men declined from 6.5 to 1.2 percentage points.

Another very relevant trend of this period was the improvement in the educational level of the people in working age, labour force and employment. Starting from the demand side, the increase in the employment level was the result, on the one hand, of the decrease of almost 2.4 million people with low education (-25.5%), and, on the other hand, of the increase of 1.6 million people with an intermediate educational level (18.0%) and of 2.1 million with high education (85.2%). Very similar trends characterize the labour force.

However, in 2015, still almost one third of the labour force and of the employed had a low educational level and around 47 per cent had an intermediate educational level. In the case of the employed, the percentage of those with high education had, however, increased above the 20 per cent mark. It should be underlined that the educational attainment of women was notably higher than that of men, for what relates both to labour force and employment, so much that the percentage of women in employment with high education was equal to 26.8 per cent versus a percentage of 16.7 for men. It can finally be observed that the percentage of people with high education in employment was higher than that in labour force, both for women and men.

Table I3. Main economic variables; percentage composition by sex and educational level; 2000–2015 and difference

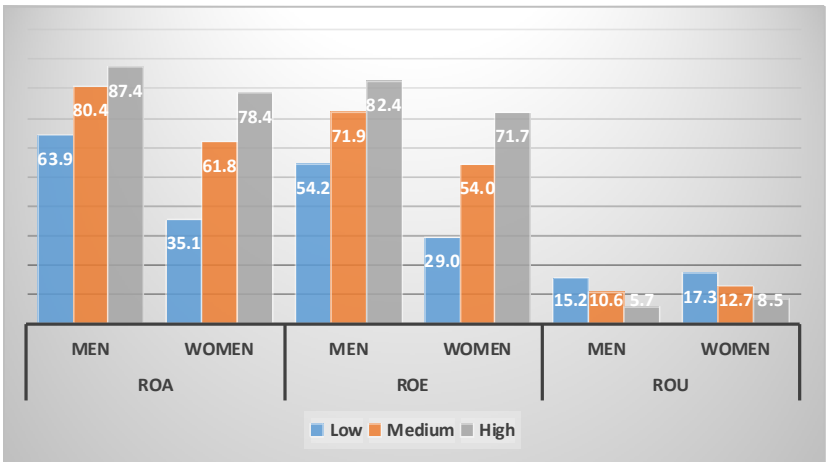
	2000			2015			2000-15		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
	WAP								
Low	55.4	55.6	55.5	43.9	39.8	41.9	-11.5	-15.8	-13.6
Medium	36.3	36.6	36.5	42.8	42.5	42.7	6.4	6.0	6.2
High	8.2	7.8	8.0	13.3	17.6	15.5	5.1	9.8	7.4
	LF								
Low	50.8	37.6	45.7	37.9	25.9	32.8	-12.9	-11.7	-12.9
Medium	39.1	48.8	42.9	46.4	48.6	47.3	7.3	-0.2	4.5
High	10.1	13.6	11.5	15.7	25.5	19.9	5.6	12.0	8.4
	Employment								
Low	50.0	36.3	44.9	36.4	24.5	31.4	-13.7	-11.8	-13.5
Medium	39.4	49.1	43.1	46.9	48.7	47.7	7.5	-0.4	4.6
High	10.6	14.6	12.1	16.7	26.8	21.0	6.1	12.2	8.9
	Unmemployment								
Low	58.8	44.6	52.0	49.8	34.9	43.1	-9.0	-9.7	-8.9
Medium	36.1	47.5	41.4	42.4	48.1	45.0	6.3	0.6	3.6
High	5.1	7.9	6.6	7.7	17.0	11.9	2.6	9.1	5.3

Regarding unemployment, a few observations are in order. In the first place, in 2000, the absolute majority of the unemployed had a low educational level (51.3%), followed by those with intermediate educational level (42.1%), while only 6.6 per cent had high education. As already seen, in the following 15 years, the average level of education increased in all the sub-populations that are being considered. Therefore, it was to be expected that this would happen also for unemployment. As a matter of fact, the number of unemployed with the lowest educational level remained substantially constant, but their share declined to 43.1 per cent. The largest group became that with intermediate education that grew to 45 per cent. Also, in this case, the educational level of women was higher than that of men, while the percentage of unemployed with high education reached 11.9 per cent.

The main indicators by educational level confirm two well-known aspects of labour force participation: (a) the education-specific rates of activity and employment are positively related to the educational level; and (b) the range of women rates is wider than that of men, which means education makes a difference especially for women. As shown by Graph I3, men's rates of participation range from 63.9 per cent to 87.4 per cent and those of women form 35.1 per cent to 78.4 per cent, so that the gender differential is inversely related to education, ranging from 28.8 to 9 percentage points.

The RoUs present, on the contrary, an inverse relationship with education, being included between 15.2 to 5.7 per cent for men and between 17.3 to 8.5 per cent for women. This could be interpreted as confirming that education makes a difference and it pays to study; however, it seems more probable that this indicates that people with high education are becoming a scarce resource.

Graph I3 - Main labour market indicators by educational level (2015)



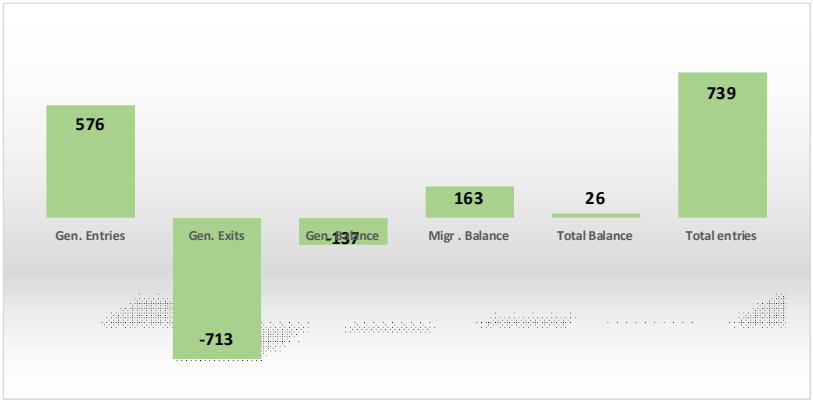
Generational flow analysis. Between 2000 and 2015, WAP has been affected by a natural decline of more than 2 million due to the interaction of generational entries and exits, which has been completely offset by a positive migration balance that is estimated at around 2.5 million. Taking into consideration natural entries and the migration balance, total entries into working age amount to around 11 million (Table I4).

Table I4. WAP; generational flows (2000–2015)

	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
	2000-2005			2005-2010			2010-2015			2000-2015		
Gen. Entries	1,457	1,388	2,845	1,511	1,423	2,934	1,478	1,387	2,865	4,446	4,198	8,644
Gen. Exits	-1,850	-1,817	-3,631	-1,632	-1,694	-3,318	-1,850	-1,919	-3,752	-5,331	-5,430	-10,701
Gen. Balance	-393	-429	-786	-121	-271	-384	-372	-531	-887	-886	-1,231	-2,057
Migr . Balance	217	274	456	446	661	1,099	405	506	893	1,067	1,441	2,448
Total Balance	-176	-154	-330	325	390	715	32	-26	6	182	209	391
Total entries	1,674	1,662	3,301	1,957	2,084	4,033	1,882	1,893	3,758	5,513	5,639	11,092

Translating these data on yearly average values (Graph I4), generational entries into WAP have been equal to 576,000, and generational exits to -713,.000. This has generated a negative generational balance of -137,000, which has been more than counterbalanced by a migration balance of 163,000. So the total entries into WAP have been equal to 739,000 and this has resulted in an extremely modest increase of 26,000 people per year.

Graph I4. WAP; yearly average generational flows in the period 2000–2015



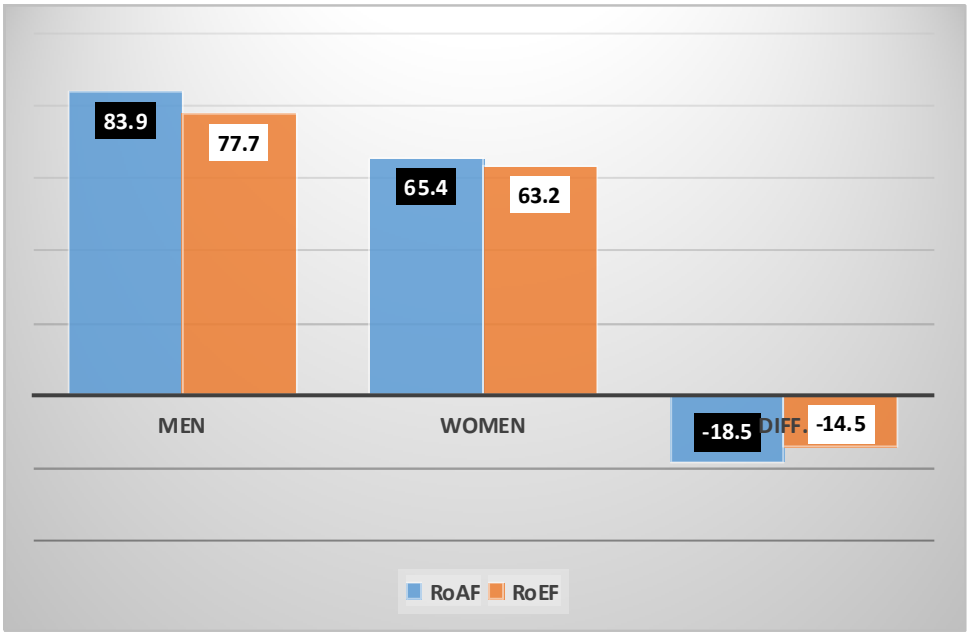
In the same period, total entries into labour force and employment were equal to 8.3 and 7.8 million. which translated into average yearly values of 554,000 and 523,000 and in a total RoAF of 75 per cent and RoEF of 70.8 per cent. The success rate was therefore of 94.4 per cent. Notable differences exist, however, between the flow rates of men and women.

Table I5. Labour force and employment – Net generational flows (2000–2015)

	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
	2000-2005			2005-2010			2010-2015			2000-2015		
	Labour force											
Entries	1,689	1,357	3,046	1,434	1,081	2,516	1,503	1,253	2,755	4,627	3,691	8,317
Exits	-1,663	-606	-2,269	-1,480	-766	-2,246	-1,290	-672	-1,961	-4,433	-2,044	-6,476
Balance	27	751	778	-46	315	270	213	581	794	194	1,647	1,841
	Employment											
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
	2000-2005			2005-2010			2010-2015			2000-2015		
Entries	1,935	1,658	3,593	1,271	1,038	2,309	1,080	868	1,949	4,286	3,565	7,850
Exits	-1,457	-483	-1,940	-1,507	-711	-2,218	-1,451	-677	-2,128	-4,415	-1,871	-6,286
Balance	478	1,176	1,653	-236	327	91	-371	191	-179	-129	1,694	1,565
RoAF	100.9	81.6	92.3	73.3	51.9	62.4	79.8	66.2	73.3	83.9	65.4	75.0
RoEF	115.6	99.7	108.8	64.9	49.8	57.2	57.4	45.9	51.8	77.7	63.2	70.8
RoSF	114.5	122.2	118.0	88.6	96.0	91.8	71.9	69.3	70.7	92.6	96.6	94.4

Between 2000 and 2015, 83.9 per cent of the young men that entered WAP did also enter the labour force, but only 77.7 per cent succeeded in finding a job; the corresponding values for women were 65.4 and 63.2. Therefore the propensity of women to enter the labour market was still much lower than that of men (Graph I5), but their rate of success was higher: 96.6 versus 92.6.

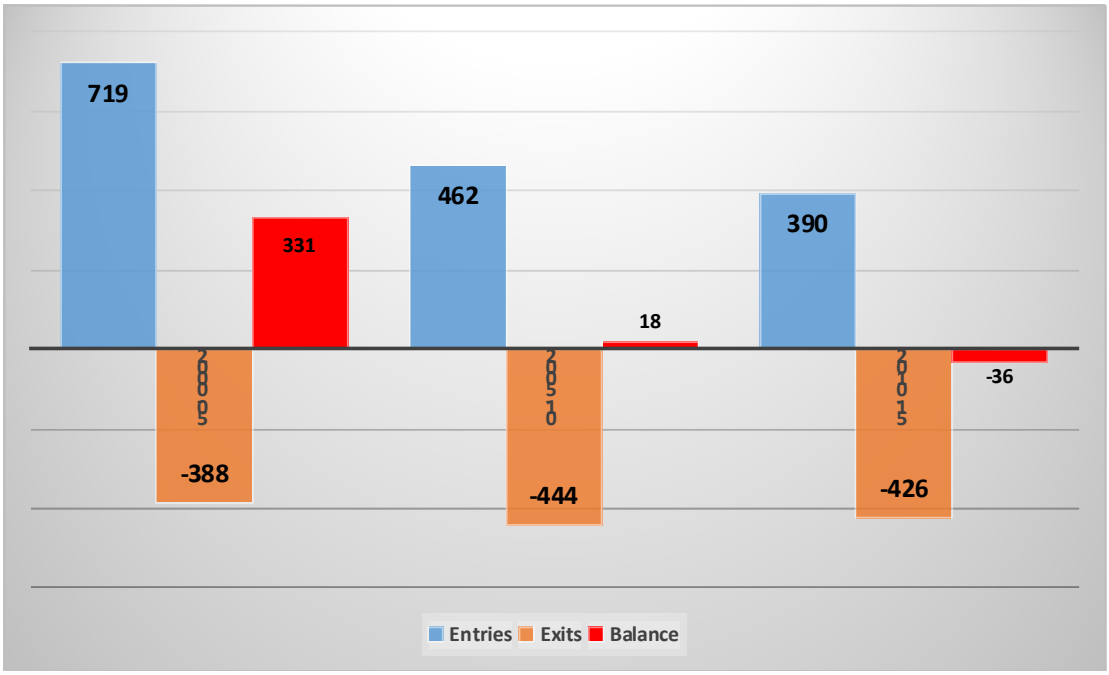
Graph I5. Rates of activity and rates of employment in terms of flow by sex and gender differentials (2010–2015)



Starting in 2008, the Italian labour market felt in a very pronounced way the impact of the financial crisis. This is clearly shown by the progressive decline of the yearly entries into employment from 719,000 to 462,000 to 390,000, while exits remained rather stable ranging

from 388,000 to 444,000 to 426,000. It was therefore the negative dynamic of the demand in terms of flow that caused the progressive decline of the employment balance from a highly positive value in the first five-year period to a negative value in the third. The percentage of women over total entries declined, but only marginally, remaining above 44 per cent, a value higher than women percentage in terms of stock.

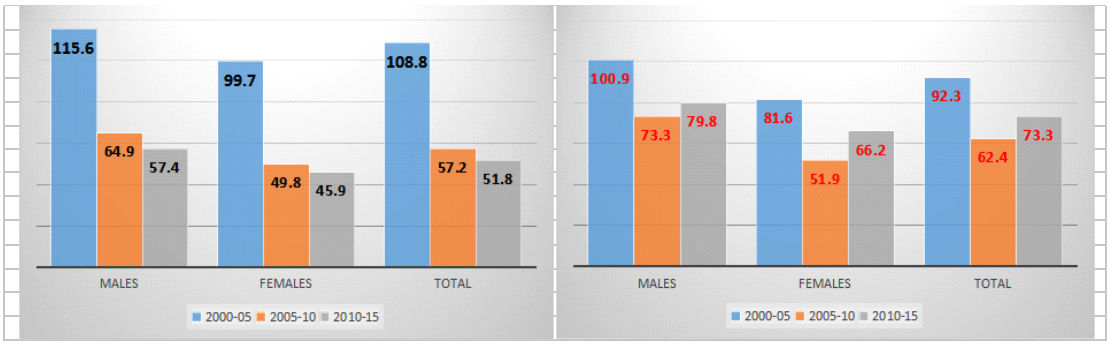
Graph I6. Employment; generational entries, exits and balance (2000–2005, 2005–2010, 2010–2015)



These trends are well captured by the RoE in terms of flow. The total RoE declined from 108.8 per cent, a value that implies that entries into employment were higher than those in WAP (including the contribution of the migrants), to a value of 57.2 and then to 51.8 per cent. The rates of men and women followed the same trend, with those of men being always higher, but the gender differential declined in a rather pronounced way (Graph I7).

Graph I7. RoE and RoA in terms of flow by sex (2000–2005, 2005–2010, 2010–2015)

I7a. RoE **I7b. RoA**



The gross flows inclusive of inter-educational level passages allow estimating the structure of entries into employment (Table I6) and into labour force (Table I7) by educational level. Starting from the average values of the labour demand in terms of flow over the 15-year period, it can be observed that:

(a) More than one third of entries into employment was represented by people with high education, 19.6 per cent by people with low education and 46.1 per cent by people with intermediate education;
(b) The average educational level of the women that entered the employment area was much higher than that of men, so much so that those with high education represented 43.8 per cent, while the percentage of men was only 26.3 per cent; and
(c) For both men and women, the average educational level of entries into labour force was higher than the average educational level of entries into employment.

Table I6. Employment – Gross entry flows; absolute values and percentage composition by educational level (2000–2015)

	2000-2005			2005-2010			2010-2015			2000-2015		
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
	Absolute values											
ISCED 0-2	589	376	965	198	119	317	188	98	287	975	593	1,568
ISCED 3-4	935	726	1,641	763	431	1,170	572	314	886	2,270	1,471	3,697
ISCED 5-8	375	551	911	364	522	886	418	533	949	1,157	1,606	2,746
Total	1,899	1,653	3,517	1,325	1,072	2,373	1,178	946	2,122	4,402	3,670	8,011
	Percentage composition											
ISCED 0-2	31.0	22.7	27.4	14.9	11.1	13.4	16.0	10.4	13.5	22.1	16.2	19.6
ISCED 3-4	49.3	43.9	46.7	57.6	40.2	49.3	48.5	33.2	41.8	51.6	40.1	46.1
ISCED 5-8	19.7	33.3	25.9	27.4	48.7	37.3	35.5	56.4	44.7	26.3	43.8	34.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

The decline in the number of total entries into employment that was previously observed affected mainly the people with low education (whose average yearly entries declined from 193,000 to 57,000) and people with intermediate education, whose entries declined from 328,000 to 177,000. On the contrary, entries by people with high education remained between 180,000 and 190,000. As a consequence, the entries' share of people with high reduction increased from 25.7 per cent to 44.7 per cent, while that of people with low education declined from 27.4 per cent to 13.5 per cent. It should be underlined that between 2010 and 2015, women with high education represented the absolute majority (56.4 per cent) of women entries. This seems to suggests that in a period of crisis companies tend to concentrate their demand on more qualified people or at least on people with more schooling. It remains to be seen if this reflects technological and organizational improvements or simply the possibility to hire at low wages people with high education.

A similar trend characterized the labour force. However, in this case, entries declined in the second period to then increase again in the third, with entries of people with low education following the same trend.

Table I7. Labour force: Gross entry flows; absolute values and percentage composition by educational level (2000–2015)

	2000-2005			2005-2010			2010-2015			2000-2015		
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
	Absolute values											
ISCED 0-2	499	270	710	248	115	353	336	213	517	1,083	598	1,580
ISCED 3-4	847	557	1,385	875	493	1,334	767	482	1,249	2,488	1,532	3,968
ISCED 5-8	391	580	960	378	539	915	460	613	1,072	1,228	1,732	2,946
Total	1,737	1,408	3,055	1,500	1,146	2,602	1,562	1,308	2,837	4,800	3,862	8,494
	Percentage composition											
ISCED 0-2	28.7	19.2	23.2	16.5	10.0	13.6	21.5	16.3	18.2	22.6	15.5	18.6
ISCED 3-4	48.8	39.6	45.3	58.3	43.0	51.3	49.1	36.8	44.0	51.8	39.7	46.7
ISCED 5-8	22.5	41.2	31.4	25.2	47.0	35.2	29.4	46.8	37.8	25.6	44.8	34.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

In conclusion, it should be underlined that over the 15-year period, the following main results have emerged:

a) The average educational level of entries both into the labour force and employment progressively increased;

b) The decline in labour demand has affected mostly the people with low education;

c) Women entering the labour market and especially into employment have, on the average, a educational level higher than men.

The scenarios

The stock approach. In absence of migration, from 2015 to 2030, Italian WAP is expected to decline by 4.9 million (which corresponds to an average yearly rate of 326,000 people per year) down from 39 to 34.1 million (Table I8).

In order to evaluate the labour needs (that in the present analytic context are defined as the difference between the increase in supply and the increase in demand) the following assumptions are made:

For the labour force, two alternative scenarios are assumed:

(a) The rate of activity will progressively increase by the same percentage points as in the previous 15-year period (+4.1 percentage points); and
(b) The rate of activity will progressively increase by 6.2 percentage points, that is by 1.5 more percentage points than in the previous 15-year period

For employment, three different situations will be considered. More specifically, employment will increase:

(a) At a rate equal to two thirds that registered between 2000 and 2015 (4.4% over the 15-year period);
(b) At a rate equal to that registered between 2000 and 2015 (6.6%); and
(c) At a rate equal to four thirds that registered between 2000 and 2015 (8.7%).

Table I8 shows the implications of these assumptions for labour force and employment. In Scenario A, labour force will decline by 1.7 million and in scenario B by 1 million, which correspond to average yearly values of -115,000 and -68,000 respectively. At the same time, employment is projected to increase in the three scenarios by around 1 million, 1.5 million and almost 2 million, the yearly average values being 65,000, 98,000 and 132,000.

Table I8. WAP, labour force and employment (2015) and in alternative hypothesis of labour force participation and employment growth (2020, 2025 and 2030); values in thousands

	WAP	Labour force		Employment		
		A	B	1	2	3
2015	39,035	24,997	24,997	21,973	21,973	21,973
2020	37,841	24,752	25,011	22,293	22,453	22,613
Diff	-1,194	-245	14	320	480	641
2025	36,379	24,294	24,793	22,618	22,944	23,272
Diff.	-1,463	-458	-218	325	491	659
2030	34,147	23,272	23,975	22,947	23,446	23,951
Diff.	-2,232	-1,022	-819	330	502	678
2015-30	-4,888	-1,725	-1,022	975	1,473	1,978
	-326	-115	-68	65	98	132

Crossing the two labour force scenarios with the three employment scenarios, six scenarios of labour needs and migration balance can be obtained. As already indicated, the labour shortage is computed as the difference between the change in labour supply (labour force) and labour demand (employment).

In the six scenarios thus obtained, labour needs range between a minimum of 2 million (Scenario B1) and a maximum of 3.7 million (Scenario A3). Assuming an elasticity of the migration balance to the labour needs of 1.3, an estimate of yearly migration balances between 173,000 and 321,000 per year can be obtained (Table I9). It is therefore evident that:

even under the most "favourable" conditions (an increase in the rate of activity of 6.2 percentage points and a modest expansion in employment equal to an average value of 0.3 per cent per year) migration will not be an option, but a necessity.

Table I9. Labour shortage and migration balance in six scenarios of labour participation and employment growth in the period 2015–2030

	A1	A2	A3	B1	B2	B3
	Labour shortage					
2015-2020	-565	-726	-886	-306	-466	-626
2020-2025	-782	-948	-1,117	-543	-709	-877
2025-2030	-1,352	-1,524	-1,701	-1,148	-1,320	-1,497
2015-2030 (Tot.)	-2,700	-3,198	-3,703	-1,997	-2,495	-3,001
2015-2030 (Yearly)	-180	-213	-247	-133	-166	-200
	Estimated migration balance					
2015-2020	735	943	1,151	398	606	814
2020-2025	1,017	1,233	1,452	706	922	1,140
2025-2030	1,758	1,981	2,211	1,493	1,716	1,946
2015-2030 (Tot.)	3,510	4,157	4,814	2,596	3,244	3,901
2015-2030 (Yearly)	234	277	321	173	216	260

Table I10 shows that once migration is linked to labour needs, the decline in WAP will be much more limited, the decline being inversely related to employment growth; at the same time, labour force will increase, the growth being positively related to employment expansion and inversely related to the rate of participation. Unemployment, as well as the RoU, are projected

to decline in all scenarios, the improvement being directly related to employment expansion and inversely related to the increase in the rate of activity.

Table I10. Main labour market variables and main labour market indicators in 2015 and in six scenarios of labour force participation and employment growth in 2030

	WAP	LF	Empl	Unemp	RoA	RoE	RoU
	2015						
	39,035	24,997	21,973	3,025	64.0	56.3	13.8
	2030						
A1	37,656	25,664	22,947	2,717	68.2	60.9	10.6
A2	38,304	26,105	23,446	2,660	68.2	61.2	10.2
A3	38,961	26,553	23,951	2,602	68.2	61.5	9.8
B1	36,743	25,798	22,947	2,850	70.2	62.5	11.0
B2	37,390	26,252	23,446	2,807	70.2	62.7	10.7
B3	38,047	26,714	23,951	2,763	70.2	63.0	10.3

Labour needs by educational level. The previous analysis in terms of flows has allowed to estimate the flow labour demand and flow labour supply and to estimate their structure by educational level over the 2000–2015 period. This approach provides a way to estimate scenarios of the future labour demand in terms of flow that will be expressed by the Italian economic system and the future labour supply that will be generated by the people present in Italy in 2015, both by educational level. The labour needs in alternative hypotheses of employment growth and participation can then be computed. To carry on this exercise, a series of additional assumptions are needed.

(a) In the 2015–2030 period, entries in WAP will be equal to the number of young people that were in the 0–14 age bracket in 2015.

(b) Regarding the labour force, two scenarios are built to assume that the percentage of entries into the labour force with respect to the entries into WAP (RoAF) will be equal to that registered between 2010 and 2015 (75%) and that registered by men in the same period (83.9%).

(c) The labour demand in terms of flow is equal to the sum of the replacement demand and the additional demand.

To compute the labour demand in terms of flow, it is assumed that:

(a) The replacement demand will be equal to the number of the employed in the 50–64 age bracket in 2015, which will necessarily exit the labour market for age-related reasons; and

(b) The additional demand will be taken equal to the values used in the stock scenarios for employment growth.

This process does produce two estimates of labour supply in terms of flow and three estimates of labour demand in terms of flow that are shown, together with the estimate of the entries into WAP, in Table I11

A simple inspection of the data shows that:

(a) All additional jobs created by the economy will have to be covered by foreign workers;

(b) Generational exits from employment are higher than generational entries into the labour force, the implication being that in both scenarios of labour force participation,

the young people that will enter the labour market will not be sufficient to replace those that will exit from employment;

(c) In two employment scenarios, entries into employment not only are higher than entries into labour force, but also of the entries into WAP.

Table I11. Entries into WAP, labour force and employment in alternative scenarios (2015–2030)

Entries into WAP		Entries into LF		Enties into employment		
				RD	AD	LDF
15 year values						
8,198	A	6,147	1	6,922	975	7,897
	B	6,880	2		1,473	8,395
			3		1,978	8,901
Average yearly values						
547	A	410	1	461	65	526
	B	459	2		98	560
			3		132	593

Finally, concerning the percentage share of the three educational levels of labour supply and labour demand that were assumed, in a conservative vein, that in the next 15 years, the structure of entries into labour force and employment will have the same structure as the one registered in the previous 15 (Graph I8). This hypothesis is justified by the consideration that the strong trends detected in the 2000–2015 period could be more the result of cyclical oscillations than of structural trends. It should also be underlined that the average educational level of the demand in terms of flow is higher than that of the supply in terms of flow

Graph I8. Projected shares of educational levels for the labour supply and the labour demand in terms of flows; average values for the period 2015–2030

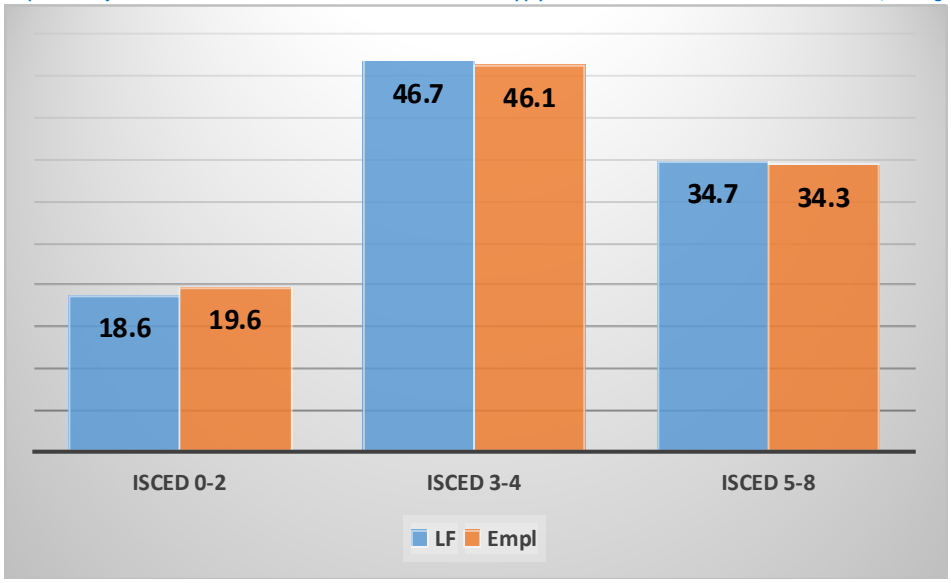


Table I12 reports the entries in labour force and employment by educational level in alternative hypotheses of labour force participation and (employment) growth.

Table I12. Entries into labour force and employment by educational level in alternative scenarios (2015–2030)

	Labour supply in terms of flow in alternative scenarios		Labour demand in terms of flow in alternative scenarios		
	A	B	1	2	3
	Absolute values in thousand				
ISCED 0-2	1,144	1,280	1,546	1,643	1,742
ISCED 3-4	2,871	3,214	3,644	3,874	4,108
ISCED 5-8	2,132	2,386	2,707	2,878	3,051
Total	6,147	6,880	7,897	8,395	8,901
Yearly	410	459	526	560	593

Finally, the labour needs were computed as the difference between the labour supply and the labour demand in terms of flows for each educational level as well as the share of each educational level on total demand (Table I13).

Table I13. Labour needs by educational level in three scenarios of employment growth; total values and percentage composition; 2015–2030

	Labour needs in alternative scenarios					
	Absolute values					
	A1	A2	A3	B1	B2	B3
ISCED 0-2	-402	-500	-599	-266	-363	-462
ISCED 3-4	-773	-1,003	-1,236	-431	-661	-894
ISCED 5-8	-575	-745	-919	-321	-491	-664
Total	-1,750	-2,248	-2,753	-1,017	-1,515	-2,021
Yearly	-117	-150	-184	-68	-101	-135
	Percentage composition by educational level					
	LN1	LN2	LN3	LN1	LN2	LN3
ISCED 0-2	23.0	22.2	21.7	26.1	24.0	22.9
ISCED 3-4	44.2	44.6	44.9	42.3	43.6	44.2
ISCED 5-8	32.8	33.2	33.4	31.5	32.4	32.9
Total	100.0	100.0	100.0	100.0	100.0	100.0

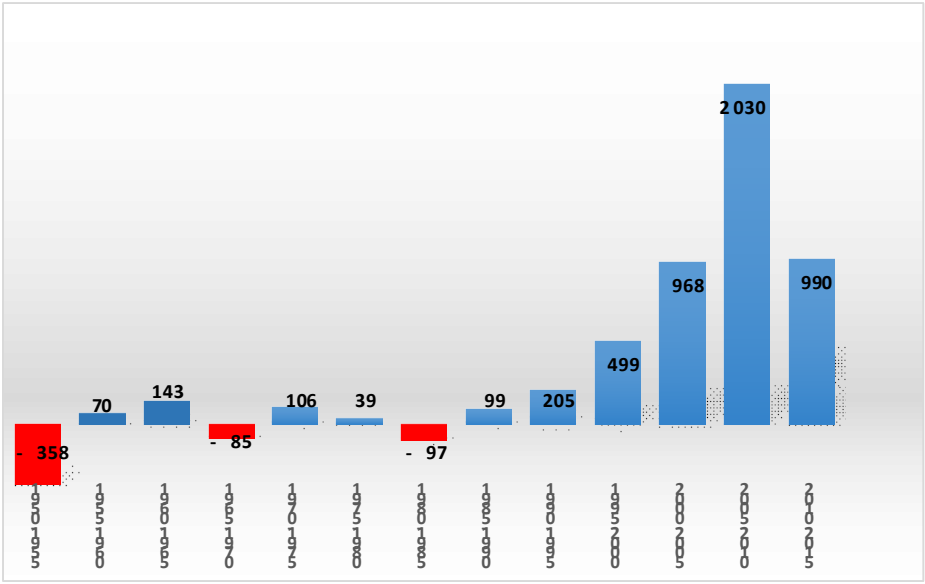
Starting from the total, it can be observed that the values are smaller than that computed in the stock scenarios ranging from a minimum of around 1 million to a maximum of 2.8 million, that is from around 68,000 to 184,000 per year. This result depends on the characteristics of the flow approach that compares only generational entries into labour force and employment and does not consider unbalances that can be derived from the behaviour of the people already in the labour force.

Regarding the structure of labour needs by educational level, the computations show that a little more than 20 per cent should have a low educational level, while around one third should be highly educated. The most numerous group remains that of people with middle level of education (43–45%). Finally, it is observed that the rate of growth of employment is negatively related to the percentage of people with low education, while positively related to the shares of people with middle and high educational levels.

United Kingdom

As shown by the following graph, since 1955, the United Kingdom has always been an arrival country, with very minor exceptions (Graph UK1). Therefore, it can safely be expected that the United Kingdom will need foreign labour also in the 2015–2030 period, unless its economy that has nor been especially affected by the international financial crisis will suffer from the exit from the European Union.

Graph UK1. United Kingdom's migration balance; five-year values in thousands (from 1950–1955 to 2010–2015)



The labour market: A background analysis

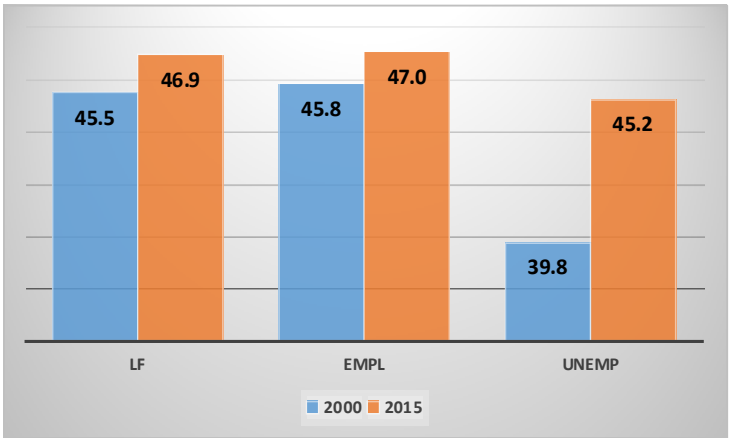
Stock analysis. In Great Britain, from 2000 to 2015, employment increased by 3.2 million (+12%), labour force by 3.35 million (+11.8%) and therefore unemployment did expand by only 130,000 (+8.1%) up to 1.73 million (Table UK1). Finally, WAP grew by 3.54 million (+9.4%).

Table UK1. Main labour variables by sex; total and by educational level (2000 and 2015); absolute and percentage change (2000 to 2015)

	2,000			2015			2000-2015					
	Absolute values						Absolute change			Percentage change		
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
	All levels											
WAP	18,697	19,052	37,750	20,501	20,790	41,291	1,804	1,738	3,541	9.6	9.1	9.4
LF	15,481	12,920	28,401	16,849	14,905	31,754	1,368	1,985	3,353	8.8	15.4	11.8
Empl	14,519	12,286	26,805	15,903	14,125	30,028	1,384	1,839	3,223	9.5	15.0	12.0
Unemp	962	635	1,597	946	781	1,727	-16	146	130	-1.6	23.0	8.1
	isced 0-2											
WAP	5,537	8,198	13,539	4,161	4,280	8,649	-1,377	-3,918	-4,890	-24.9	-47.8	-36.1
LF	4,074	4,657	8,736	2,899	2,218	5,066	-1,176	-2,438	-3,670	-28.9	-52.4	-42.0
Empl	3,613	4,335	7,955	2,600	2,004	4,590	-1,013	-2,331	-3,365	-28.0	-53.8	-42.3
Unemp	461	322	780	298	214	476	-163	-107	-305	-35.3	-33.4	-39.1
	isced 3-4											
WAP	8,269	6,385	14,844	9,092	8,495	17,561	823	2,110	2,717	9.9	33.0	18.3
LF	6,924	4,602	11,521	7,349	5,976	13,178	425	1,374	1,657	6.1	29.9	14.4
Empl	6,554	4,377	10,924	6,901	5,606	12,480	346	1,229	1,555	5.3	28.1	14.2
Unemp	370	225	597	448	370	698	79	145	101	21.2	64.3	17.0
	isced 5-8											
WAP	4,886	4,282	9,233	7,249	8,016	15,265	2,363	3,733	6,033	48.4	87.2	65.3
LF	4,474	3,659	8,133	6,601	6,711	13,312	2,127	3,052	5,179	47.5	83.4	63.7
Empl	4,345	3,571	7,917	6,402	6,511	12,913	2,057	2,939	4,996	47.3	82.3	63.1
Unemp	129	87	216	199	200	399	70	113	183	54.2	129.4	84.5

The dynamic of the female component has been much more pronounced than that of men: the number of women in employment grew by 15 per cent and in labour force by 15.4 per cent; the corresponding values for men were 9.5 and 8.8 per cent. In spite of this, women's unemployment did slightly increase (+146,000), while the number of unemployed men declined by 16,000. The presence of women in employment and labour force has continued to increase getting close to the parity with men. Unfortunately, the same tendency is present also in unemployment where the percentage of women increased from 39.8 per cent to 45.2 per cent (Graph UK2).

Graph UK2. Labour force, employment and unemployment; percentage of women (2010 and 2015)



The result of the previous trends was an increase of both the RoA and the RoE by 1.7 percentage points, while the RoU declined by 0.2 percentage points. Also, the main labour market indicators clearly show the different trends in the presence of women and men in the labour market. In the case of women, the RoA and the RoE increased respectively by 3.9 and 3.5 percentage points, while the rate of unemployment increased by only 0.3 percentage points; in the case of men, the RoE declined by 0.1 percentage points, the RoA and the RoU by 0.6 percentage points (Table UK2). Therefore all gender differentials declined: in 2000,

men's RoA and RoE exceeded those of women by 15 and 13.2 percentage points; in 2015, the difference was 10.5 and 9.6. Concerning the RoU, in 2015, the distance was down to 0.4 percentage points.

Table UK2. Main labour indicators by sex and educational level (2000 and 2015) and absolute change (2000 to 2015)

	2000			2015			2000-15		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
	All levels								
RoA	82.8	67.8	75.2	82.2	71.7	76.9	-0.6	3.9	1.7
RoE	77.7	64.5	71.0	77.6	67.9	72.7	-0.1	3.5	1.7
RoU	6.2	4.9	5.6	5.6	5.2	5.4	-0.6	0.3	-0.2
	isced 0-2								
RoA	73.6	56.8	64.5	69.7	51.8	58.6	-3.9	-5.0	-6.0
RoE	65.3	52.9	58.8	62.5	46.8	53.1	-2.8	-6.1	-5.7
RoU	11.3	6.9	8.9	10.3	9.7	9.4	-1.0	2.8	0.5
	isced 3-4								
RoA	83.7	72.1	77.6	80.8	70.3	75.0	-2.9	-1.7	-2.6
RoE	79.3	68.5	73.6	75.9	66.0	71.1	-3.4	-2.6	-2.5
RoU	5.3	4.9	5.2	6.1	6.2	5.3	0.8	1.3	0.1
	isced 5-8								
RoA	91.6	85.4	88.1	91.1	83.7	87.2	-0.5	-1.7	-0.9
RoE	88.9	83.4	85.7	88.3	81.2	84.6	-0.6	-2.2	-1.2
RoU	2.9	2.4	2.7	3.0	3.0	3.0	0.1	0.6	0.3

Another very relevant trend registered in this period is the improvement in the educational level of the people in working age, labour force and employment. Starting from the demand side, the increase in the employment level was the result, on the one hand, of the decrease of 3.4 million people with low education (-42.3%), and, on the other hand, the increase of 1.6 million people with intermediate education (14.2%), but especially of 5 million with high education (63.1%). Very similar trends characterized the labour force.

Table UK3. Main economic variables; percentage composition by sex and educational level (2010, 2015 and difference)

	2000			2015			2000-15		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
	WAP								
Low	29.6	43.5	36.0	20.3	20.6	20.9	-9.3	-22.9	-15.1
Medium	44.2	33.8	39.5	44.3	40.9	42.3	0.1	7.0	2.9
High	26.1	22.7	24.5	35.4	38.6	36.8	9.2	15.9	12.3
	LF								
Low	26.3	36.1	30.8	17.2	14.9	16.1	-9.1	-21.2	-14.7
Medium	44.7	35.6	40.6	43.6	40.1	41.8	-1.1	4.5	1.2
High	28.9	28.3	28.6	39.2	45.0	42.2	10.3	16.7	13.5
	Employment								
Low	24.9	35.3	29.7	16.4	14.2	15.3	-8.5	-21.1	-14.4
Medium	45.2	35.6	40.8	43.4	39.7	41.6	-1.8	4.1	0.9
High	29.9	29.1	29.5	40.3	46.1	43.1	10.3	17.0	13.5
	Unmemployment								
Low	48.0	50.7	49.0	31.5	27.3	30.3	-16.5	-23.4	-18.7
Medium	38.5	35.5	37.4	47.4	47.2	44.4	8.9	11.7	6.9
High	13.5	13.7	13.6	21.1	25.5	25.4	7.6	11.7	11.8

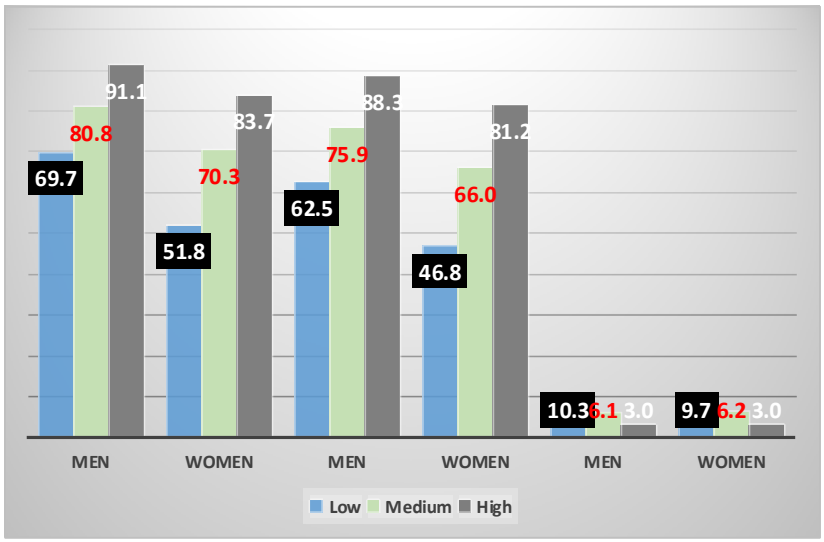
Therefore, if the employed are considered, in 2015, the most numerous education group was represented by people with high education that accounted for 43.1 per cent, followed by those with intermediate education (41.8%), with less than one out of seven employed having low educational level. While the educational structure of the labour force was very similar, albeit having a slightly lower average educational level, the average education level of WAP was quite lower, the most numerous group being represented by people with intermediate education (42.3%), followed by those with high education (36.8%), with the group with low education still above the 20 per cent mark (20.9%).

Concerning unemployment, a few observations are in order. In the first place, in 2000, the unemployed with low educational level were almost half of the total (49.0%), followed by those with an intermediate educational level (37.4%), while only 13.6 per cent of the unemployed had high educational level. As already seen, in the following 15 years, the average level of education increased in all labour market related sub-populations, and unemployment was not an exception. The increase in the stock of the unemployed was the result of a decline of those with low education and an increase of those with intermediate and high education. As a consequence, the share of the first group lost 18.7 percentage points and declined to 30.3 per cent, while the shares of the other two groups increased respectively to 44.4 per cent and 25.4 per cent.

The main indicators by educational level confirm two well known aspects of labour force participation: (a) the education-specific rates of activity and employment are positively related to the educational level; and (b) the range of women's rates is wider than that of men, which means education makes a difference especially for women. As shown by Graph UK3, men's rates of participation range from 69.7.per cent to 91.1 per cent, and those of women from 51.8 per cent to 83.7 per cent so that the gender differential is inversely related to the education level, declining from 17.8 to 7.4 percentage points. The situation of the RoE is very similar.

The RoUs present, on the contrary, an inverse relationship with education, ranging from 10.3 per cent for men with low education to 3 per cent for men with high education, and from 9.7 to 3 per cent for women. This could be interpreted as confirming that education makes a difference and it pays to study, but could also suggest that people with high education are becoming the relatively more scarce resource on the British labour market.

Graph UK3. Main economic indicators by sex and educational level (2015)



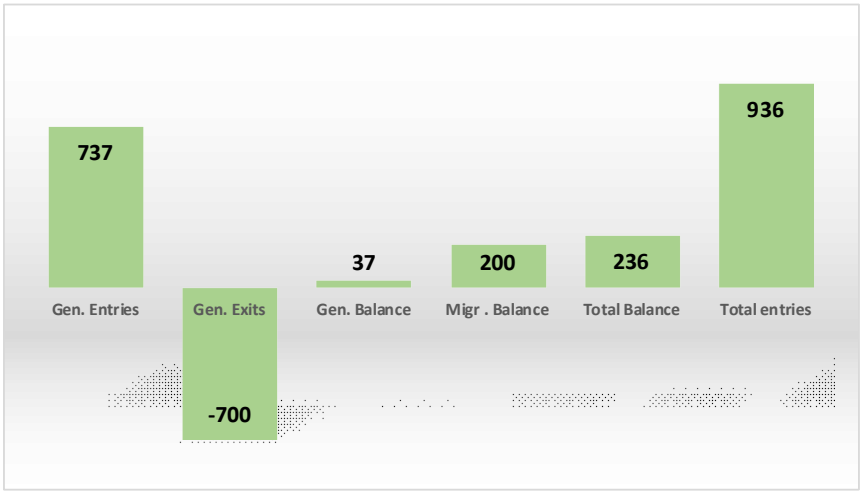
Generational flow analysis. Between 2000 and 2015, WAP has been affected by a natural increase of 548,000 people and a much more consistent migration balance that is estimated at almost 3 million. Taking into consideration natural entries and the migration balance, total entries into WAP amount to around 14 million.

Table UK4. WAP; generational flows (2000–2015)

	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
	2000-2005			2005-2010			2010-2015			2000-2015		
Gen. Entries	1,873	1,820	3,693	1,911	1,870	3,781	1,829	1,748	3,577	5,613	5,439	11,051
Gen. Exits	-1,580	-1,603	-3,183	-1,678	-1,696	-3,368	-1,976	-1,977	-3,952	-5,234	-5,276	-10,503
Gen. Balance	293	217	510	232	175	413	-147	-229	-374	378	163	548
Migr . Balance	460	526	986	509	603	1,107	456	446	901	1,425	1,575	2,993
Total Balance	753	743	1,496	741	778	1,519	309	217	526	1,804	1,738	3,541
Total entries	2,333	2,345	4,679	2,420	2,474	4,888	2,285	2,194	4,478	7,038	7,013	14,044

Translating these data on yearly average values (Graph UK4), generational entries into WAP have been equal to 737,000, and generational exits to 700.000. This has generated a very small positive natural generational balance of 37,000 which has been increased by a migration balance of 200,000. Therefore, average yearly entries into WAP have been equal to 936,000 .

Graph UK4. WAP; yearly average generational flows in the period 2010–2015



At the same time, total entries into labour force and employment were equal to 11.7 and 11.2 million, which translated into average yearly values of 780,000 and 747,000 and in a total RoAF of 83.3 per cent and in a total RoEF of 79.8 per cent. The success rate was therefore of 95.7 per cent (Table UK5).

Table UK5. Labour force and employment – Net generational flows (2000–2015)

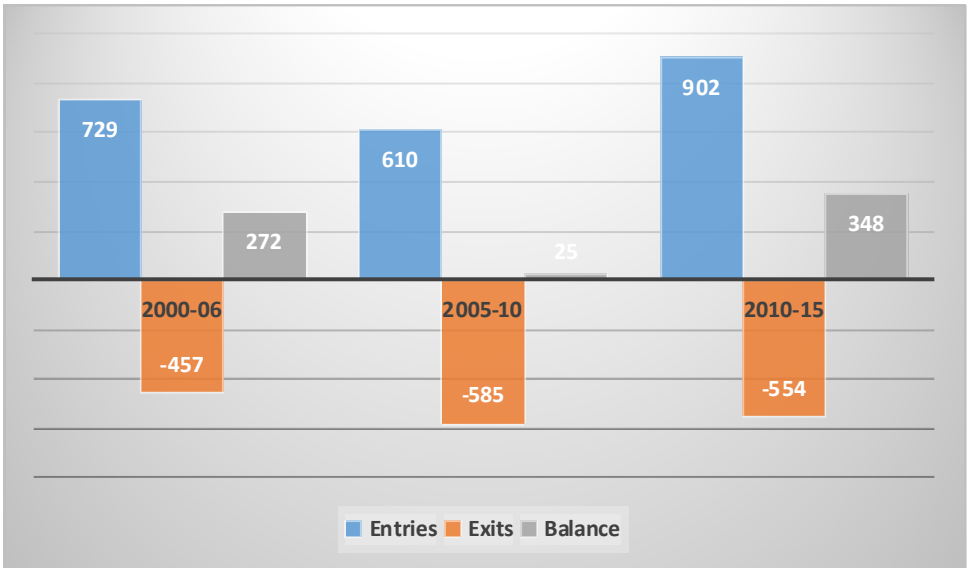
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
	2000-2005			2005-2010			2010-2015			2000-2015		
	Labour force											
Entries	1,939	1,837	3,683	2,050	1,943	3,949	2,100	2,000	4,069	6,089	5,781	11,701
Exits	-1,459	-1,135	-2,500	-1,546	-1,305	-2,806	-1,717	-1,356	-3,042	-4,721	-3,796	-8,348
Balance	481	703	1,183	505	639	1,144	383	644	1,027	1,368	1,985	3,353
	Employment											
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
	2000-2005			2005-2010			2010-2015			2000-2015		
Entries	1,864	1,828	3,643	1,633	1,542	3,051	2,375	2,133	4,509	5,871	5,503	11,203
Exits	-1,252	-1,081	-2,285	-1,736	-1,312	-2,924	-1,499	-1,272	-2,770	-4,487	-3,664	-7,979
Balance	611	747	1,358	-104	231	127	877	862	1,738	1,384	1,839	3,223
RoAF	83.1	78.3	78.7	84.7	78.6	80.8	91.9	91.1	90.9	86.5	82.4	83.3
RoEF	79.9	77.9	77.9	67.5	62.4	62.4	104.0	97.2	100.7	83.4	78.5	79.8
RoSF	96.1	99.5	98.9	79.6	79.4	77.3	113.1	106.7	110.8	96.4	95.2	95.7

The differences between the flow rates of men and women are quite limited. Between 2000 and 2015, 86.5 per cent of the young men that entered WAP did also enter the labour force, while the percentage of entries into employment was of 83.4 per cent; the corresponding rates for women were 82.4 per cent and 78.5 per cent. Therefore, not only men had a higher propensity to enter the labour market, but also a slightly higher rate of success (96.4 versus 95.2 per cent).[2]

The British labour market shows the impact of the financial crisis by a reduction of entries into and an increase in exits from employment during the 2005–2010 period. The general trend is however positive, with entries increasing from 729,000 in the first period to 902,000 in the last and the employment balance from 272,000 to 348,000 (Graph UK5).

Graph UK5. Employment; generational entries, exits and balance (2000–2005, 2005–2010, 2010–2015)

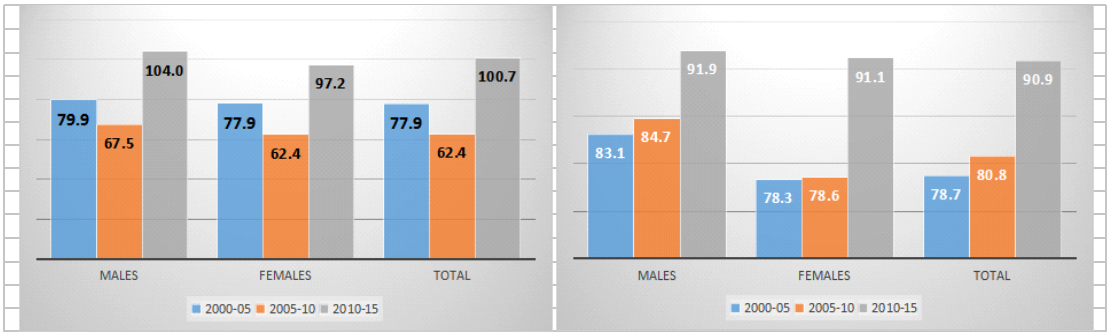
[2] This can be translated in an average unemployment duration of of 6.4 and 8.6 months.



These trends are well captured by the RoEF. The total rate increases from 77.9 per cent to 100.7 (a value that implies that entries into employment were slightly higher than those in WAP, including the migration balance), with a value of 62.4 per cent in the intermediate period. (Graph UK6a). Men's rates were higher than women's rates in every period, but both followed the same trend.

Graph UK6. RoE and RoA in terms of flow by sex (2000–2005, 2005–2010, 2010–2015)

UK6a. RoEF **UK6b. RoAF**



The RoAF follow a different pattern showing a moderate increase from the first to the second period and then registering a real jump in the third, in correspondence to the notable increase in demand registered in that phase (Graph UK6b). It should also be underlined that the 2010–2015 period was characterized by a negative natural balance that caused an average yearly decline of WAP of 75,000 , while also the immigration balance declined with respect to the previous period.

The gross flows, inclusive of inter-educational level passages, allow providing some gross estimates of the structure of entries into labour force and employment by educational level (Table UK7). Starting from the average values of the labour demand in terms of flow over the 15-year period, it can be observed that:

(a) More than half (53.1%) of entries into employment was represented by people with high education, only a little less than 8 per cent by people with low education and 39.2 per cent by people with intermediate education;

(b) The average educational level of the women that entered the employment area was notably higher than that of men, so much so that 55.9 per cent of women that entered the employment area had high education, while the percentage of men was 49.1 per cent;
(c) For both men and women, the average educational level of entries into labour force has been lower than that of the entries into employment; and
(d) The average educational level of labour demand has progressively and notably increased: between 2000 and 2005 the percentage of newly hired with high education was 34.8 per cent; between 2010 and 2015 it reached 61.5 per cent; in all three periods, the average educational level of women remained higher than that of men.

Table UK6. Employment: Gross entry flows; absolute values and percentage composition by educational level (2000–2015)

	2000-2005			2005-2010			2010-2015			2000-2015		
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
	Absolute values											
ISCED 0-2	261	191	453	130	98	227	227	118	344	618	407	1,024
ISCED 3-4	1,204	1,294	2,388	699	637	1,259	873	718	1,567	2,776	2,648	5,215
ISCED 5-8	651	912	1,514	1,157	1,373	2,493	1,468	1,583	3,051	3,276	3,868	7,058
Total	2,116	2,397	4,355	1,987	2,107	3,979	2,568	2,419	4,963	6,671	6,923	13,296
	Percentage composition											
ISCED 0-2	12.4	8.0	10.4	6.5	4.6	5.7	8.8	4.9	6.9	9.3	5.9	7.7
ISCED 3-4	56.9	54.0	54.8	35.2	30.2	31.6	34.0	29.7	31.6	41.6	38.3	39.2
ISCED 5-8	30.8	38.1	34.8	58.3	65.2	62.6	57.2	65.5	61.5	49.1	55.9	53.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Entries into employment declined in the second five-year period that is being considered, to then increase again in the third. A comparison between the first and the third period aiming to capture long-term trends shows that:

(a) Entries with low education declined so that their share decreased from 10.4 per cent to 6.9 per cent

(b) Also, entries with intermediate education sharply declined, as well as the percentage share, which dropped from 54.8 to 31.6 per cent;

(c) Entries with high education doubled passing from 1.5 to 3 million and their share from 34.8 to 61.5 per cent; and

(d) The share of entries with high education reached a maximum of 52.6 per cent in the second period when they were the only ones whose demand expanded in spite of the recession.

In the case of labour supply, the level and share of the first two groups progressively decrease from each period to the next, while the opposite trend characterizes the people with high education (Table UK7).

Table UK7. Labour force: Gross entry flows; absolute values and percentage composition by educational level (2000–2015)

	2000-2005			2005-2010			2010-2015			2000-2015		
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
	Absolute values											
ISCED 0-2	368	256	625	240	167	407	175	123	283	783	546	1,314
ISCED 3-4	1,229	1,342	2,441	906	824	1,592	925	756	1,656	3,060	2,921	5,689
ISCED 5-8	672	932	1,564	1,271	1,474	2,699	1,442	1,589	3,031	3,385	3,996	7,294
Total	2,269	2,531	4,629	2,416	2,465	4,698	2,543	2,468	4,970	7,228	7,463	14,297
	Percentage composition											
ISCED 0-2	16.2	10.1	13.5	9.9	6.8	8.7	6.9	5.0	5.7	10.8	7.3	9.2
ISCED 3-4	54.2	53.0	52.7	37.5	33.4	33.9	36.4	30.6	33.3	42.3	39.1	39.8
ISCED 5-8	29.6	36.8	33.8	52.6	59.8	57.4	56.7	64.4	61.0	46.8	53.5	51.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

In conclusion, it should be underlined that over the 15-year period, the following elements emerge:

(a) The average educational level of both entries into labour force and employment progressively increased; and

(b) The women entering the labour market and especially employment had on the average a higher educational level than men.

The scenarios: The stock approach

In absence of migration, from 2015 to 2030, the WAP of Great Britain is expected to decline by 1.1 million (which corresponds to a very modest average yearly rate of -75,000 people per year) down from 41.3 to 40.2 million (Table UK8).

In order to evaluate the labour needs (that in the present analytic context are defined as the difference between the increase in supply and the increase in demand), the following assumptions were made.

For the labour force, two alternative scenarios are assumed:

(a) The rate of activity will progressively increase by the same percentage points as in the previous 15-year period (+1.7 percentage points); and

(b) The rate of activity will progressively increase by 2.5 percentage points, that is by 1.5 more percentage points than in the previous 15-year period.

For employment, three different situations will be considered. More specifically, employment will increase:

(a) At a rate equal to two thirds that registered between 2000 and 2015 (8% over the 15-year period);

(b) At a rate equal to that registered between 2000 and 2015 (12%); and

(c) At a rate equal to four thirds that registered between 2000 and 2015 (16%).

The following table shows the implication of these assumptions for labour force and employment. In Scenario A, labour force will increase by 375,000 and in Scenario B by 1.379 million, which corresponds to average yearly values of 25,000 and 92,000 respectively. At the same time, employment is projected to increase in the three scenarios by around 2.2 million, 3.4 million and 4.5 million, the yearly average values being 147,000, 224,000 and 302,000.

Table UK8. WAP, labour force and employment (2015) and in alternative hypothesis of labour force participation and employment growth (2020, 2025 and 2030); values in thousands

	WAP	Labour force		Employment		
		A	B	1	2	3
2015	41,291	31,754	31,754	26,805	26,805	26,805
2020	40,999	31,953	32,295	27,521	27,879	28,237
Diff	-292	199	540	716	1,074	1,433
2025	40,849	32,257	32,938	28,256	28,996	29,746
Diff.	-150	304	644	735	1,117	1,509
2030	40,161	32,129	33,133	29,011	30,159	31,336
Diff.	-687	-128	195	755	1,162	1,590
2015-30	-1,129	375	1,379	2,207	3,354	4,531
	-75	25	92	147	224	302

Crossing the two labour force scenarios with the three employment scenarios, six scenarios of labour needs and migration balance can be obtained. As already indicated, the labour shortage is computed as the difference between the change in labour supply (labour force) and labour demand (employment).

In the six scenarios thus obtained (Table UK9), labour needs range between a minimum of 2 million (Scenario B1) and a maximum of 4.7 million (Scenario A3). Assuming an elasticity of the migration balance to the labour needs of 1.3, an estimate of the yearly average migration balance between 179,000 and 410,000 can be obtained. It is therefore evident that even under the most "favourable" conditions (an increase in the rate of activity of 3.3 percentage points and a modest expansion in employment equal to an average value of 0.5% per year) migration will not be an option, but a necessity.

Table UK9. Labour shortage and migration balance in six scenarios of labour participation and employment growth in the period 2015–2030

	A1	A2	A3	B1	B2	B3
	Labour shortage					
2015-2020	-713	-1,071	-1,429	-599	-957	-1,315
2020-2025	-625	-1,007	-1,398	-511	-893	-1,285
2025-2030	-1,068	-1,475	-1,902	-960	-1,367	-1,795
2015-2030 (Tot.)	-2,405	-3,552	-4,730	-2,070	-3,217	-4,395
2015-2030 (Yearly)	-160	-237	-315	-138	-214	-293
	Estimated migration balance					
2015-2020	927	1,392	1,858	778	1,244	1,709
2020-2025	812	1,309	1,818	665	1,161	1,671
2025-2030	1,388	1,917	2,473	1,248	1,777	2,333
2015-2030 (Tot.)	3,127	4,618	6,149	2,691	4,183	5,713
2015-2030 (Yearly)	208	308	410	179	279	381

Table UK10 shows that once migration is linked to labour needs, WAP will not decline, but increase, the increase being positively related to employment growth; at the same time, labour force will increase, the growth being positively related to employment expansion and inversely related to the rate of participation. The RoU is projected to decline in all scenarios, the improvement being directly related to employment expansion and inversely related to the increase in the RoA.

Table UK10. Main labour market variables and main labour market indicators (2015) and in six scenarios of labour force participation and employment growth (2030)

	WAP	LF	Empl	Unemp	RoA	RoE	RoU
	2015						
	41,291	31,754	30,028	1,727	76.9	72.7	5.8
	2030						
A1	43,288	34,013	32,234	1,778	78.6	74.5	5.2
A2	44,780	35,185	33,382	1,803	78.6	74.5	5.1
A3	46,310	36,387	34,559	1,828	78.6	74.6	5.0
B1	42,852	34,028	32,234	1,794	79.4	75.2	5.3
B2	44,344	35,212	33,382	1,831	79.4	75.3	5.2
B3	45,874	36,428	34,559	1,869	79.4	75.3	5.1

The scenarios in terms of flows: Labour needs by educational level

The previous analysis in terms of flows has allowed estimating the flow labour demand and flow labour supply by educational level over the 2000–2015 period. This approach provides a way to estimate scenarios of the future labour demand in terms of flow that will be expressed by the United Kingdom economic system and the future labour supply that will be generated by the people present in Great Britain in 2015, both by educational level. The labour needs in alternative hypotheses of labour demand and supply will then be computed. To carry on this exercise, a series of additional assumptions are needed.

(a) Entries in WAP in the 2015–2030 period will be equal to the number of young people that were in the 0–14 age bracket in 2015.
(b) For what relates to labour force, two scenarios were built assuming that the percentage of entries into the labour force with respect to the entries into WAP (the RoAF) will be equal to: (i) the rate registered between 2000 and 2015 (83.3%) and (ii) the rate registered in the same period by men (86.5%), which implies a completely alignment of women's behaviour to men's behaviour.
(c) The labour demand in terms of flow is equal to the sum of the replacement demand and the additional demand.

To compute the labour demand in terms of flow, it is assumed that:

(a) The replacement demand will be equal to the number of the employed in the 50–64 age group in 2015 that will necessarily exit the labour market for age-related reasons; and
(b) The additional demand will be taken equal to the values used in the stock scenarios.

This process does therefore produce two estimates of labour supply and three estimates of labour demand in terms of flow that are shown, together with the estimate of the entries into WAP in (Table UK11).

Table UK11. Entries into WAP, labour force and employment in alternative scenarios (2015–2030)

Entries into WAP		Entries into LF		Enties into employment		
				RD	AD	LDF
15 year values						
11,503	A	9,584	1	8,308	2,207	10,514
	B	9,953	2		3,354	11,662
			3		4,531	12,839
Average yearly values						
767	A	639	1	554	147	701
	B	664	2		224	777
			3		302	856

Coming now to the percentage share of the three educational levels of labour supply and labour demand we have assumed, in a conservative vein, that in the next 15 years the structure of entries into labour force and employment will be the same as the one registered in the previous 15 (Graph UK7), which does also imply that the educational level of the demand will be slightly higher than that of the supply.

Graph UK7. Projected shares of educational levels for the labour supply and the labour demand in terms of flows; average values for the period 2015–2030

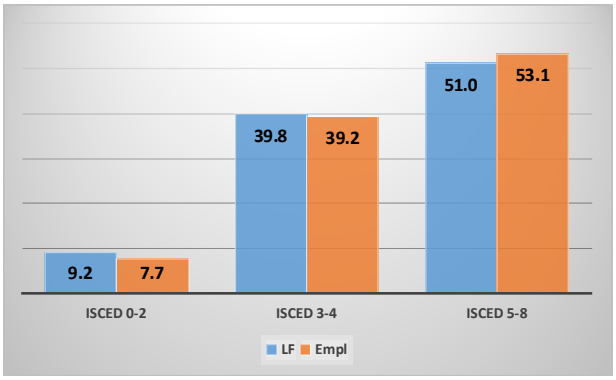


Table UK12 reports the entries in labour force and employment by educational level in the alternative hypotheses of labour force participation and economic (employment) growth.

Table UK12. Entries into labour force and employment by educational level in alternative scenarios (2015–2030)

	Labour supply in terms of flow in alternative scenarios		Labour demand in terms of flow in alternative scenarios		
	A	B	1	2	3
	Absolute values in thousand				
ISCED 0-2	881	915	810	898	989
ISCED 3-4	3,813	3,960	4,123	4,573	5,035
ISCED 5-8	4,890	5,078	5,581	6,190	6,815
Total	9,584	9,953	10,514	11,662	12,839
Yearly	639	664	701	777	856

Finally, the labour needs were computed as the difference between the labour supply and the labour demand in terms of flows for each educational level as well as the share of each educational level on total demand (Table UK13).

Table UK13. Labour needs by educational level in three scenarios of employment growth; total values and percentage composition; 2015–2030

	Labour needs in alternative scenarios					
	Absolute values					
	A1	A2	A3	B1	B2	B3
ISCED 0-2	71	-17	-108	105	17	-74
ISCED 3-4	-310	-613	-912	-163	-613	-1,075
ISCED 5-8	-692	-1,112	-1,234	-503	-1,112	-1,737
Total	-1,002	-1,743	-2,254	-667	-1,726	-2,886
Yearly	-67	-116	-150	-44	-115	-192
	Percentage composition by educational level					
	LN1	LN2	LN3	LN1	LN2	LN3
ISCED 0-2		1.0	4.8			2.6
ISCED 3-4	31.0	35.2	40.5	24.5	35.5	37.2
ISCED 5-8	69.0	63.8	54.8	75.5	64.5	60.2
Total	100.0	100.0	100.0	100.0	100.0	100.0

As already indicated, in all scenarios, the local labour supply is insufficient to face the demand, the difference being positively related to labour demand and inversely to labour supply.

Coming to the needs by educational level the United Kingdom needs almost exclusively people with middle high education. More specifically, the yearly need of people with high education is estimated between a minimum of 34,000 in Scenario B1 and a maximum of 116,000 in Scenario B3, while that of people with intermediate education ranges between 11,000 and 72,000 in the same scenarios.

MANAGING MIGRATION FLOWS: A PROPOSAL

This proposal is a phased approach/programme with the aim of building cooperation between countries across the Mediterranean, with Egypt as a pilot model, to meet the potential demographic and economic challenges; a process that aims to better plan for and maximize the potential of demand-driven migrations.

The precondition is the high-level political understanding needed to counteract years of xenophobic anti-migrant rhetoric that has been fueled by the 2008 financial crisis and the fear and uncertainty that has resulted from it. With this in mind, there is a need for constructive dialogue regarding the need for labour migration between the aforementioned European countries and Egypt as a sending country in order to create a common vision of how this need can be addressed in an organized and mutually beneficial way.

In the absence of such an agreement, labour market imbalances (with gaps in industrialized countries and surpluses in others) will continue to draw irregular migrants seeking better livelihood opportunities and risking their lives, often in the hands of smugglers, on potentially fatal journeys.

The overall objective of the proposed programme is to

Assist Egypt and a selected number of European countries to better plan for and maximize the potential of demand-driven migration.

To this end, the programme foresees three outcomes that correspond to three subsequent phases of implementation, to achieve higher degrees of mutually beneficial long-term results:

(a) Selected European countries and Egypt agree on realistic forecasting methods to ascertain their respective labour migration needs;
(b) Selected European countries and Egypt coordinate evidence-based labour migration policy and mechanisms through a Labour Migration Observatory; and
(c) Labour migrants are actively matched to job opportunities in Europe through a Placement Centre with access to labour market information in Egypt and receiving countries.

The first phase also will involve developing and testing methodologies for projecting labour market deficits and surpluses by key officials who will be trained on the methodology. Furthermore, few European partners will be identified, as those with the greatest potential need for labour migrants, and invited along with Egyptian officials to validate the findings of the projections and discuss a framework for cooperation on labour mobility.

The second phase in envisaged to facilitate follow-up bilateral meetings between Egypt and receiving countries participating in the conference in order to reach an agreement on pilot labour migration and labour mobility schemes. At the same time, if a clear need is identified during the conference, the programme will establish the Labour Market Observatory that will serve as a hub for information, expertise and training. Staffed by trained experts on labour market assessment in general and the specific methodology that was developed, the Observatory will help continue collecting and exchanging labour market information in a systematic manner, in collaboration with the national and international institutions already operating in this field. In turn, findings of regular consultations shall guide policymakers in Egypt, so that they can review and adjust vocational training, educational and other labour-market related policies towards the needs of European labour markets in order to facilitate the mobility of workers.

The third and final phase will see all the above-mentioned groundwork reach fruition through the active insertion of labourers into the European labour force. The programme will facilitate the implementation of agreements reached, especially on data sharing, and in coordination with all the participant countries.

ANNEX 1 The demographic transition

According to a largely prevailing interpretation,[3] the demographic transition is a process that determines the passage from a "traditional" demographic equilibrium, characterized by high rates of fertility and mortality, to a "modern" demographic equilibrium, characterized by low rates of fertility and mortality.[4]

It was generally assumed that the decline in the total fertility rate (TFR) would stop at around 2.1 children per woman, which assures a stable population. As a matter of fact, the TFR has already dropped well below two in numerous developed and developing countries, producing a negative natural balance.

This and other observations suggest that there are no sufficient indications to infer that the final outcome of the present demographic transformation will be a situation of equilibrium brought about by similar values of birth and mortality rates. It can also be argued that the present transformation is not leading to an orderly and efficient demographic regime, but is a transition between two different types of disorder and inefficiency: the first due to the incapacity of men to control "natural" phenomena, the second to his incapacity to manage, in a socially oriented way, his capacity to control them.[5]

Along its path, the demographic transition has a huge impact on the population level and structure. Three main phases can be distinguished.

(a) The initial phase is characterized by a decline in mortality mainly due to improvements in the infant mortality rate. The total population increases at an increasing rate; the percentage of young people increases, while the weight of the working age population (WAP) declines; in this phase, the elderly represent a small minority.

(b) In the second phase, fertility begins to decline and the number of births progressively approaches the number of deaths: total population continues to increase, but at a decreasing rate; the percentage of young people starts to decline, while that of WAP increases, reaching its maximum; the percentage of elderly continues to be very modest.

(c) In the third phase, the number of births becomes smaller than that of deaths and the total population starts to decline; the weight of WAP declines, while that of the elderly increases.

[3] For a detailed analysis of the history of the transition theory, see D. Kirk, "Demographic transition theory", *Population Studies*, 50(3):361–387 (1996); see also J.C. Chesnais, *La transition démographique. Étapes, formes, implications économiques* (PUF, Paris, 1986).

[4] The goal of this "theory" (or well-documented generalization) is to explain the changes in birth and death rates observed during the passage from a pre-industrial to an industrial economic system.

[5] M. Bruni, *Promoting a Common Understanding of Migration Trends* (International Organization for Migration, Egypt, 2017). Available from https://publications.iom.int/system/files/pdf/migration_trends_web.pdf

In conclusion, the demographic transition is a process that brings a country from population explosion to population decline, from a phase of declining average age to a phase of ageing. This last phenomenon is made more dramatic by the simultaneous decline of the people in working age.

Empirical observation shows that all the countries affected by the demographic transition follow the same general path, albeit with different intensity and speed depending on their political and cultural setting.

The demographic transition has the same impact on WAP as on total population. In the first phase, generational entries into WAP expand, while generational exits remain constant and WAP increases at increasing rates. In the second phase, generational entries decline, while generational exits increase, so WAP continues to grow but at a declining rate. The moment arrives when generational exits exceed generational entries and WAP starts to decline. In conclusion, the demographic transition brings a country from a situation in which WAP, the source of labour supply, increases at an increasing rate to a situation in which it declines at an increasing rate.

The starting moment of the demographic transition is linked to the level of economic development. As a matter of fact, the demographic transition started more than 200 years ago, together with the industrial revolution, in the countries that now belong to the groups of the most developed countries, while in the least developed countries, the demographic transition process is starting now.

As a consequence, the demographic transition is producing the co-presence of countries with a negative natural balance and countries whose total population is increasing at an increasing rate, of countries that are ageing at a very fast pace and countries that are becoming younger and younger, and of countries whose WAP (and therefore whose potential labour supply) is declining and countries whose WAP (and therefore whose potential labour supply) is exploding.

It could therefore be argued that only massive migration flows can bring the countries affected by the demographic transition to a situation of demographic equilibrium.

ANNEX 2 A stock-flow model of the labour market[6] and immigration flows[7]

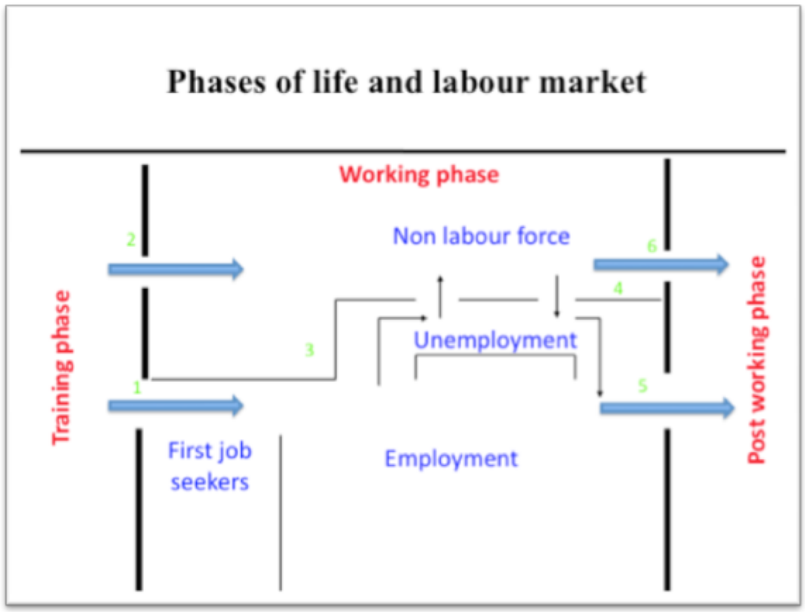
In order to explain migrations, a flow variable, a model is needed that will: (a) include not only stock variables, but also flow variables; (b) portray real individuals acting in real time; and (c) allows for the possibility of structural disequilibria between labour demand and supply, that is, disequilibria that cannot be eliminated by changes in the real wage, but require long-term adjustments in WAP and/or in the production level.

Figure A1 provides a simplified representation of human life and population structure from a labour market perspective. It can therefore be used to represent a stock-flow model of the labour market.

From an economic perspective, human life can be divided into three phases that define three corresponding subpopulations:

(a) Training phase and the population in the training phase;
(b) Working phase and the WAP; and
(c) Post-working phase and the post-working phase population.

Figure A1 – A stock-flow representation of the labour market



WAP includes other subpopulations relevant for labour market analysis: (a) labour force as differentiated into employment, unemployment and first-job seekers, and (b) non-labour force. These populations are the main stock variables of the model.

If an interval of time is considered, the arrows in the figure are given life. They represent the flow variables that measure people moving from one condition to another (from one population to another).

In any given time interval, the flow variables determine the quantitative and qualitative changes registered by the related stock variables:

[6] M. Bruni, "A stock-flow model to analyse and forecast labour market variables. *Labour*, 2(1):55–116 (1988); M. Bruni, "Per una economia delle fasi della vita", in *Popolazione, tendenze demografiche e mercato del lavoro* (SIS, IRP and GDP, eds.) (IRP and CNR, Rome, 1993).

[7] M. Bruni, "Migrations and demographic projections: A new methodology to jointly build labor market and demographic scenarios", *Genus*, 68(3):1–26 (2012).

(a) Births and deaths determine the natural dynamic of total population;
(b) The number of people becoming 15, the number of people becoming 65, and the deaths registered in working age determine the natural dynamic of WAP; and
(c) Entries and exit flows determine the level, structure and trends of employment and the labour force.

The following can now be defined:

(a) Generational entries (first-time entries) into the labour as the "Labour supply in terms of flows" (LSF);
(b) Generational entries (first-time entries) into employment as the "Labour demand in terms of flows" (LDF).

Generational entries into employment are determined by the sum of two components: (a) the increase in the employment level (additional demand, *AD*); and (ii) the definitive exits from employment due to retirement and deaths taking place in the 15–64 age bracket (replacement demand, *RD*).

The level of AD is determined by the rate of growth of production (Y), by the real wage (W) and by technological innovation (T):

[1] AD = AD (Y, W, T)

AD can be positive or negative, depending on the phase of the economic cycle. RD represents the major component of the labour demand in terms of flows. As already seen, RD measures entries into employment due to the need to replace people exiting definitively from employment as a result of retirement or death. It is influenced by the retirement laws and their modifications, as well as by the economic cycle that influences workers' expectations. However, its main determinant is the age structure of the employed (ASE). Therefore, its value tends to change slowly through time. A simple specification of the supply function is the following:

[2] RD = RD (ASE, t; INR)

where t represents time, and INR is a parameter that tries to capture the effect of institutional norms and rules.

Moving now to the supply side, entries into the labour force are the sum of two components: (a) the primary labour force constituted by all breadwinners, typically men but also a growing number of women that see work as the normal outcome of their training phase and consider labour market participation both as a right and as a duty; and (b) the secondary labour force, represented mainly by students and homemakers, whose participation fluctuates with the economic cycle. It can therefore be assumed that the entries of primary workers are determined by entries in the WAP (and therefore by the number of births that took place at a time (t – n) where n is the average duration of the training phase). Entries of secondary workers will be determined by the perceived probability of finding a job, which can be measured by the LDF – given the norms and values that define the social role of women (INRW).

[3] LSF = LSF (WAP, LDF; INRW)

The labour market is in a state of flow equilibrium (which implies that unemployment remains constant) if the labour supply in terms of flow (LSF) is equal to the labour demand in terms of flow (LDF), that is, if generational entries into the labour force are equal to generational entries into employment:

[4] LSF = LDF

LSF (WAP, LDF; INRW) = AD (Y, W, T) + RD (ASE, t; INR)

In other words, a labour market is in a state of flow equilibrium if the number of additional jobs created by the economic system, in a given time interval, is equal to the difference between generational

entries into the labour force and generational exits from employment:

[5] AD = LSF - RD

Such an equilibrium solution is not normally achieved, with disequilibrium being the norm. When WAP is not affected by pronounced demographic trends, the result of disequilibrium will be temporary, cyclical oscillation of unemployment. Empirical evidence shows, however, that there are situations in which disequilibrium is a structural long-term phenomenon.

As a consequence of the demographic transition in many countries (mainly the most developed ones), entries into the labour force are largely lower than generational exits from employment, while in others (the least developed), entries into the labour force largely exceed generational exits from employment. Demographic forecasts and economic considerations also suggest that these opposite situations not only are already present in many countries, but will last for a long time and the number of countries affected by them, in one way or the other, will progressively increase.[8]

The first is a situation characterized by a **structural shortage of labour**, the second by a **structural excess of labour.** In the first, changes in the real wage and active labour policies cannot equate labour demand and supply; in the second, local economies cannot produce the number of additional jobs necessary to face the increase in labour supply. The first group of countries presents a potential need for foreign labour, and they are therefore potential arrival countries, while the second group of countries is affected by a migratory potential, and therefore constituted by potential departure countries.
As seen in the previous annex, different countries have started the demographic transition in different moments of times over the last 200 years, proceeding at different speed along its path. As a consequence, the demographic transition has produced, is producing and will produce the co-presence of countries characterized by a *structural shortage of labour* and countries that present a *structural excess of labour*.

This situation represents the premise for a migration model that aims to explain and therefore forecast net immigration in the countries characterized by a structural lack of labour.

The proposed model assumes that a structural shortage of labour will necessarily attract the migrants necessary to close the gap between labour demand and supply, given the presence of an unlimited supply of labour in the countries characterized by a structural excess of labour. The model does therefore posit that migrations are *pulled* by labour demand, but need the presence of a structural excess of labour in other countries. The model does therefore forecast that countries with a structural shortage of labour supply will have a positive migration balance, and that the size of the balance will be in line with their employment needs.

The main goal of the model is to estimate alternative scenarios of labour needs. It can be estimated both through a stock approach or a flow approach. The second approach allows estimating the employment needs by educational level.
The stock approach. In this approach, total employment needs (TEN) are equal to the difference between the change in labour supply (ΔLS) and the change in labour demand (ΔE) in a given time interval, labour demand and labour supply being defined in terms of stock:

[6] $TEN = \Delta LS - \Delta E$

The change in labour supply will be determined by the change in WAP, and by the change in the rate of participation (RoP):

[7] $\Delta LS = [(RoP_t * \Delta WAP) + (\Delta RoP * WAP_{t+1})]$

[8] Bruni, 2017.

The change in the employment level will depend on economic growth and the employment income elasticity (ε):

[8] $\Delta E = {}_t(\Delta Y/Y)_{t+1} * \varepsilon$

Therefore:

[9] $TEN = [(RoP_t * \Delta WAP) + (\Delta RoP * WAP_{t+1})] - {}_t(\Delta Y/Y)_{t+1} * \varepsilon$

A negative value indicates that the local labour supply is not sufficient to satisfy the demand.

The flow approach. In this approach, total employment needs (TENF) are defined as the difference between generational entries into the labour force and generational entries into employment, that is between the LSF and the LDF:

$TENF = LSF - LDF$

$= LSF - AD - RD$

Given the entries into WAP, the LSF is estimated making different assumptions on the rate of participation in terms of flow. The LDF is the sum of two components: RD and AD. AD is computed using alternative rates of growth of employment, while RD is taken equal to the number of employed in those age groups that will necessarily exit the labour market for age reasons.

The flow approach allows estimating alternative scenarios of employment needs by educational level by adopting a series of assumptions on the evolution of the structure of the demand and supply of labour in terms of flow by educational level.

In both approaches, the scenarios of total labour needs are obtained mixing the scenarios of labour demand and labour supply.

The number of migrants will normally exceed the TEN, because a relevant and an increasing number of them will be accompanied or followed by family members. Therefore, the migration balance (MB) will be equal to:

[10] $MB = b*TEN$

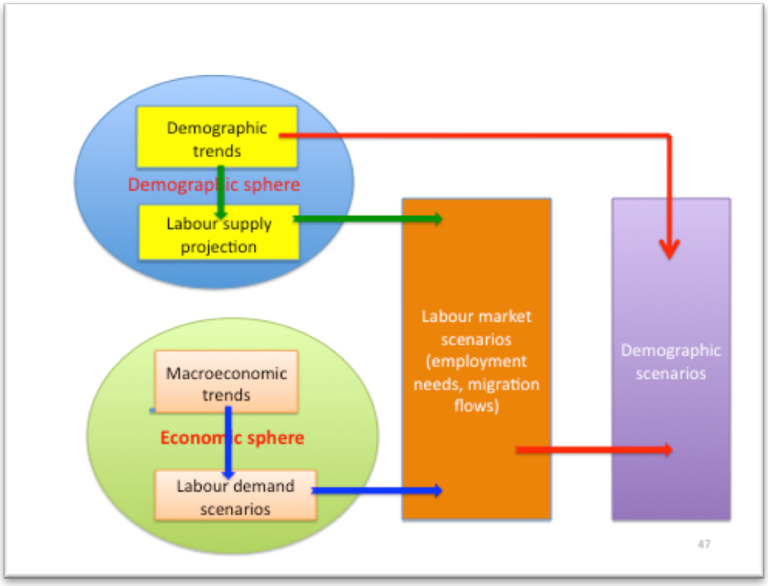
At the beginning of the migration phase, b will probably just be equal to 1, but as the migration becomes more structural, the value of b will progressively increase up to values between 1.4 and 1.5.

ANNEX 3 The procedure to jointly build labour market and demographic scenarios

The scenario procedure includes two phases (Figure 8). The first produces the scenarios of employment needs and the corresponding estimates of the migration balance, the second fully-fledged demographic scenarios.

In the first phase, the migration model presented is estimated via two parallel paths. In the first (the demographic path), the projection of WAP represents the prerequisite to estimate alternative scenarios of labour supply. In the second (the economic path), alternative scenarios of labour demand are estimated. The two paths merge to produce alternative scenarios of employment needs and then of migration balances, that will, in their turn, determine different levels of WAP.

Figure A2 – The procedure to jointly build labour market and demographic scenario



The second phase allows obtaining scenarios of the total population following the standard procedure, i.e. by estimating the number of births (via the number of women in fertile age and hypotheses on fertility) and the number of elderly (based on hypotheses on the specific rates of mortality).

This procedure does therefore produce demographic scenarios based on demographic trends, alternative rates of labour market participation, and alternative rates of economic growth, as well as the usual hypotheses on fertility and mortality.

COMPONENT ONE

Coping with a labour market in transition:

boosting mobility and skills in Belgium

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Contents

Coping with a labour market in transition: boosting mobility and skills in Belgium

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Labour market mobility and capacity building of the labour force are two issues that have traditionally posed great challenges to Belgian policymakers. This means that for such a small country, Belgium has assembled a large set of possible approaches to acquire an optimal allocation of talent on the labour market. In view of the fundamental transitions that our labour market faces today, these topics remain among the primary challenges for Belgian (and also EU) employment policy. This note will on the one hand show the evolutions in the main related statistical indicators during recent years; and on the other hand discuss the measures that have been taken to boost mobility and skills so far, and those that will be implemented over the coming years.

Before looking into these themes, it is necessary to briefly introduce the country of Belgium and its geographical structure. On January 1st 2017, Belgium had 11,322,088 legally registered residents.[9] Of these, 51% are women, and 49% are men. While some policy areas relevant for this country brief are federally organised (most notably the social security system), Belgium is also divided in three Regions and three Communities, that are competent for other fields. The regions (the Flemish Region, the Brussels-Capital Region and the Walloon Region; with 6,477,804; 3,602,216 and 1,191,604 inhabitants respectively) have powers in areas relating to their geographic area: for example, economy, employment, agriculture, water policy, housing, public works, energy, town and country planning, nature conservation, etc. Given that the Communities (Flemish, French-speaking and German-speaking Community; the latter has only 76,645 inhabitants) are based on the notion of 'language' they are responsible for 'person-related' competences, such as culture (theatre, libraries, audio-visual media, etc.), education, health policy (curative and preventive medicine) and aid to individuals (youth protection, social assistance, family assistance, reception of immigrants, etc.).

Mobility

To accomplish an optimal allocation of talent throughout the Belgian (and European) labour market, both geographical and occupational mobility need to be supported. Belgium is an important destination country for other EU-citizens (notwithstanding its small size, it has the sixth highest number of EU-28 movers in 2016), even though inflows have decreased compared to 2009. It is also among the countries with the highest shares of EU-28 movers from their total population in 2016,10 and it is the EU country with the third highest number of posted workers in 2016.11 With Brussels hosting the official seats of most EU institutions, the capital is attracting many highly skilled workers from all over Europe. However, Belgian citizens are not very mobile themselves. Geographically, they mostly look for work within their region of residence. Occupationally, a large majority of Belgian workers indicate in surveys that they prefer to remain with their current employer if possible. In the following two sections, I will discuss both dimensions of mobility in greater detail.

[9] Official figure from Statbel (Directorate General Statistics - Statistics Belgium).
[10] *2017 Annual report on intra-EU labour mobility*, European Commission (January 2018), p. 13.
[11] Ibidem, p. 21.

Geographic mobility

Figures on commuting show that in 2016, most Belgians were working and residing in the same region (see Table 1). Workers living in Flanders are especially static: 89.7% of Flemings work in Flanders. But Walloons and workers from the Brussels-Capital Region are not far behind with 82.7% and 82.9% working within their region of residence. 2.4% of Belgian residents work abroad. These figures reflect the findings from EU-wide surveys and academic literature that indicate that language is a main obstacle to intra-EU labour mobility. Belgium, being a multilingual country, faces the same hurdle. The language barrier explains on the one hand why long-distance migration within the EU is not common, and on the other hand why there is little interregional movement even within a small country. It also illustrates that the economic situation in a destination region/country is not always the main pull-factor: Flanders has more job opportunities than Wallonia, but because of the language barrier, Walloons (who are mostly French-speaking) not often choose to look for jobs in Flanders (mostly Dutch-speaking). The figures on geographical mobility have remained more or less stable during the last decade.

Table 1: Commuting (2016) - Breakdown of the employed active population according to the place of work (%)

PLACE OF RESIDENCE	PLACE OF WORK				
	Flemish Region	Walloon Region	Brussels-Capital Region	Abroad	Total
Flemish Region	89.7	0.9	7.9	1.4	100
Walloon Region	3.2	82.7	9.3	4.7	100
Brussels-Capital Region	11.1	4.9	82.9	1.1	100
Belgium	56.7	25.3	15.6	2.4	100

Source: Statbel, Labour Force Survey, calculations: FPS ELSD.

An analysis of stocks of active EU-28 movers in 2016[12] shows that the EU – contrary to Belgium – has undergone some positive evolutions regarding the geographical mobility of workers. In 2016, the total number of EU-28 cross-border workers working in another EU-28 country was around 1.4 million, an increase of around 8% on 2015. The total number of active (employed and unemployed) EU-28 movers residing in the EU-28 increased by 6%. At EU level, there is also a slightly larger proportion of active movers who moved to their current country of residence since 2011 than those who moved between 2006 and 2011. While men are over-represented among recent active EU-28 movers by 10 percentage points, Female recent active movers are better educated than male movers and more often over-qualified for their job. In 2016, EU-28 movers are greatly over-represented compared to nationals in construction, and in accommodation and food services. Manufacturing employed the highest share of both nationals and recent movers, at 16% for each. Wholesale and retail was another important employment sector among both recent movers and nationals, with the latter having a slightly higher share working in this sector.

[12] For the full analysis, see: http://ec.europa.eu/social/BlobServlet?docId=19078&langId=en

Geographical mobility in the EU is firmly boosted by the principles of free movement and transmissible social security. Under EU social security coordination, four main principles protect a citizen's social security rights when moving to another EU-country. Workers choosing to move to another Member State maintain acquired rights in all Member States and the right to combine periods of social contributions and periods of pension contributions for the purpose of obtaining social benefits (previous periods of insurance, work or residence in other countries are taken into account if necessary). As a worker is covered by the legislation of one country at a time he/she only pays contributions in one country. The decision on which country's legislation applies is made by the social security institutions, based on a coordinated set of rules. The principle of equal treatment or non-discrimination grants an individual the same rights and obligations as the nationals of the country where he/she covered. Lastly, if one is entitled to a cash benefit from one country, it can generally be received even if you are living in a different country. This is known as the principle of exportability.

While the aforementioned principles already tackle some of the main obstacles to international mobility, other difficulties remain. We have mentioned the language barrier between countries, but there are also problems regarding the recognition of qualifications obtained abroad. To assist EU citizens in facing the various challenges posed by international mobility, the EU has founded EURES, the European Job Mobility Portal. EURES helps jobseekers to find jobs and employers to recruit from all over Europe. This involves the provision of a broad range of services, available on the EURES portal or through the vast human network of more than a thousand advisers working in the EURES Member and Partner organisations.[13]

Within Belgium, efforts to boost mobility are being made as well. Even though the administration of the Public Employment Services (PES) is a regional competence, the different PES (VDAB for Flanders, Le Forem for Wallonia, Actiris for Brussels and ADG for the German-speaking Community) work closely together to enhance mobility between regions. There are many ongoing collaborations between the Belgian PESs, for instance aimed at filling vacancies for bottleneck professions. Some interesting examples are the cooperation aimed at getting mainly young people from Brussels and Wallonia to consider a job at Brussels Airport[14], or the partnership agreement between VDAB and Le Forem designed to deal with the many bottleneck vacancies in Flanders, by engaging employees from outside the Flemish borders. In February 2018, the VDAB again signed a new cooperation agreement with Le Forem to direct at least 2,500 Walloon job-seekers each year to Flemish jobs. Moreover, the most important characteristic that makes mobility within Belgium – at least theoretically – very uncomplicated, is the fact that there is one central social security system, so moving never impacts a person's access to social security benefits. However, as occupational mobility is rare as well, it is unsurprising that workers scarcely move.

Occupational mobility

When we analyse different aspects of occupational mobility in Belgium (mobility between employment statuses, between jobs, between pay levels and between types of contract), we can conclude that

[13] Visit https://ec.europa.eu/eures/public/en/homepage for more information.
[14] The PESs have developed a joint website for this project: http://www.brusselsairporthouse.be/.

Belgium has a highly static labour market. The results of this analysis firstly denote a high probability of remaining in the same labour market status over a two-year period, with average probabilities of remaining in employment and in inactivity of 91.9% and 91.8% respectively (see Table 2). The probability of remaining in unemployment between 2013 and 2015 is around 53.1%. The probability of a jobseeker finding employment is 27.2%. In other words, the probability of transitioning from employment into unemployment (1.8%) is low, but once an individual is unemployed he/she has a high risk of remaining in unemployment for a relatively long period.

Table 2: Transitions by employment status (%)

	2015					
2013	In employment	Not-working job-seekers	Not-working non-job-seekers receiving unemployment benefits	Welfare benefit recipients	Inactive population	Total
In employment	91.9	1.3	0.5	0.1	6.2	100
Not-working job-seekers	27.2	45.8	4.6	2.7	19.7	100
Not-working non-job-seekers receiving unemployment benefits	12.0	3.7	50.8	0.3	33.2	100
Welfare benefit recipients	17.5	6.0	0.5	52.4	23.6	100
Inactive population	6.5	0.8	0.1	0.8	91.8	100
Total	40.5	3.2	1.9	1.1	53.4	100

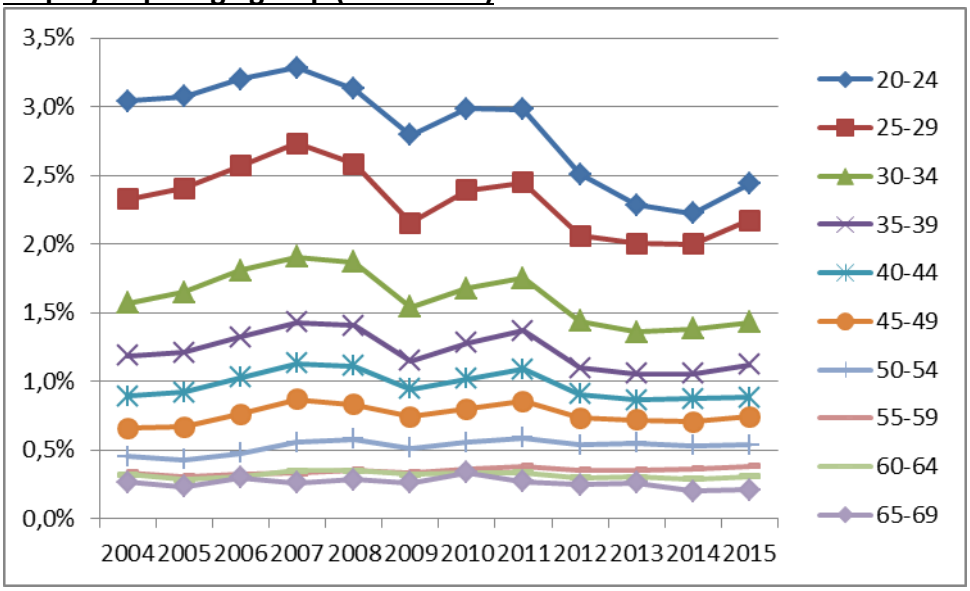
Source: Crossroads Bank for Social Security, calculations: FPS ELSD.

The latter is especially the case for older workers. While the over-55s are steadily catching up with the younger generations, in terms of employment and activity rates, and, since 2011, the unemployment rate of 50-54 year olds has even been lower than the Belgian average, we must keep in mind that these positive trends mainly apply to those who can keep their occupation uninterruptedly. Those over-55s who have to look for work again after a period of unemployment or inactivity, will mostly be faced with the fact that there is very little demand for them. This is shown, for example, by the available data on the recruitment rate, the percentage of persons returning to work after inactivity or unemployment, the outflow to professional disability and the job mobility ratio among older workers. Considered together, these results suggest that Belgium (and this is true for many Euro Area countries) needs to step up its efforts on labour market reform, for example through reforms to facilitate the transition from unemployment into work and from inactivity into employment. We already see that in situations where our Public Employment Services (PES) actively intervene from a very early stage on (for example in case of company restructurings) people leave unemployment much faster than the average flow to employment shown in Table 2.

When we break down the figures on job mobility[15] by age group (see Graph 1), we clearly see that the older workers are, the less often they are job-mobile. However, while the job mobility rate of the younger groups decreased in Belgium over the period analysed (2004-2015), that of the older groups remained more or less stable (albeit at a very moderate level).

[15] We are only analyzing those persons who change jobs, not those who switch from not working to working. More specifically, Graph 1 concerns job mobility between the 3rd and 4th quarters of the year in question, i.e. workers who had a different job in the 3rd and the 4th quarter of the same year.

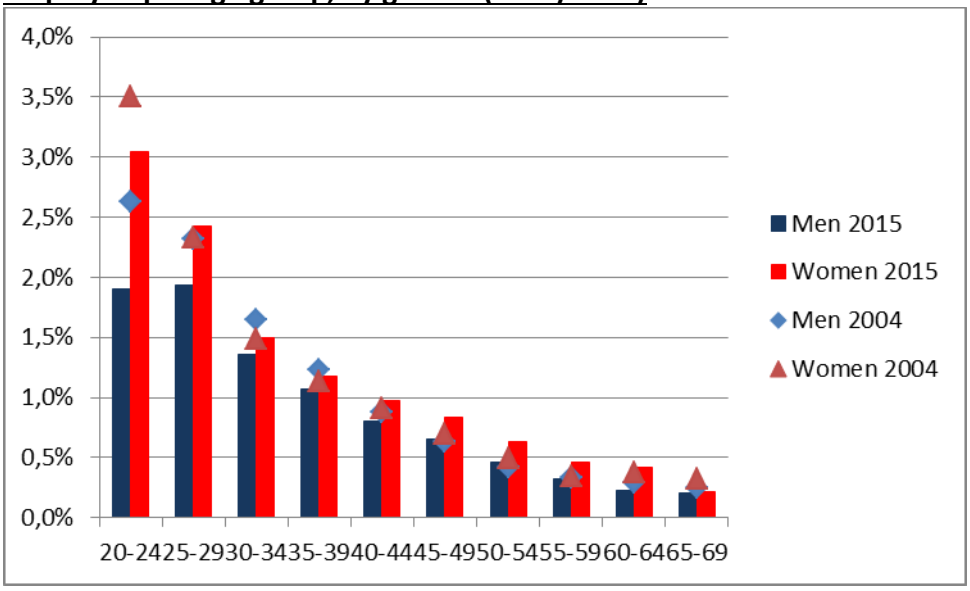
Graph 1: Ratio of the number of job-mobile workers to the total number of people employed per age group (2004-2015)



Source: Crossroads Bank for Social Security, calculations: FPS ELSD.

In 2015, Belgian women are slightly more job-mobile than men in all age groups. This was not the case in 2004, and the increase between 2004 and 2015 is strongest among women between the ages of 45 and 54 (see Graph 2). However, the differences remain very small. Brussels Capital Region has the highest job mobility rate of the three Belgian regions, also among the over-45s.

Graph 2: Ratio of the number of job-mobile workers to the total number of people employed per age group, by gender (2004/2015)



Source: Crossroads Bank for Social Security, calculations: FPS ELSD.

At the same time, Belgium scores fairly average in international comparison when it comes to 'job stability' (this is the average number of years that a person continues to work on the same

job, see table below).16 Seniority often has a number of advantages (experience, financial stability, job security)[17], so although job mobility is certainly seen as positive for young people (as it allows a person to find the most suitable/best paying job), a high average duration of employment can also be beneficial for workers. Across Europe, perceived 'job security' has been increasing slightly during recent years. In Belgium, the rate of persons who experience at least the same level of job security as in the previous year is at 88.0% in 2016 (slightly higher than the EU-average of 86.6%).[18] The rate of persons having at least the same security of income is almost equally high, both in Belgium (82.4%) and on average within the EU (82.5%).[19] However, as a sense of job security (do people believe they will still be employed one year later?) is not only linked to average tenure, but also to perceived economic stability (could I easily find a new job if I would lose my current employment?) this indicator is not a clear benchmark for labour market dynamism.

Table 3: New jobs and average tenure among older workers in Belgium (2012)

	Share of workers who started a job in the last six months	Average tenure of workers who have not started a new job in last six months (in years)
50-54	2,3%	20
55-59	1,5%	23
60-64	1,6%	25

Source: Labour Force Survey, calculations: Eurofound (2016).

The high level of immobility on the Belgian labour market is also reflected by the figures on transitions between types of contracts. We see that the majority of workers with a permanent contract still have a permanent contract one year later (see Table 4). The downside of this observation is that for workers with a temporary contract, it is quite uncommon to acquire a permanent one. Only a third of workers with temporary contracts have found a permanent position one year later. Moreover, one in every ten of them risks becoming unemployed, and another 6.7% becoming inactive (compared to respectively 1.7% and 2.9% for workers with a permanent contract). The observation that transitions between different types of contract are relatively difficult is only one element highlighting the high level of segregation on the Belgian labour market. In many ways, Belgium has a two-speed labour market, with well paid, long-term, full-time jobs on one side versus temporary, uncertain and underpaid jobs on the opposite side. While there is high security for those who are already well-of, It is difficult to move from the latter to the former category when you are in a job where the pickings are not so good.

Table 4: Transitions by type of contract - Permanent and temporary (%), 2014 to 2015

	2015					
2014	Permanent	Temporary	Self-employed	Unemployed	Inactives	Total
Permanent	92.6	2.1	0.8	1.7	2.9	100
Temporary	35.2	46.0	:	11.9	6.7	100

[16] Eurofound, *Changing places: Mid-career review and internal mobility* (2016), p. 22.
[17] Eurofound, *6th EWCS* (2016).
[18] Source: Eurostat, EU-SILC.
[19] Source: Eurostat, EU-SILC.

Total	39.6	4.0	5.1	5.9	45.4	100

Source: EUROSTAT, Statbel, EU-SILC, calculations: FPS ELSD.

While a large majority of Belgian workers indicate in surveys that they prefer a high level of employment security, this mentality is not the only explication for the abovementioned figures on job mobility. The mobility of workers between different occupations is a key objective in the EU's pursuit of a European labour market with a high level of employment, but in Belgium it is not an explicit policy goal. Our labour market policy has some built-in characteristics that render mobility unappealing. The system of wage formation puts an emphasis on seniority, thus making older workers much more expensive and therefore less attractive for a potential employer. Moreover, there are various routes to early retirement when faced with job loss, which makes looking for a new job obsolete. On the other hand, our labour market also offers many opportunities to switch jobs during one's career. For example, for those who consider becoming self-employed, the PESs offer free advice and guidance, and several measures can make the transition to entrepreneurship easier: it is possible to continue collecting unemployment benefits when starting as a self-employed person in a secondary capacity, there is a social security discount when you first recruit staff, and a premium for those who are at least 45 years old and start a business. In addition, occupational mobility in general is made accessible by building a strong culture of lifelong learning, which has been the focus of attention in recent years. This will be discussed in the following chapter.

Methods and experiences of strengthening vocational training

During recent history, the average level of education in Belgium has known a steady growth. In 2017, in Belgium, 76.3% of adults (25 to 64 years old) held at least a certificate of higher secondary education (so 23.7% had a certificate of lower secondary education at most); 36.6% had at most a certificate of higher secondary education; and 39.7% had a higher certificate. This means that among the total adult population, Belgium has a relatively high level of highly educated persons (compared to an average of 31.2% for the EU), but an average level of low-skilled (22.6% for the EU). Meanwhile, the percentage of school drop-outs has also been in decline, and is now at 8.9% (compared to 10.6% on average within the EU). However, when we solely look at the unemployed and inactive population[20], there is a clearly higher percentage of low-skilled (rates of 37.2% and 47.9% respectively, so higher than the figures for the EU unemployed (36.9%) and inactive (39.9%)). These figures reflect the difficulties low-skilled persons face on a labour market that has witnessed a structural employment shift, especially from industry to services, resulting in a net loss of jobs in industry, and a growth of jobs that require at least a medium level of education (see Graph 3). Moreover, technological advances and globalisation have deepened these changes in the job qualification structure. Therefore, boosting vocational training, skills and lifelong learning is a clear priority for Belgian policymakers.

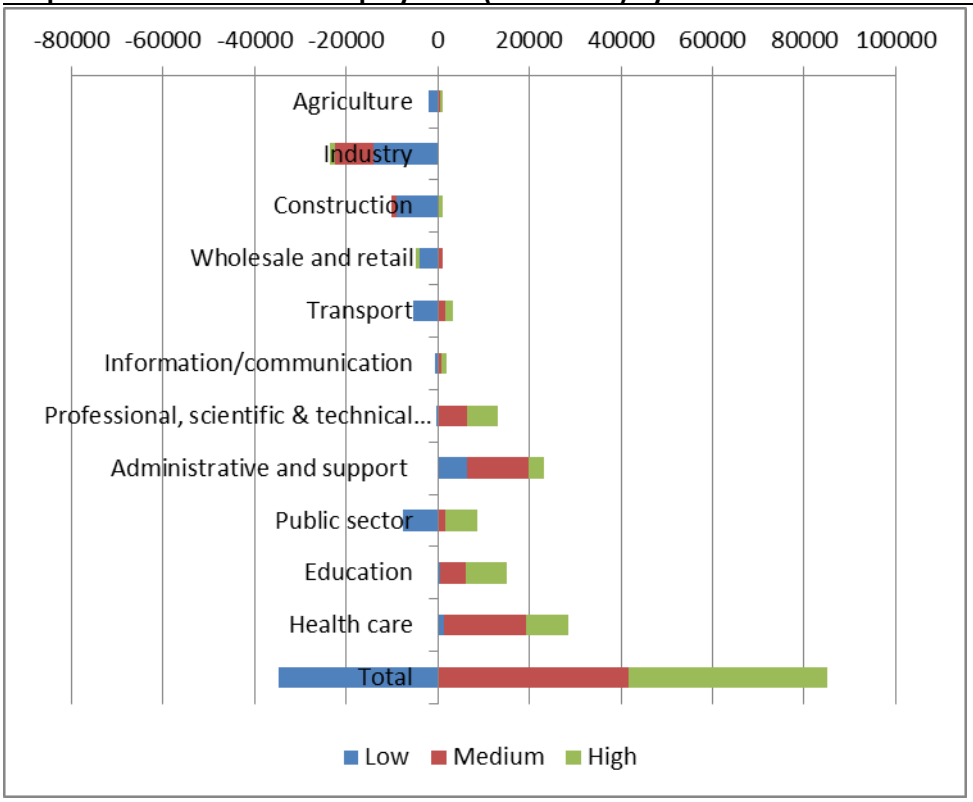
[20] Figures from 2016.

Table 5: Percentage of the population aged 30 to 34 having completed tertiary education (2013-2017), in %

		2013	2014[21]	2015	2016	2017[22]
BELGIUM	M	36.2	37.4	36.7	40.4	40.8
	F	49.3	50.2	48.7	50.7	50.9
	T	42.7	43.8	42.7	45.6	45.9
EU-28	M	32.8	33.6	34	34.4	34.9
	F	41.4	42.3	43.4	43.9	44.9
	T	37.1	37.9	38.7	39.1	39.9

Source: EUROSTAT, Statistics Belgium, Labour Force Survey, calculations: FPS ELSD.

Graph 3: Net evolution of employment (2011-2014) by sector[23] and level of education



Source: Datawarehouse Social Security, Crossroads Bank for Social Security, calculations: FPS ELSD.

While overall education levels and participation in higher education are on the rise, Belgium still has a long road to go when it comes to lifelong learning. The percentage of 25-64 year olds participating in training is below EU average, even though there has been a steady increase in recent years.24 Digital skills among the population have known only a very modest increase.25 On the other hand, the country scores above average for participation in continuing vocational training.26 Moreover, it is clear that policymakers nowadays agree that lifelong learning and training as a right of the individual worker is an important means to increase the worker's possibilities for re-employment in situations of restructuring of the labour market. On EU level, a comprehensive training and lifelong learning strategy

[21] Break in series resulting from the introduction of the ISCED 2011 classification.
[22] Break in the series due to a thorough reform of the survey and the introduction of the rotating panel.
[23] Sectors for which the changes are very small have been left out the graph, but they are included in the total.
[24] See: http://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do
[25] See: http://www.employment.belgium.be/moduleDefault.aspx?id=21166#AutoAncher5
[26] See: http://www.employment.belgium.be/moduleDefault.aspx?id=21166#AutoAncher5

is one of the 'flexicurity' pinciples, which attempt to reconcile employers' need for a flexible workforce with workers' need for security – the confidence that they will not face long periods of unemployment.27

On the following pages, I will discuss the main approaches that have been taken, both on regional and federal level, to improve the quality of the labour supply, and I will highlight some examples that can serve as best practices. As education is a competence of the Communities, most measures are applied on Community level (Flemish, French or German-speaking Community), however, on federal level, investment in training is a main focus in the 2017 Law on Workable and Flexible Work. It states – among other measures designed to modernize the labour market – that from the 1st of January 2017, all sectors will pursue the objective of achieving an average of five days of vocational training per FTE and per year. The new system makes it possible to organize the right to vocational training, by creating an individual vocational training account. Special arrangements will be organized for Small and Medium-sized Enterprises (SMEs) to adapt the new system to the economic realities of such companies. The communities have also committed themselves to introducing the necessary tools for continuous training to ensure career-long employability and promoting continuing training for all workers. There is a focus on strengthening the competences of disadvantaged groups in order to respond to the needs of enterprises (in particular the low skilled, the + 55-year olds and those with a migration background). Flanders is reforming its adult education sector. Priority is given to offering opportunities to obtain sustainable qualifications (secondary school diploma or vocational training certificate, language training, Dutch as a second language training, etc.). The reform also entails a new funding system that places more emphasis than before on vulnerable groups (people without secondary education qualifications, jobseekers, people with insufficient literacy skills, prisoners, people who do not have sufficient command of Dutch, etc.). In this way, the reform contributes not only to increasing participation in lifelong and life-wide learning but also to developing equal educational opportunities for vulnerable groups. Last year, the Flemish Government and the social partners concluded an agreement on the reform of the Flemish training incentives for employees. In 2018, the five building blocks of this agreement will be operationalised: a labour market-oriented and forward-looking training focus, a quality framework, a training database, uniform monitoring and evaluation, and the promotion of transparency and digitisation. The region of Brussels launched the "Training Plan 2020" to ensure the continuous training of Brussels workers in priority sectors, in economic transition or restructuring, and to ensure their professional advancement. The priority target groups are again low-skilled job-seekers, young people in transition to the labour market after completing their studies, and job-seekers of foreign origin. Moreover, it opened its "Occupations Point", a space that brings together the employment, education and training actors. Under the activa.brussels measure, a training incentive fund was introduced to support the training of young people under the age of 30 who have at most a lower secondary education diploma. Finally, as the language barrier is often a large challenge for job-seekers, they can make use of 'language vouchers' for training in French, Dutch and/or English and of the "Brulingua platform".

While the abovementioned measures are primarily aimed at workers and job-seekers, policymakers also implicate companies in their reforms of vocational training systems. Both the federal level and the regions are looking for ways to strengthen work-linked training (in

[27] See: http://ec.europa.eu/social/main.jsp?catId=102&langId=en

which a student both attends classes at a vocational school and receives on-the-job training at a company) and company traineeships at all levels of education. Work-linked training has proven its merits in Germany (where it is known as “dual vocational training system”), but is not yet very widespread in Belgium. To foster the growth of such as system, the number of places for work-linked training in enterprises is being increased. Financial incentives are available to make work-linked training more attractive to firms. Internship formulas and certificates for skills acquired during a Traineeship are also being revised. Brussels supports work-linked training through incentives for employers and young people. Flanders has launched a pilot project on dual learning last year, and as of September 1st 2019, it will be generalised. The system of dual learning will thus become a fully qualified learning pathway alongside full-time secondary education. In addition, the Flemish PES (VDAB) is also working on providing a wider range of on-the-job learning and a better coordination of the various existing systems. Finally, the French-speaking Community is also developing work-linked training both in higher education and in “education for social promotion”

Besides education, companies also play an important role in realizing the lifelong learning targets put forward by the federal government, by complying with the new federal legislation, which requires them to allocate at least five working days a year to their salaried employees so that they can develop their skills and employability. To help them do so the regions are working towards a more efficient coordination of the different actors involved in adult training. Flanders is finalizing the OECD project "Skills Strategy for Flanders", launched in January 2018, with which the OECD, after 9 countries[28], is now, for the first time, supporting a region in drawing up a strategic approach to building, maintaining and deploying its own human capital to stimulate employment and economic growth and to increase social inclusion and participation.

Annexed to this note we provide a case study of Belgium’s largest PES, the Flemish VDAB. It is considered to be among the most innovative public providers in the world of PES, so this text contains useful insights to deal with the volatile and fast changing labour market of today.

To conclude, the various approaches to vocational training in Belgium, show that (re)raining is very diverse. There is no single solution to balance the labour supply with changing economic demand, diverse target groups require different approaches. And even within one group of workers (for example workers displaced because of a restructuring firm course) some can be adequately helped with a training course, while others need on-the-job training, etc.

[28] See: http://www.oecd.org/skills/nationalskillsstrategies/buildingeffectiveskillsstrategiesatnationalandlocallevels.htm

Case Study of the Public Employment Service

Vlaamse Dienst voor Arbeidsbemiddeling (VDAB), Flanders

Contents

Annex

I. National context and history of VDAB

Flanders covers 44.8% of Belgium's territory with 6.5 million inhabitants of the 11.3 million overall population in Belgium. The region represents the majority of the country's industry and workforce and provides more than 50% of the national gross domestic product

(GDP). The exports from Flanders even have a value of 80% of Belgian GDP (partly due to the trade of goods arriving in the Antwerp harbour). Neighbouring countries, France, The Netherlands, Germany and UK take more than half of the total export of Flanders. Of the 6.5 million working age population of Flanders (15-64), 66.8% were in work in 2017 (compared to 63.5 in Belgium) and only 4.9% were looking for work (compared to 6.4% in Belgium). Like at the national level, a combination of a high level of employment among people aged between 25 and 54, and small employment rates among those aged under 25 or over 55, can be seen in Flanders too. Age distribution is changing as the population gets older, a phenomenon which is hitting Flanders particularly hard. Of the 6.6 million inhabitants in the region, there are now 1.2 million people over the age of 65, which represents an increase of 2% compared to 2007 (OECD 2017). Whereas the employment rate is comparable with the OECD, the share of the inactive population is high in comparison with most OECD and EU countries (see figure 1 in the annex). In 2017, 72% of the adult population was active (either unemployed or employed), while this share is 78% in the EU. There are also comparatively large differences in activity rates across population groups.

Flanders scores quite well on generic labour market indicators within the European Union, the employment rate among vulnerable groups, however, is a weak point. The number of young people leaving education without qualifications has fallen in recent years, but in 2016 still stood at 6.8% with little perspective for quick job integration. Although this is still a comparatively low figure in the average of EU countries it poses a clear long-term challenge for Flanders. Only half of job seekers with lower skills levels have a job and few people over 55 (46.7% of those aged 55 to 64 in 2016), immigrants (53% of those aged 20 to 64 and not born in one of the 28 members of the EU in 2016) and the disabled (41% of those aged 20 to 64 in 2016) are in work.

The number of jobs is higher in Flanders relative to the other regions of Belgium. This is why not many Flemings work in Wallonia or abroad. It is the Brussels Capital region, which attracts the most mobile workers from Flanders; nearly 8% of Flemings work in the capital region and 2.3% commute to Wallonia or move abroad.
The accelerated process of deindustrialisation in the last decade has caused the loss of a quarter of industrial jobs since the 1980s. Industry (including the construction industry) accounted for 21% of total employment in 2016. As a result, there are hardly any industrial enterprises among the major employers anymore. Service providers in ‘communication and transport’, ‘finance’ and ‘distribution’ offer the biggest share of employment. The private services sector makes up 47% of total employment, while public and subsidised services account for 31%. While Flanders has been preparing for this shift since the 80’s and tries to define society and labour market as innovation-driven and flexible, the changing requirements in skills remain a constant challenge. The structural employment shifts, especially from industry to services, technological advances and globalisation have resulted in changes in the job qualification structure. There is an increasing number of jobs in Flanders that require highly qualified workers, while there is a decreasing trend in jobs for which mid-level qualifications would be sufficient. Jobs requiring mid-level qualifications, however, still account for 44% of jobs. Jobs have been lost among industrial production workers and administrative staff.
The proportion of jobs where only low-level qualifications are required has remained stable at around 11% and these jobs are mainly filled by maintenance and cleaning staff. That sector

is believed to even grow in the future as a result of the service voucher employment scheme, which grants a permanently subsidized social security payment to service personnel and lowers the price customers pay for instance for cleaning services. Also other household chores like ironing and shopping, which take up private time and put the work-life-balance at risk, the Flemish authorities offer families a simple and affordable instrument to 'buy in' domestic help. This allows them to continue to work full-time, whereas running the household would otherwise make this impossible (Eurofound, 2018).

Reforms

In the 1960's and 1970's, the Belgium National Employment Service's (NEO), which reported to the Federal Ministry for Employment and Work, was structured into a central administration in Brussels and 30 regional offices in Belgium. After 1978 these offices were divided into National Unemployment Offices responsible for paying out benefits and Sub-regional Employment Services responsible for occupational training and employment mediation. The division within the NEO was aimed at detaching benefit payment and possible sanctioning from job placement. It however created the risk of an activation gap, within which job seekers would not link active job search with the financial support of the State and be more prone to refusing job offers, also since sanctions were not imposed regularly.

In 1989, the year when VDAB was founded, the underlying idea of employment services changed from receiving benefits as a supplementary payment or replacement to salaries because of sickness or incapacity to a service of activation and access to benefits through employment. The NEO's federal powers of job brokerage/mediation, labour market information and implementation of labour market programs including training were then transferred to the regions of Wallonia (Le Forem), Flanders (VDAB) and the Brussels capital region (Actiris) in order to deliver that idea of activation and cater better to regional and local needs of job seekers and employers. VDAB started its role as the public actor in the Flemish labour market implementing labour market and employment policy following the pointers set by the regional government and taking into account current employment trends. The responsibility for the payment of benefits remained with the Belgium NEO as well as the fund management for the compensation of laid-off workers and the issuing of work permits for foreign workers.

In 1994 the VDAB concluded a preliminary management contract with the Government of Flanders in which budgetary resources were linked to agreed performance targets for the integration into employment of different vulnerable groups, like young people. The targets were based on the inclusion rate of the years before and allocated a fixed budget for it. The contract also rendered relative independence to VDAB to decide about human resource management and it appointed the annual performance evaluations by the „Commissaires du gouvernement", a representative of the national government. Within this contract, the federal government retained the power for arbitration, taking final decisions in case of conflict, but altogether started reflecting the idea of empowering the regional government of Flanders to take own decisions, in the case of VDAB to "exert an impact on the labour market in harmony with society and the economy" as it reads in their mission statement.

In 2014, the federal government worked on a Sixth State Reform known as an initiative for "A more efficient federal State and more autonomous entities". The reform that aimed at

transferring federal competences to the regions and thus at increasing their participation in policy-making and implementation, also saw a substantial shift of powers to the regional PES. While VDAB and other Belgian PES before were rather operational entities of employment policy with specific decision making competence in internal management and operational details, they now assumed responsibility for targeting labour market measures and supervising the unemployed. The state reform introduced the regional monitoring of the active (seeking jobs on own initiative) and passive (ready to take up job offers) availability of the unemployed, which includes checking whether they are actively and effectively looking for a job. The regional PES now examine whether unemployed clients accept, take and retain suitable jobs, participate in the proposed integration process, attend relevant training courses and show an overall motivation to improve their employability. This is a more holistic approach than the separation of integration into employment and benefit payment coordinated by the NEO before the reform of 1989, which appeared more prone to a lack of monitoring of the job seekers' motivation to find employment. The regional PES today additionally assumes responsibility for determining sanctions should the unemployed fail to comply. The NEO administers the sanction process for those penalized clients (Department of Public Governance and the Chancellery, 2017).

Due to the heated labour market in 2017, Flanders experienced an aggravated shortage of labour. Employers sent a total of 1,567,357 job vacancies to the VDAB, an increase of 16.1% in comparison to 2016 and the highest number of vacancies ever received by the Flemish PES. In order to support covering this high skills demand VDAB enhanced its mediation and matching activities by a rigorous assessment of every job seeker (including those who have been unemployed for some time) and by rolling out the Individual Vocational Training (IBO) program and the Temporary Work Experience (TWE). The latter offers internships to young people who have not yet accrued a significant amount of experience, trains those who do not speak fluent Dutch for integrating into the labour market, and reconnects older candidates who have been looking for work for a long time to the labour market.

II. VDAB policy and strategy

The more autonomous client targeting and monitoring introduced by the 2014 state reforms are gaining momentum in Flanders and bearing results in the labour market. Over the past years, the employment rates of over-50s have grown due to a more effective, tailor-made approach to include them in the labour market. A higher employment rate was also achieved among women, with Flanders scoring well above the European average of 65.3% with 67.7% in 2016. The reforms were oriented to all working people with a special focus on vulnerable groups and ensuring a regional approach to labour market measures and employment services. These two drivers remain a valid base for policy and strategy of the PES, especially for those client groups who have not yet experienced a significant improvement of their employability, such as job seekers with medical conditions and long-term unemployed (Eurofound, 2018).

Additionally, the taxation of work that is delivered in the sharing economy (e.g. platform gigs) and the danger of further excluding people through a digital divide is an additional main policy development that the Flemish government is addressing in its overarching strategy. Bridging the digital divide among job seekers is also a component of VDAB's service. Another current concern of the regional government following the national policy is health at the work place, which seems to be deteriorating in recent years as reflected in increasing number of sick days and long-term absence from work. Belgium's Federal Minister of Employment has announced measures to prevent employee burn-out and stress at work, responding to an 80% increase in long-term sick leave cases between 2005 and 2015. The measures will also be asking employees and employers to formulate proper arrangements regarding digital connectivity and reachability (Department of Public Governance and the Chancellery, 2017).

VDAB's short-term focus is on mobilising actively available job seekers and more recently all people who can be activated for employment including single parents or early retirees, for example for acute skills shortages like in 2017. The long-term goal is to be able to provide employees with increased guidance throughout their careers and to evolve into a career-supporting agency. The VDAB wishes to act as a partner for the transitional labour market of today, in which they thrive to support entire work careers and focusing on positive transitions, which develop secure job navigation, help jobseekers and workers to progress and develop their skills, and shift the PES relationship with the client into one that involves facilitating, coaching and conducting, as opposed to just monitoring motivation to work. Even if the responsibility of the job seeker is still linked to the receipt of benefits, the VDAB objective is to encourage job seekers to take ownership of their careers, rather than simply sanctioning their lack of motivation. The motivational background of having the job seeker "at the steering wheel" will however be met with sanctions if the job seeker does not agree in taking the shortest route to employment, be it by directly taking a suitable job or agreeing to an employability measure.

In the current 2014 to 2019 policy period, the VDAB contributes to the following common strategic objectives laid down in the annual business plan:

Bringing everybody into work

The main focus is on activation measures for job seekers with 'the shortest route to work' principle. This is implemented by favouring sustainable work opportunities over training measures. The emphasis on skills development with the objective to increase employability is however also seen as an investment into the shortest route, which in practice creates a client-based, individual assessment of how to balance placement and upskilling. In this, VDAB follows one of its main policy principles to "engage in continuous co-creation with the PES's end users, in order to ensure that products respond to customer needs as closely as possible." The services of VDAB are universal and accessible to anyone seeking employment, independent from whether they receive benefits or not. Special consideration is given to the development of the competences of those job seekers who are far from the labour market. The policy goal to activate long-term unemployed jobseekers is to get them into a work experience, which brings them closer to the labour market. VDAB is administering this for example by granting a small allowance on top of the unemployment allowance paid by NEO that funds a limited number of hours of work experience in an easily accessible working environment. This measure is primarily intended for jobseekers, who are not yet ready for a (more intensive) temporary work experience and will not immediately benefit from training either.

Investing into agile young people by means of an efficient learning and working framework
For the labour market integration of young people, another long-term policy goal of the Flemish government and VDAB, especially for those young people who are not in education, employment or training (NEET), the VDAB has trained specialised NEET consultants (in-house and through partners). They are also developing a structural cooperation with the Adult Basic Education Centres around literacy training, especially for digital skills, but also numeracy and language skills for young job seekers. The Belgian Federal Government introduced tax incentives for companies to hire young people and for example pay less social contribution on gross salary in the first year. The measures are designed to boost employment for 18–21 year-olds, without affecting pay levels.

Fostering entrepreneurship and agile companies
VDAB seeks to create a dynamic environment for entrepreneurs and companies, especially small and medium-sized enterprises by providing incentives, advice and contacts to stakeholders. This includes keeping regular contact to employers in order to know their needs well but also to sensitize them for publishing vacancies in an attractive manner, recognize competencies of job seekers and support them in recruiting vulnerable profiles.

Developing conditions for a more future-oriented labour market and corporate policy
VDAB helps making the working conditions of the new world of work transparent and comprehensive by offering trainings in digital skills, platform gigs and by taking part in the discussion on fair work conditions in the sharing economy.

Investing into European, international and interregional networks in the context of VDAB's own policy realisation
VDAB is modelling on moving from a public service provider to a network member of an employment service ecosystem, which further enhances the role VDAB as a labour market conductor (see section on organizational and management structure below). The concept of an ecosystem aims to create the framework and the tools that invite other employment and

related service stakeholders to be involved. VDAB wants to promote an open ecosystem through the use of open software and stay flexible to other ways of doing things while benchmarking with European and international peer PES (European Commission, 2016).

As a public agency serving citizens, the VDAB looks for radical change in their functioning in order to move towards flexible and proactive service delivery, including digital communication and promoting self-service and self-management to its customers. It can thus be seen as an innovative employment service that is not just implementing policy but also questioning its own role and added value to a society and labour market, which is volatile, uncertain, complex, and ambiguous (VUCA).

Good practice 1: The Innovation Lab

Launched in 2014 with the support of the Board of Directors/social partners, the Innovation Lab seeks to harness VDAB's human and digital capabilities to be an innovative conductor in the labour market. It is a key instrument that the organisation created to foster change, looking to move the PES from being a traditional organisation to becoming a 21st century agency and to benchmark whether a PES is needed at all. The Lab applies the principles of design laboratories and involves stakeholders and target group members, such as job seekers to test new approaches and tools.

The Lab was set up to respond to general public sector trends in reducing costs, simplifying processes and participating in the OpenGov initiative. Internally, the Lab sought to convince the rest of the organisation that a wide-reaching innovation programme would make VDAB services more effective and useful for customers and society in general.

Several new projects have been implemented coming out of the Lab such as the mentor app, which connects young jobseekers and experienced professionals with the aim of helping jobseekers to find a job. Jobseekers are supported by a mentor who provides them with advice on how to increase their chances of finding a job and taking the best decisions in their job-search.

Another project is the competence-based matching system (see next good practice)

From the outset, the principles guiding the work of the Lab today have been carefully linked to support the regional strategy, the PES's own customer strategy and the contribution the PES' work makes to the Europe 2020 Strategy.

Between 2014 and 2016, the Lab went from set-up to becoming an established preliminary stage for idea generation in the PES. The number of staff grew rapidly in that period, going from two people to becoming a team of 15 people (10 staff are dedicated to the lab full-time, five work on specific projects). Staffing and management structures also underwent several changes, starting from a loose structure to firming up a strategic steering committee, through to establishing three formal roles in the Lab (see annex for overview of management roles).

The next steps for the lab are looking into how cognitive computing and predictive modelling can be used in the PES day-to-day matching business (ICF, 2017).

Legal framework and social partners

VDAB had the status of an external autonomous government agency until 2014, when the management contract it held with the Flemish Government was terminated and handed over to the direct management through a tripartite supervising Board of Directors. Before 2014

management contracts were concluded in execution of the decree of 7 May 2004 regarding creation of the VDAB as an external autonomous agency under public law with legal personality as the “Flemish Employment and Vocational Training Service”. This management agreement was also concluded in conformity with the framework decree on Better Managerial Governance of 9 July 2003, the Flemish government agreement 2004-2009 and the policy note on Work 2004-2009. The agreement was in line with the European regulatory framework and the decretal assignments of the VDAB.

The medium and long-term policy objectives for the VDAB have since been set in a framework agreement, in which VDAB’s performance is assessed against the goals and targets set out in the annual business plans (see previous section). Since the latest Sixth State reform in 2014, the monitoring and sanctioning competence for job seekers has been referred to the regional PES as well and was implemented in VDAB from January 2016. The payment and freezing of benefits is executed by the NEO. The federal government retains roof labour law competencies like labour inspection including the supervision of wellbeing at work. The federal framework for defining target groups is broad, e.g. the definition for “job seeker” allows VDAB to include several groups such as parents who stay at home and offer them the full service portfolio. Consequently, VDAB is also able to enter into partnerships that go beyond work, such as education or health.

Within the agreed scope of the annual business plan, VDAB has a large margin to define how it wants to reach the targets. VDAB headquarters also allow the local PES entities a specific margin, within which they can decide about how they will deliver employment services, how to reach out to employers and launch own local projects that will be replicated/customized to other local areas if they work well.

It is not mandatory or legally binding for employers to use PES services or report their vacancies.

The Board of Directors comprises approximately a dozen members who represent employers, and around a dozen members who represent employees. Two Regional Government Commissioners also sit on the Board. A number of working groups, such as the Technical Working Group, the Policy Working Group and the Stakeholders Forum Working Group, play an important preparatory and advisory role to the Board operations. The Stakeholders Forum for example has been in place since 2005 and gathers associations and interest groups, which represent key VDAB user groups and have a direct or indirect involvement in the labour market and integration of clients (Mobility Lab, 2014).
The government coalition in 2003 took the ILO Private Employment Agencies Convention, 1997 (No. 181), which was ratified in September 2004 and domesticated into national law (Loi portant assentiment à la Convention n° 181 concernant les agences d’emploi privées) in the Moniteur Belge, as an opportunity to launch a new way of cooperating with private employment services. It recognized private providers as playing a vital role in the Belgian labour market. To foster this, the role of the VDAB was changed from that of a central actor to the steering role of a central “regisseur” or labour market conductor (see next section for more details)

III. VDAB structure, management and functions

Organizational and management structure

The VDAB remains with the quasi-status of an external autonomous agency, now without a management contract between VDAB and the Regional Government, but with the same tasks and supervised by the tripartite Board of Directors. The Flemish Ministry of Work and Social Economy is represented as member in the Board and in this capacity it executes supervision over the performance of the PES. Annual reporting by the VDAB to the Board as well as to the Internal Auditing (see section on performance management and M&E) formalizes the supervision by the Board and allows them to decide about the reaching of targets against the annual business plan and assess the budget for the coming planning periods. Over the year, several "informal" feedback meetings are held between the head of VDAB and the Ministerial representatives in the Board of Directors to keep communicating about adequacy and effectiveness of the current performance and how the course could be corrected if necessary. The budget for delivering employment services is paid by the Government of Flanders (see annex for a brief governance structure of VDAB).

The broad lines of VDAB operation are determined at the Flemish level. The head office in Brussels formulates a common corporate strategy in a "VSOP" (Flemish sectorial business plan). This framework is being translated into various "PSOPs", one for each province in Flanders and Brussels. In the six local provinces, respective management boards are established, which have a shared responsibility in achieving the corporate strategic objectives. Most cities and larger municipalities have a competence centre for professional training and career guidance too, coordinated by the management board at provincial level. The operation is defined by the overarching objective of being a labour market conductor, i.e. making sure that VDAB has a good governance overview of which employment needs are actual and who are the best labour market partners to deliver the services. VDAB provides own services, but is focusing more and more on the sole role of conducting providers to offer job placement (mediation), guidance and training. At the head of the VDAB is the VDAB Managing Director. He is flanked by two General Directors, one for labour market management, and one for the supporting services.

The VDAB currently has 142 offices spread over the five Flemish provinces and Brussels. In total, the VDAB has 5,105 employees or 4,267 full time staff equivalent. 70% of the staff deal with front office tasks. Every front office staff member is specialized in one of the following professional sectors:

- Construction and timber
- Transport and logistics
- Care and Education
- Business Support, Retail & ICT
- Industry
- Personal and business services

The objective is that mediators (placement officers), guides and trainers immerse in a particular sector of the labour market, acquaint themselves with employers within that sector and know which competences are required for which professions. Like this, mediators

concentrate on genuine and sector-targeted matching and job placement from the beginning and give job seekers and employers the feeling that VDAB services are being closely aligned to their needs and expectations instead of offering general employment services only.

Mediators from the Intensive Service Provision support those job seekers who are more removed from the labour market, irrespective of the sectors. They work together with the job seeker to gradually overcome any basic barriers to the labour market. If this is not immediately feasible, VDAB offers a suitable alternative, such as community work, temporary work experience or work-care programs.

The VDAB has developed its own leadership model, which defines three roles each manager in the organization is supposed to play. First, a manager needs to be a leader who inspires people and takes ownership for 'caring' for the employees by seeking opportunities and giving them sufficient room to grow and learn. Second, the entrepreneur skills of the manager can help prepare the organisation for unforeseen challenges through a collective climate of learning and development and a “start-up mentality” as opposed to an institutional silo attitude. This means creating an environment in which it is “normal” to admit that staff is unable to do something (yet), and that they make an effort to find out how and from whom they can learn a specific task. Finally, the manager is also a manager in the classical sense, who coordinates a team, attends meetings and follows-up on performance.

The three roles of the leadership model are taught in different training modules offered by VDAB internal training and coaching entities. The trainings are designed as blended learning, which combines management theory and practical exercises, self-reflection and the drive to follow up on skills learned. The participants provide real cases that they have already experienced in their work life and examine concrete situations within the organisation against the backdrop of the three different management roles. The experiences and lessons learned are shared with the other participants and establish a mutual learning situation. During the training, the participants will receive feedback from their colleagues and the trainer. They are also encouraged to implement the action plans designed during the training in practice. They can call on the assistance of the internal coaches in the further course of their day-to-day management practice (European Commission, 2017).

The VDAB uses various channels to communicate to employees, including a magazine, a website that is exclusively accessible to employees, newsletters, etc. These are all managed from the central office. The regional offices may add messages customized to their province. They are also free to communicate additional information to VDAB employees within their province.

The VDAB applies a corporate external communication policy, so that clients see only one coherent brand of VDAB, with no perceivable variation at local levels. One spokesperson manages all the external communication that appears in the press.

Functions

Intermediation and placement of job seekers

While the classical employment service of profiling job seekers and offering vacancies is still offered, VDAB is increasingly focusing its matchmaking service on predictive modelling and the self-drive of job seekers. The predictive modelling is based on digital information that the job seeker provided through his/her CV either directly online or with the help of a mediator, the browsing behaviour when searching for jobs on VDAB or similar sites and additional job-seeker-related information collected on the Internet. Data mining programs then process the information to produce an estimate about the job seekers employability, which together with the job seeker's own estimation and the guidance of VDAB staff will be turned into recommendations of how to integrate the client into the labour market.

The shortest route to employment principle is aligned with the perspective drawn by predictive modelling. If a job seeker would for example have a less than 50% chance to enter sustainable employment in the next 140 days, an upskilling program is recommended that increases the employability. Here, a training measure is considered the shortest route to employment and thus favoured over a quicker placement, say in a detached work practice. The digital risk scoring of how long someone is likely to stay unemployed also gives way to efficient prioritisation of clients and through that can reduce the workload of front office staff in VDAB as they will be provided with a birds-eye view with tailored insights on a jobseeker, thus allowing for less time spent on profiling procedures and dossier analysis and more time for personal contact. The model also gives a macro insight into the main job trends and uses the possibilities of deep learning technology to store and analyse (big) historical data on job vacancies and client's profiles – both interesting sources for policy makers.

In personal contact with the job seeker, VDAB staff help estimating the training services that the client requires within the development areas "applying for jobs and networking", "orientation", "building on skills and working on framework conditions". Since the algorithms that determine the predictive modelling might have similar suggestions to young job seekers and to 55+ ones, face-to-face job advice helps to further customize the employment service or labour market program offer. This support service starts immediately after the online registration of the client. Following individual contact and the assessment of the client's needs, more agreements are made if necessary, for example for personal services in the area of applying for jobs and networking.

The training offer for job seekers follows the principle of "as short as possible, as long as necessary" (again an alignment with the shortest route to work) through several mixed methods like workplace learning, digital where possible, face-to-face if it offers added value. Workplace learning is a collective term for various types of trainings, whereby some of the training takes place in the factory shop or enterprise. This factual context is believed to make the acquired skills more relevant and more efficient and increases the flow of jobseekers. Within the digital offer, VDAB has introduced learning modules on current manufacturing technology like 3D printing or the use of augmented reality in construction sites.

The share of people on the Flemish labour market with practical experience in carrying out a profession but without being able to prove this experience with a diploma or certificate are supported through "Experience proof", an official and generally recognized document of the

Flemish government mapping out the importance of (practical) experience and part of the competence-based matching (see good practice 3).

Service to employers

VDAB helps coordinate supply and demand on the Flemish labour market and provides services to employers through different channels. Employers have the following options via the website:

- Registering their vacancies online and publishing these on the VDAB website.
- Searching of suitable candidates in the CV database.
- Employers are encouraged to manage their own account on the VDAB job matching site by keeping their vacancies up to date and provide feedback by indicating whether positions have been filled.

Employers can also ask VDAB for extra support in fleshing out their vacancies. Specialized VDAB employer account managers would then make a daily assessment of the chance of filling the vacancy. If the chance is high, they will keep the employer informed via e-mail. If the chance for filling is small, VDAB provides targeted actions to increase the chance, for example by helping the employer to consider making the vacancy more attractive. VDAB will also provide support in drawing up the vacancy both online during the registration and by a mediator, if the employer cannot formulate a vacancy and upload it by himself/herself. If employers want already recruited employees to complete a particular training programme, they can have them participate in several VDAB training programmes especially targeted on companies, such as successful self presentation in projects or a toolkit for managerial staff.

Additionally, VDAB offers job coaches, who can come to the company and help them to start a particular task, adopt the right working posture or perform well within a team. Coaches can also advise employers on HR matters like parental leave, mentoring schemes or competence-based working and job performance talks. Job coaching can start within the first year after recruitment and can last for up to six months. The coaching is free for the employer when the coachee is of immigrant origin, 50 years or older, has an occupational limitation or does not hold higher secondary education.

The VDAB website is the most visited vacancy job site in Belgium, figures on concrete market shares of the Flemish PES are currently not available (VDAB, 2017).

Career Guidance

VDAB refers all job seekers requiring more assistance to the various centres for career guidance (competence centres), which are owned and funded by VDAB. In this respect, the guidance is not compulsory for everybody, but strongly recommended to those who are likely to struggle with a self-guided, digital first job matching. Job seekers can go to a career guidance centre also on own initiative after talking to his/her VDAB mediator. He/She will get the chance for self-analysis and the options to set up a personal profile. Based on that profile, client and guide can explore the labour and training market and work out an action plan. The guide monitors the feasibility of the plans. A job seeker wishing to follow career guidance can request career vouchers from VDAB, which can then be used in any of the centres. Clients are entitled to eight hours of career guidance every six months. Career

guidance must fulfil the characteristics of being voluntarily chosen by the job seeker, whether on own initiative or after recommendation, it needs to be based on real needs, the discovery, reinforcement or development of career skills is central, and career guidance always results in setting out a personal action plan and ought to have an impact on the jobseeker's long-term employability and flexibility on the labour market.

Labour market programmes

VDAB offers a comprehensive activating placement service with the aim to provide every job seeker with a suitable offer in time for the shortest way to sustainable employment. This includes the basic employment service programs of advice, mediation and incentives for employers to employ vulnerable groups and additional targeted programs and services for young people, 50+ and 55+, intensive support and other vulnerable groups.

The Youth Work Plan (JWP) offers a personalized programme for young people below 25, who have recently become unemployed or left school. VDAB examines whether an intensive approach is necessary depending on jobseekers' proximity to the labour market and their ability to find work on their own. VDAB offers a customized service for every young person within four months of becoming unemployed or earlier, if the young person is less skilled. The service may involve a combination of any of the following program modules deemed suitable to the client's needs:

- Intensive guidance
- Initial experience with a real employer
- Individual Vocational Training (IBO) customized training with the employer
- Work environment project for young people
- Vacancy finding and CV training
- Young people's apps (apps from and for young people)
- Practice-oriented professional training in a specific sector
- A training pathway leading to an educational qualification

VDAB started a new guidance approach for clients above 55 years of age in 2016. Again, it determines for every client, as soon as they become unemployed, whether a service is necessary. The aim is to offer the client the correct level of guidance and to take into account the type of availability of the jobseeker: "active"(the job seeker wants to fully participate in the labour market and takes own initiative), "adequate"(there is basic motivation to remain close to the labour marker, but with need for guidance) or "passive"(no basic motivation to work or a lack of initiative and interest in guidance).

Jobseekers who have a medical or psychological condition are offered a specialized service. This target group is often far removed from the labour market and can make use of activation guidance with specialized staff addressing and helping to remove obstacles such as drug abuse, poor housing, or anxiety issues. Guidance starts with a joint group offer. It maps out the options and thresholds and offers psycho-educative modules on stress management, dealing with change, dealing with pain, social context of benefits, and focusing on future empowerment. In Flanders, almost 46% of unemployed persons are exposed to financial poverty. VDAB has reinforced the guidance services with integrated work-welfare courses either individually or in groups.

Several programs aim to integrate asylum seekers and refugees in the Flemish labour market following the logic of "work as leverage to integration" In 2017, the labour market program 'Integration through Work' was set up in cooperation with the Agency for Integration and Civic Integration and the Federal Agency for the Reception of Asylum Seekers. Together with these partners VDAB aimed to get refugees into work as soon as possible through short, integrated pathways pooling trainings for language and technical competencies and again aiming for the shortest route to work (European Commission, 2017).

Labour Market Information

VDAB, which was also created to increase the transparency on the Flemish labour market has been traditionally collecting labour market information at all levels providing the results via leaflets as well as online to government and statistical institutions, and taking part in the national employment observatory. It functioned as the coordinating institution for collecting and analysing Flemish labour market data. Since 2014 however, VDAB uses an open source approach to labour market data, within which stakeholders, as well as clients, can fully access internal labour market data on the internet and draw their own conclusions from it. VDAB already receives requests for data from market actors and these tools help them improve their own services and develop applications and websites of their own. It includes compiled information on CVs and job vacancies as well as labour market trends. This process of digitalisation is seen as a way to rationalise resources and improve efficiency, but has raised questions of data ownership. Crucial information is, for example, being collected by the employers' recruitment and selection of job seekers. This is information that is typically not shared and generates technical and legal questions around privacy and user rights, none of which have yet been answered (Vansina, 2015).

Performance management and M&E

VDAB aims to introduce a performance management system, which follows a philosophy of a 'triple A' scorecard standing for "Ability", "Agility" and "Accountability" and which will be measured with a rating system assessing the PES credit similar to the credit standing of a country. The exact system for this new scorecard to be introduced in September 2018 is still to be determined.

- The Ability score reflects whether the PES provides added value, or whether it has the capacity to meet the ever-changing expectations of clients and labour market stakeholders. Can the PES be labelled a "trusted advisor", and a labour-market guide of choice? Does it possess the required expertise? Are the campaigns effective and of high quality?
- The Agility score stands for the organisation's standard of manoeuvrability. Is VDAB able to detect needs swiftly and to respond to these flexibly? Are they quick to recognise possible opportunities? Are they able to adjust their organisation model swiftly and to deploy assets and resources dynamically?
- The Accountability score assumes that ownership is central to the PES self-image. How is the feeling of being responsible for offering integrated solutions, perhaps even independent of the own PES organisation? Does VDAB deliver on the trust our clients have in us? Does it organise itself as efficiently as possible as a public service? Does it manoeuvre with integrity?

With the triple A assessment, VDAB is implementing the key principles of the Europe PES 2020 strategy, where 'Ability' stands for 'customisation', 'empowerment' of the job seekers and

'social innovation'; 'Agility' is a transfer of 'digitisation' and 'integration', and "Accountability" relates to 'value driven approach', and 'inclusiveness' (European Commission, 2016).
Current VDAB performance indicators reported to the Board of Directors and following the targets set in the annual business plan measure digital access of services, vacancy fill rate, training coverage, and client as well as partner satisfaction.
VDAB has a top five star rating from the EFQM Global Excellence, which awards the world's best performing organisations, whether private, public or non-profit. It recognises industry leaders with a track record of success in turning strategy into action and continuously improving their organisation's performance.

Digital access
In 2017 the VDAB website received a total of 1,567,357 vacancies (including all temporary work orders). The website had 36,337 unique visitors a day in 2017. By the end of 2017 almost 1 in 2 users visited the website using a mobile device (47%). 497,729 clients contacted the service line (a phone hotline). This is a 14% drop compared to the year before due to a shift from telephony to online services. It has also been noticed that the conversations over the phone are getting longer with each year, because of first level questions rather being dealt with online and more in-deep discussions handled on the phone.

Vacancy fill rate
The vacancy fill rate was 70.5% of 74,804 vacancies processed in 2017. 80,355 job seekers under 25 were registered with VDAB of which 50,350 left into a job position. Over 12,000 job seekers who entered the VDAB system were over 55 years old, over 3,500 of them could find a job. 65% of those job seekers who were upskilled by VDAB or partners were placed into employment within three months after they received their training

Training coverage
In the school year of 2016 to 2017 VDAB provided more than 63,000 training hours to job seekers looking for upskilling and young people in vocational training. The courses were mainly in the areas of construction, industry and logistics. 86% of the courses, which provided general labour market skills involved a part for Dutch language support. Furthermore, in 2017 a total of 54,734 workplace learning activities took place after which 68.96% of the participants found work within 3 months.

Client and partner satisfaction
Partner satisfaction in 2017 was at an outstanding 74.4%, or 4.4% above the target (70%). Employers were 85% satisfied with overall information provided by the PES, and 63% with the vacancy processing, leaving room for improvement to reach the targeted 70%). Regarding job seeker satisfaction, VDAB could only reach 74% of the 85% targeted, the main reason being that course participants felt that the jobs on offer were not always suited to their training (VDAB, 2018).
VDAB Internal audits are run to optimise the effectiveness and efficiency of the PES; the audits are commissioned by the Audit Committee, an advisory sub-committee of the Board of Directors. They report on strengths and weaknesses of the current PES performance and make recommendations for improving it. VDAB' complaint management aims to send a receipt acknowledgement and a letter of reply to 75% of complaining clients within 20 days. Complaint mediators have personal contact with the client in 60% of the files.

IV. Service and Delivery

Service delivery model and channels

VDAB has been stimulating job seekers to register from home or via computers in VDAB offices and workshops. The simplified online registration will in future be the standard for every first contact with VDAB, since it is regarded to give the job-seekers and the PES the chance to estimate, using a few targeted questions, how the search for work will unfold. Using an online estimation tool, the job-seeker declares the job they are looking for, whether they can work well with digital tools or whether they think they will find a job quickly. In addition, VDAB requests study details and previous work experience from the client.

The registration is immediately followed by an e-mail giving first tips. Job seekers actively available are immediately informed that searching for a job is the main priority. This can be done independently and self-reliantly by the job seekers or with help of the VDAB. The individual vacancy dashboard on the website supports job seekers in this and forms the starting point for each conversation with a VDAB mediator. The job seekers are asked to contact the toll-free VDAB service hotline within a month at first and every three months after first assessment. During that telephone call, the mediators of the service line continue to estimate how the search for work is progressing. They discuss the search together and if it is not running smoothly, they suggest changes. This self-encouraged job search can be backed by benefits if necessary. Unemployment benefits in Belgium can in principle be paid until the legal retirement age of 65 is reached.

In the case of job-seekers wanting personal supervision or struggling with finding an own job seeking pathway, the service line books an appointment with a mediator in one of the provincial sectors: wood & construction, transport & logistics, care & education, ICT, retail & business support, industry or services to persons and companies. In the case of more intensive supervision, the VDAB staff will book an appointment with a mediator of the Intensive Service Provision team. These colleagues help job seekers who lack a sustainable work attitude, struggle with motivation or social skills, or who are facing problems in their family environment.

The mediators who follow client cases know the professional world in which the job-seekers is moving and can tailor-make support activities such as online learning, job interview training, vocational training or workplace learning. The support services offered to the job seeker can be either provided by VDAB or be given to an external provider, depending on the personalized need of the client. Once the job seeker has enjoyed good experiences, he/she is encouraged to become an ambassador for VDAB and spread the news of the successful service to other job seekers.

VDAB follows a policy of leaving no one behind and thus focuses on specific vulnerable groups. Digitally illiterate clients for example are offered digital skills training. A course “Working with VDAB tools” helps people who have not previously dealt with computers or online tools, to seek employment independently. For jobseekers with limited digital skills or for those who do not have technical resources at their disposal, access to VDAB offices will always be guaranteed. VDAB service line makes use of external digital kiosks where the clients can for example start a video conversation with a mediator who can be booked in advance. At various

locations, clients can register at the self-service computers with the help of a mediator. This mediator immediately assesses whether the client is self-reliant. If not, an appointment follows to improve the digital skills.

In 2017, the digital application desk handled 10,401 questions. The desk gives everyone an opportunity to ask the e-coaches for feedback or help with a job application. This online service is provided by e-mail, chat or video chat. There is no need to register or to be known to the VDAB - the only requirement is that clients have access to Internet (VDAB, 2018).

Clients who do not speak Dutch at a first contact will be addressed in a language he/she understands. Further support for the future communication in Dutch is provided through film-clips about VDAB service in various languages (with Dutch subtitles) on the website and for use in face-to-face service provision. The service line has a pool of mediators who speak French or English. Job seekers can also bring their own interpreter along.

Whereas the VDAB system aims to place as many job seekers as possible in the labour market and can use sanctions to penalize job seeker's passive response to integration and upskilling, taking clients off benefits is not the major success indicator for the work of the PES. This differentiates VDAB's policy from PES in larger economies with a high benefit burden such as Germany or the United Kingdom. VDAB puts a contact and skills assessment strategy at the heart of their employment services, which guides clients in as digital a manner as possible to a new job. The underlying principle is that the client steers him/herself and the VDAB supports them with the (digital) skills, for example through trainings or other labour market programs, which allow them to get and stay employable (EQAVET, 2016).

Good practice 2: Work action heroes

The CEO of VDAB, Fons Leroy, has used his own passion for superhero cartoons and transferred the idea of vulnerable alter egos that get empowered to become superheroes to the world of work, for example job seekers who overcome inner and outer obstacles and start believing in their skills potential. The book "Work Action Heroes" and the side-lining job seeker campaign emphasizes that anyone wanting to stand up for themselves in the current labour market needs more than a motivation letter and a CV. It describes the current world as a VUCA world, which is volatile, uncertain, complex and ambiguous: *A world where today's exception will be tomorrow's rule*. The work action heroes, the heroes on the labour market, succeed in setting to work and getting the best out of themselves. They are job seekers, employees, employers and work mediators who face the challenges of the current labour market together.

The characters are Surprise Suzy, Luminous Luke, Silver Fox, Date Devil, Commander Career and Captain Competence who join forces to create chances on the labour market for the talent potential in Flanders. The book describes how they succeed in getting that talent in the right place and develop methods to remain as long as possible in work. They share their experiences with the reader.

The book offers inspiring stories taken from real life. It gathers together good practices and motivates people. It lets job seekers discover their talents and help employers focus on those talents. It makes the latter in particular realise that nobody is perfect, but that does not mean they are not heroes (see annex for an image of the book).

Use of information technology

In 2018, VDAB is launching a new service provision model that is constructed around their lines of "Digital First", a basic service perception where the digital channels are placed at the centre of the client communication instead of using digital technologies simply as one alternative in a multichannel environment. Based on this principle, VDAB looks to interconnect their products and services in order to improve service delivery, and customers are encouraged to interact with PES services via digital channels. It addresses empowered job seekers who can set to work themselves, 24/7/365 and will continue to be flanked by the more traditional service line and face-to-face contact if necessary. With this new contact strategy, the job seeker is at the steering wheel and first and foremost makes use of online tools. Job seekers start by registering with the "registration wizard", which poses targeted, AI-driven questions in order to discover, how the jobseeker views his/her search for work and what the personal situation is. This preparatory work is stored in the personal digital dashboard. When the job seekers then meets a sector mediator, the mediator can more efficiently help them further, thanks to his/her specific knowledge of the sector and the digital information set about the job seeker. To make the new service possible, a more extensive range of digital services will appear (including online chat) and VDAB is improving the tools around vacancies and job interviews in the existing, customizable web option "My Career".

The vacancy dashboard offers the job seeker vacancies based on various (big) data conclusions, for example the personal history of click behaviour on online jobs, automatic matching assessing client profiles against the existing vacancies of employers, and a new algorithm called Jobnet, which compares the search behaviour of the specific job seeker with the search behaviour of similar profiles and generates suggestions out of this. The smart algorithm learns in various ways, what the job seeker is looking for. It finds vacancies that match the profile of a job seeker and takes into account the associated search terms and vacancies, but also other criteria, such as the willingness to commute. The vacancy dashboard also explains, why a vacancy seems to be a clear match with the profile of the job seeker and does not only offer it. The job seeker and the mediator, through the service line or in person, decide together whether a vacancy is suitable.

Good practice 3: Competence Based Matching

Employers and other partners on the Flemish labour market have given the feedback, that the challenge of providing matching systems could be better addressed by integrating skills and competences in the (automated) matching process. The main ambition for setting up a system for competence based matching thus was to develop an overview of the actual skills demand and by offering potential employee's skills independent from their official and certified qualifications.

Traditional PES matching, even if only "mentally", matches a vacancy with a job seeker holding a degree in that profession. This approach is strengthened because more and more occupations are defined, often under European pressure, by a (matching related) diploma. The matching and mediation based on competences, whether they are *expected*, *acquired* or *to be acquired,* on the other hand*,* enables finding affinities between professions since some of the same competences may be required in different professions. This means that jobseekers, without a certain diploma, or experience in a particular function, still have the potential to be or become the perfect fit an employer is looking for. A 70%, 80%, 90% match, combined with the right motivation, can be enough to be a suitable candidate for the job.

Indeed, employers can shape the candidate further for the job context through targeted vocational training and training on-the-job. This type of fine-grained matching based on competences has benefits for both jobseekers and employers. Employers will fish for candidates in a bigger pond because not having a certain diploma or particular experience does no longer exclude a candidate from a job. Combined with the right, targeted vocational training, the skills-gap can be addressed.
Moreover, PES can offer opportunities to NEET, to young people with a diploma that doesn't offer a good connection on the labour market, to refugees without a recognized vocational status and to 55+ people to whom acquired competences are more important than their outdated degree.
The competence-base matching system is shared with the PES in Malta which accesses the open platform of VDAB to match skills with vacancies on their labour market. (Leroy, 2017).

Regulation and cooperation with private and non-profit service providers

The Belgian Government requires only temporary work agencies to obtain a licence from the Ministry of Labour, based on the recommendation of the Economic and Social Council. Private employment agencies offering recruitment and selection services, outplacement, as well as placement of special professions like artists or athletes do not need a license, just a certification administered by the authorities of the respective region. The remaining obligations for private providers are to ensure the transparency and exchange of employment data (details on vacancy and updates of recruitment) and the proof of having used the online databases of the VDAB as well as having referred job seekers with training needs to the vocational training centres of VDAB.

Temporary work agencies are subject to prior authorisation by the Regional Government of Flanders and following the federal law for temporary work dating back to 1987. The main cases of temporary agency work permitted by law are for the replacement of a permanent employee, to meet the demands of a temporary increase in work or to ensure the execution of exceptional work tasks for which skills cannot be found quickly enough within the company or through common employment procedures. An agreement for temporary agency work is always presumed to be an employment contract, thus VDAB treats temp agencies as regular employers. In case of strike or company lock out it is prohibited to make use of temp work.

Based on the legislative push after the ILO Convention No. 181 in 2004 VDAB opted for a strategy of networking and collaboration with private providers following the belief that only a joint public, private and third sector effort in employment services (the beginning of the mentioned ecosystem, see section on policy and strategy) will add value on the labour market. The partnerships founded in this ecosystem under the coordination of VDAB as a conductor of the labour market aim to be versatile, dynamic, entrepreneurial, co-creative, durable and run by experts. In practice, this steering role means that VDAB entered into cooperation agreements with the private sector to ensure the efficient and transparent functioning of the labour market and increasingly developed into a support organisation for that market adopting a mix of "hands-off" and "hands-on" roles when it comes to contracting out services or delivering them in-house (Government of Flanders, 2004).

The services VDAB provides today are moreover complementary to the services provided by other intermediaries, and particular care is still given to safeguarding the provision of services

for those at highest risk in the labour market, i.e. vulnerable clients with multiple issues keeping them far from integration. For the benefit of the most vulnerable target groups, the VDAB collaborates with GTB, a specialized health mediation team that will guide those clients who need special help when there is a risk of long-term unemployment due to serious health-related limitations and limited professional performance. The management and service structure of GTB and VDAB are identical, so that the client will not notice at which stage he/she is serviced by which organization.

There are several other examples of larger frame collaboration with VDAB, such as with Federgon, the Belgian private employment services association comprising temporary work agencies, search and selection companies, private training providers and partners providing other related employment services. The partnership enables the common funding of activities, better exchange of vacancies, cooperation in the field of career guidance and training of jobseekers and employees, and the organisation of outplacement services. Common quality assurance systems have also been adopted by both VDAB and Federgon, which together certify services that correspond to these quality standards and set the performance targets for provider contracts (Struyven/Van Parys, 2016).

The VDAB also works closely with PES in other EU member states, for example through the EURES network, to fill structural bottleneck vacancies in Flanders with candidates from European countries, on the basis of their labour market surpluses. VDAB participates in cross-border and transnational activities such as job fairs, job dating and individual employment services. Specifically, it concerns engineering, ICT and nursing vacancies in Flanders, which are hard to fill domestically. But it also involves finding jobs abroad for (mostly young) Flemish job seekers. The VDAB has filled 1,055 vacancies through these services between 2012 and 2015 (European Commission, 2015).

V. Institutional capacity of VDAB

Staff strength and professional development

VDAB employs 5,105 staff members with a full time equivalent of 4,267.3. The overarching principle of VDAB's human resource policy is inclusion. In collaboration with Unia, the Belgian organisation for equal opportunities, VDAB is currently working on a new diversity framework, which will further give shape to this concept. Within VDAB the diversity manager will oversee this framework. Various focuses ensure that within VDAB special attention will be paid to the following groups/areas:

- Staff with occupational limitations or chronic conditions
- Staff with a migration background
- Age-conscious personnel policy
- LGTB
- Women in management positions

The VDAB is a female friendly environment. 72.52% of VDAB staff is female, 50% of the managerial positions are held by a woman exceeding the target of 40% female managers set by the Diversity Policy Unit.

The case load for VDAB offices on average is relatively high, between 1000 and 2000 clients in face-to-face contact per office comparable to PES's in the Czech Republic, Sweden, Slovenia and Austria. However with a shift of services towards digital self-service and support via hotline, direct case load deployments are becoming less relevant (IDB/WAPES/OECD, 2016).

A total of 3,602 (70.5%) VDAB staff members received training or took part in any other form of organised learning programme in 2017 engulfing the topics of client service, team work, human resources (how to conduct interviews, manage client files etc.), leadership, and digital skills. A total of 14,502 training days were recorded of which 2,396 were offered by external providers and 233 training days took place at VDAB's own competence centres. The majority of training days were completed through the "Online Learning Platform". VDAB offers personal coaching to its staff members. In 2017, 557 personal coaching interviews were conducted to support staff in their professional and private development.

Track 21 is the internal training management of VDAB. Their mission is to help VDAB employees and teams in developing the competences that are needed for realising VDAB's missions. Early in 2017, Track 21 assumed the coordination of the Online Learning Platform. A structural collaboration was set up between the departments for web service, labour market service and training service, which resulted in the professional use of the Online Learning Platform for the development of (digital) competences of employees. By the end of 2017 a new learning platform "Totara" was put into use, which is an online learning environment based on an open platform. That means that from now on all VDAB employees can find and take all courses at one location. The same applies to the employees of the partner organizations.

Track 21 also offers Google for Education (G4E), which are Google-based apps that can serve as a base for interconnected and transparent everyday-work at the PES. Staff are trained to use Gmail (for e-mail communication), Drive (for accessing and administering cloud content), Agenda (for scheduling), Documents (for joint drafting), Spreadsheets & Presentations (for preparing and presenting), Hang-out (for video communication) and the new app 'Classroom' (for virtual learning). G4E was widely integrated in vocational training at the training centres of VDAB and their partners. Besides, the app offers a possibility to give feedback and to easily communicate with the various groups of students. A total of 246 VDAB employees were trained in 2017. These efforts continued in 2018.

Apart from the available offer within Track 21, there are monthly sessions where knowledge can be shared and new programs or tools are tested, e.g. those coming out of the Innovation Lab (see Good practice 1). VDAB staff run the tests jointly with users from other professional domains, who are invited (VDAB, 2018).

Financial resources

VDAB's current budget amounts to approximately 800 million euros of which 344,278,670 EUR are invested into staff and other PES running costs, 62,861,330 EUR into direct recruitment (recruitment costs associated with service), €285,836,000 EUR into contracts with partners and 112,511,000 EUR into social allowances to clients. This allowances are not unemployment benefits, but support for training vouchers etc. (see annex for more details).

VDAB is mainly financed out of the tax and contribution budget of the Flemish Government and also through ESF subsidies. In addition, VDAB gets revenues that are directly linked to the services they provide as one of the biggest vocational training institutes in Flanders. VDAB gets, for example, paid by employers for providing training modules for those employees, who are not subsidized (see section on services) or gets revenues from the National Institute for Health and Disability Insurance for guidance service to job seekers reintegrating into the labour market, usually in a specific job post.

VI. Lessons Learned

In spite of being a regional, not a national PES, the VDAB is considered to be among the most innovative public providers in the world of PES. The lean management structure and VDAB's approach to invest in more intuitive matching techniques and involve the job seeker from the outset seems a good fit to meet the volatile and fast changing labour market of today.

Having tried and implemented several initiatives for engaging and servicing job seekers and employers, and other partners in an innovative way, the lessons learned from VDAB's experience focus on agile response and keeping open to change.

Lessons learned in agility

- Invest into active and consistent mediation to be able to respond to skills shortages.
- Look at trainings and further education that can close skills gaps.
- Recognize learning on the job as springboard to employment.
- Profile and advise every job seeker, also those which do not have a yet promising CV in order to reap on potential afterwards.
- Make use of temporary work experiences to help long term job seekers reconnect with the labour market.
- Position the advice and job placement capacity of the PES staff per sector in order to respond better to employers' demand.
- Keep the staff and the clients digitally agile.
- Access data on jobseekers also after they find a job, since this information would be useful to improve predictive modelling.
- Consider collecting data from text-mining in CV's.

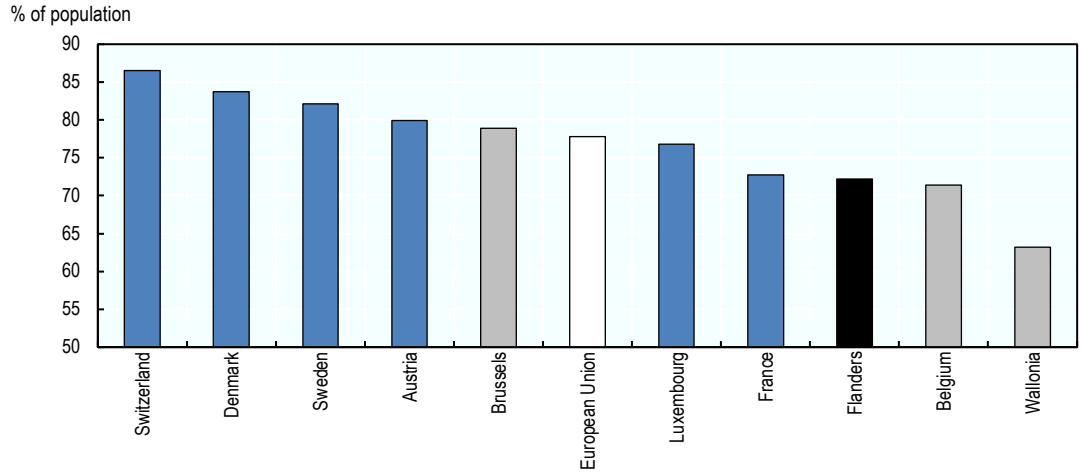
Lessons learned in keeping open to change

- Involve users in innovation thinking and run tests of new initiatives to test whether it meets clients' expectations.
- Understand innovation as a productive change management process of existing processes and services rather than as an activity that starts with "a blank sheet of paper" every time.
- Operate labs in a safe infrastructure with proper funding, proof of concept, and political support to working differently.
- Establish a "trial-and-error culture". Having the authority to fail is a good way to set up innovative environments .
- Do not take the PES for granted. Create scenarios of "what if the PES did not exist". That gives the opportunity to look at the organisation from scratch.
- Ensure that key staff of the PES are involved, and embracing the premise that senior managers will be the 'learners'. Creating an innovative 'community' helps to foster an adequate environment for the successful transfer of knowledge from a lab situation to the wider operational PES

VDAB continues to aspire in being the innovative network coordinator of the labour market in Flanders. The underlying rationale which VDAB believes in is that only network organisations will survive the disruptive tendencies that are manifest in today`s labour market.

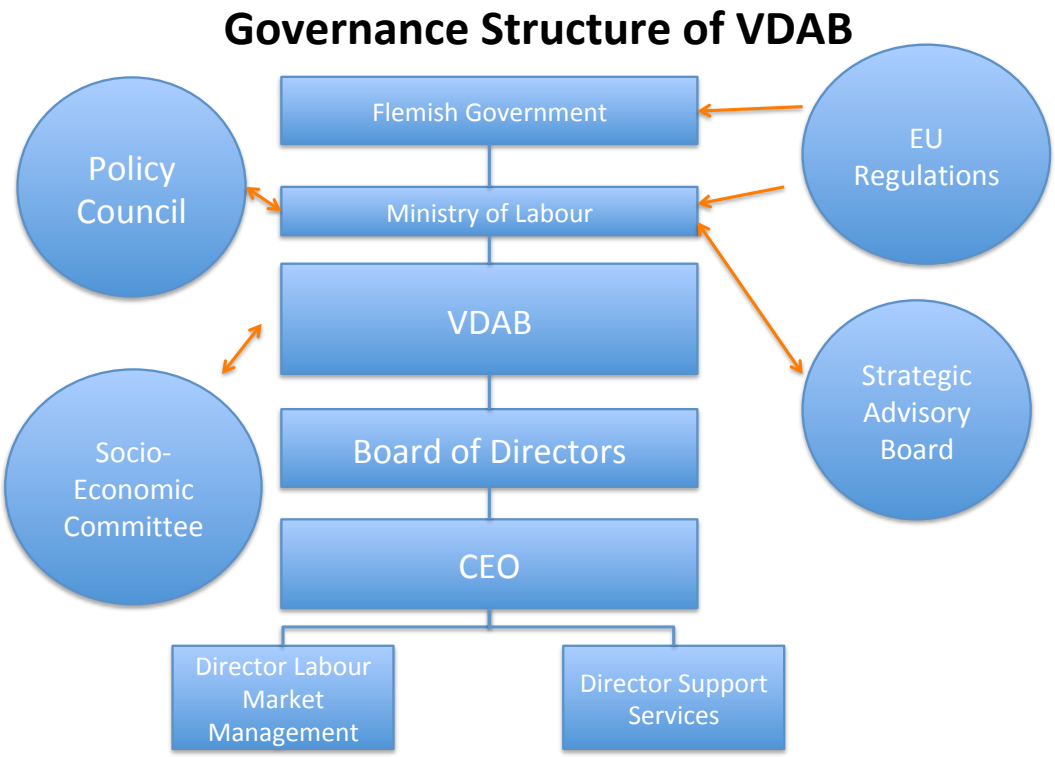
Annex

Figure 1: Economic activity rate, selection of countries, 15-64 year-olds, 2017



(Source: OECD (2017), *OECD Economic Surveys: Belgium*, OECD Publishing, Paris).

Figure 2: Governance Structure of VDAB



(Source: Based on conversations and material provided by VDAB HQ, Brussels).

Figure 3: Overview of Management Roles in the VDAB Innovation Lab

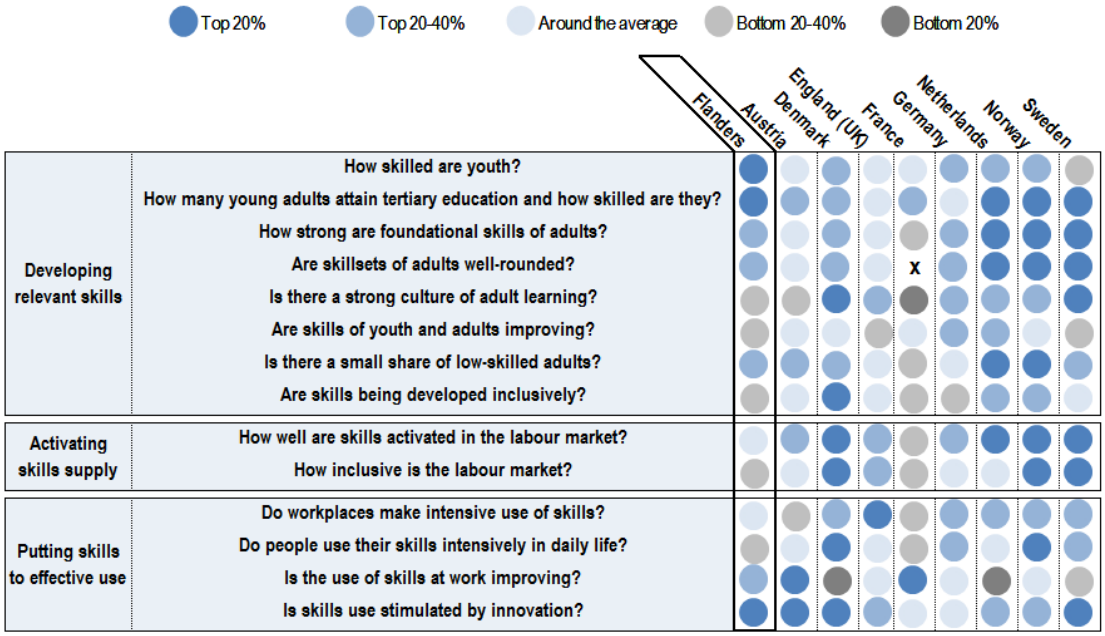
LAB MANAGER	SERVICE MANAGER	TRANSFORMATION MANAGER
• Make new people familiar with lab methodology • Be enthousiastic, creative, and tolerant for risk-taking • Coordination of the lab team (which will grow in the future) • Responsible for lab team dynamics, planning, relationships with suppliers • Make suggestions for improvement across the different products	• Run the platform (infrastructure + evolution of the products) • Know the products and services on the platform and how they can evolve	• Transform VDAB • Transfer products and culture from the lab to the entire VDAB organisation

(Source: ICF (2017) *The VDAB's Innovation Lab*, European Commission, Brussels).

Figure 4: Cover of the Book Work Action Heroes

(Source: Image provided by VDAB HQ, Brussels)

Figure 5: Skills Strategy Scoreboard, Flanders and selected European countries



(Source: OECD Centre for Skills (2018) *Skills Strategy Flanders*, Paris).

Figure 6: VDAB Budget for 2018 (Selected items in t EUR)

	In-house-Activities[29]	Operating Costs[30]	Third Parties[31]	Allowances[32]
Skills matching	18,147	3,012		
Job placement	59,802	1,529		210
Career guidance	88,023	5,080	76,041	80
Employer service	15,621	401		
Skills training	114,349	28,386	31,853	19,710
Workplace learning	351	102	250	20,062
Network coordination costs	9,882	7,874	3,686	

[29] Costs for VDAB staff and material
[30] Costs for service provision, e.g. training rooms, software
[31] Costs for outsourcing services
[32] Costs for financial help to clients other than benefits, e.g. training vouchers or in-work subsidies

"regisseur"				

(Source: Based on conversations and material provided by VDAB HQ, Brussels).

References

Department of Public Governance and the Chancellery (2017) *Flemish Reform Program 2018*, Brussels.
EQAVET (2016) Report of Belgium (Flanders) at https://www.eqavet.eu/Eqavet2017/media/Documents/2-BE-(FL)_Final-EQAVET-country-information-update.pdf
Eurofound (2018) *Working Life in Belgium* at https://www.eurofound.europa.eu/country/belgium#highlights-working-life-in-2017
European Commission (2017) *European Knowledge Centre* at http://ec.europa.eu/social/main.jsp?catId=1163&langId=en.
European Commission (2016) *EU Network of Public Employment Services Strategy to 2020 and beyond – Revised Strategy*, Brussels

European Commission (2015) *Trends and Developments in PES partnership working*, Brussels.
Government of Flanders (2004) *Coalition Agreement 2004-2009*, Colophon Brussels.
ICF (2017) *The VDAB's Innovation Lab*, European Commission, Brussels.
IDB/WAPES/OECD (2016) *World of Public Employment Services,* Washington.
Leroy, Fons (2017) "Competence-Based Matching: The Holy Grail?" in: *Managing Workforce Potential: A 20/20 Vision on the Future of Employment Services*. WCC Smart Search and Match, Utrecht.
Mobility Lab (2014): *Country Fiche Belgium*, European Job Mobility Laboratory, Brussels.

OECD Centre for Skills (2018) *Skills Strategy Flanders*, Paris.

OECD (2017), *OECD Economic Surveys: Belgium*, OECD Publishing, Paris.

Struyven, Ludo/ Van Parys, Liesbeth (2016) ***How to act?*** *Implementation and evolution of the PES conductor role: The Belgian PES in Flanders as a case study*, European Union, Brussels.

Vansina, Willem (2015) *Labour Market Studies in Flanders* at https://www.youtube.com/watch?v=NccOOy12ksk&feature=youtu.be&list=PLxKQ8HzwmHxJyWA6WPxsS3r_XmTmsF6Yx.

VDAB (2018) *Together Strong for Work: Key Figures 2017*, Brussels.

COMPONENT ONE

Key dates of the law for Vocational training in France and its influence on its evolution on the ground

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September 2018

FRANCE COUNTRY BRIEF
Key dates of the law for Vocational training in France
and its influence on its evolution on the ground

The key dates of the law of adult education in France

First definition in 1792, Condorcet in his report on the general organization of public education states what constitutes the first explicit definition of adult education: "We have observed that education should not abandon anybody when they leave school, that it must embrace all ages; and that there was none where it was no longer useful and possible to learn, and that this second instruction is all the more necessary, since that of childhood has been narrowed within narrower limits. "
1946: the right to vocational training is included for the first time, as is the right to social security, in the preamble to the Constitution of the Fourth Republic
1949: creation of the AFPA (Association for Adult Vocational Training) to participate in the reconstruction of the country after the Second World War.
Actually It is on November 9, 1946 that Ambroise Croizat by decree federates under the supervision of the Ministry of Labor, vocational training centers, prefiguring what will later become Afpa. The Afpa was created on January 11, 1949 under the name ANIFRMO (National Interprofessional Association for the rational training of manpower) It's role was then to train adults quickly to bring them to a first level of qualification in construction and metallurgy. In 1966 the organization changed its name to Afpa.
January 2017 Afpa changes status and becomes EPIC – Public body in the Industrial and Trade sectors.

Afpa : National agency for adult vocational Training
Afpa, the leading vocational training organization for professional integration and skills development, assists job seekers and those already in employment throughout their professionnel lives to enable their access to long –term employment via certified training courses.
Afpa facts and Figures (2016)

- 1 billon € as operating budget (845M€ public revenue + 155 M€ private revenue) and 100 M€ of annual investment
- 7.500 employees
- 300 OOO guidance services
- 151 000 admissions
- 65 million training hours
- Success rate : 81% of trainees have been awarded certificates at the end of their training
- Employment rate: 69% of trainees find a job within 6 months after their training.
- 113 Vocational centers all over France.

AFPA has a Comprehensive expertise and quality approach
. Afpa a true generalist, brings a broad range of skills for employment, including services such as guidance, qualification, certification, assistance, training course design and advice.
. Afpa has seven Research Departments (Construction sector/Industry sector/services sector/ Distance learning/Resource Center for persons with disability/Vocational Guidance/ Training

for Trainers) dedicated to analysing the employment market as well as the management of career changes, skills and training standards according to the evolutions of various professional sectors.
. Afpa mobilises a range of partners both nationally and internationally.
. It presents a vast internal network of professional who covers all sectors of activity.

AFPA European and international teams develop Afpa's vocational training activities and expertise in many European countries and throughout the world.
They supply services in all their skill sectors, focusing on four main areas:

- Assistance to entreprises in all regions of the world
- Bilateral agreements mainly in Mediterranean basin countries (manpower agreements in Morocco and in Tunisia) and in Central and Eastern Europe.
- Participation in invitations to tender and institutional twinning agreements.
- European programmes

- Within this scope, Afpa is associated with other players contributing to a strategy of exchange programmes, joint actions and the pooling of potentials
- Afpa is a member of :
- GIP Inter (Development of Technical Assistance and International Co-operation) which brings together the services of the Ministry of employment and Work as well as other organizations entrusted with employment and vocational training.
- The European Vocational Training Association (EVTA), which brings together the public bodies charged with vocational training in the different countries in the European Union.
- Afpa's other European and International Partners: Ministries (Employment, Foreign Affairs, Industry, Commerce, etc..); entreprises, consulting firms, training bodies, Professional branches, social partners, universities, research and study centers.

- The European and international teams design, develop and implement a range of services for the benefit of their international client according to their specific needs.
- They carry out the following actions :
    - analysis of local policies and strategies in the employment and vocational taining sector.
    - analysis of needs of entreprises regarding the qualification and training of their personnel.
    - design, preparation and implementation of pedagogical products adapted to the public targeted.
    - selection and training of trainers and tutors
    - Technical assistance and sectoral training
    - Training of foreign nationals in Afpa centers
    - Guidance/Recruitment Afpa offers its assistance to the analysis of the industry catchment areas, the knowledge of the public targeted and job profiles, the organisation of recruitment and the implementation of the appropriate courses. Under an international project, Afpa proceeds with a skills assessment of the personal recruited.

Recent Achievement: Study of the local context, design of interview and recruitment guides for trainees appropriate for job profiles, on behalf of OGER international and Saudi OGER in Saudi Arabia.

- Validation /Certification Afpa develops accreditation of prior learning to enable people with experience, but without qualifications to gain recognition for the skills they have acquired during their professional life.

Recent Achievement: Adaptation of an APL scheme in Russia on behalf of GIP Inter.
Training of Trainers

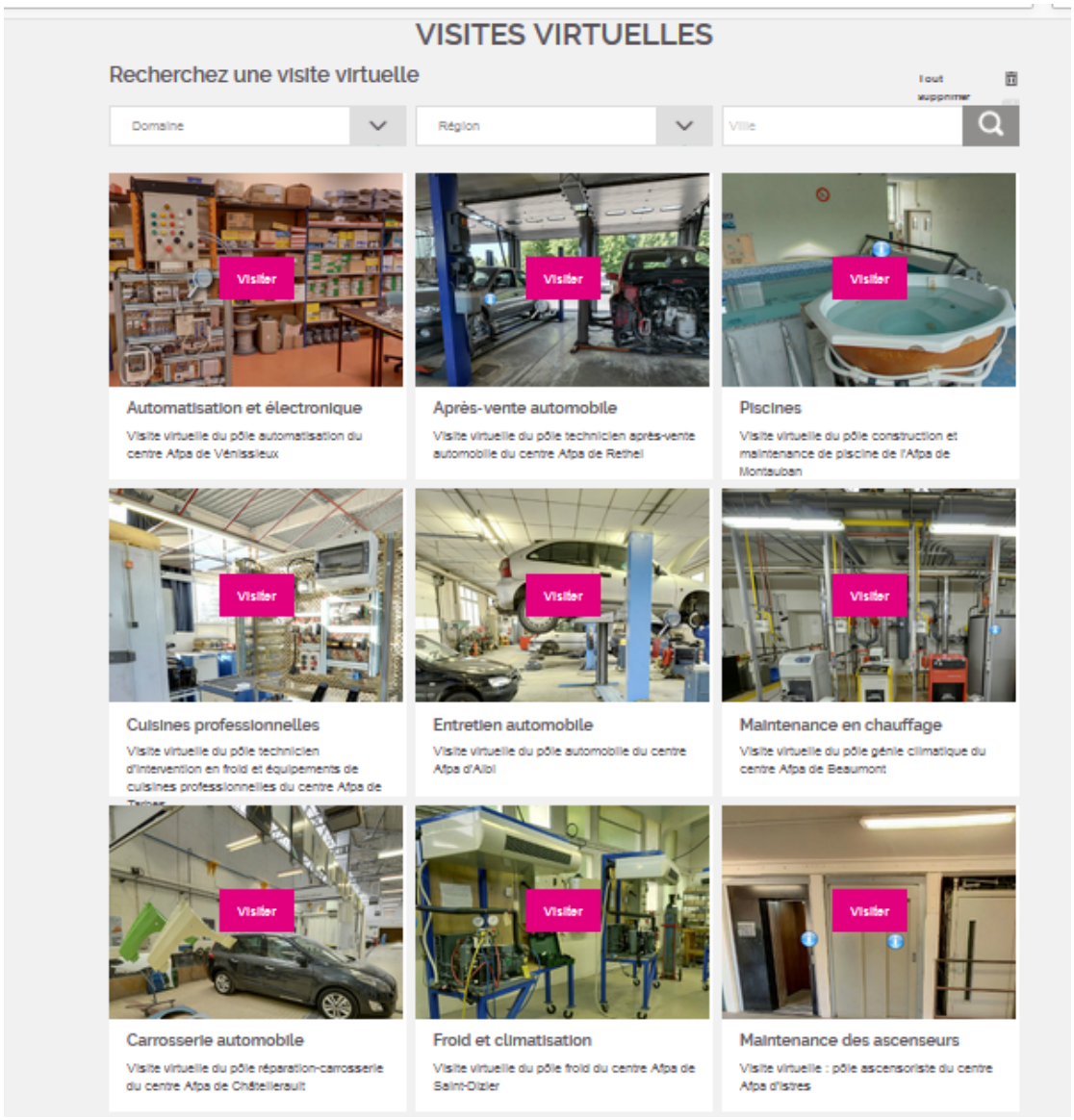
- Afpa supplies specific training courses to qualify local actors of vocational training. Under an international project, the trainers, trained on site or at Afpa centers, must eventually act in relay with French contributors to the benefit of the local production sytem.

. Sectorial Training
. Afpa offers certified training courses in more than 300 professions in the construction, industry and services sector, from skilled operator to senior technician level
Recent Achievement : Assistance in the establishment of a PSA Peugeot-Citroen production unit at Trnava in Slovakia

- Training course Design/Expertise

- After analysing the environment and the employment profiles, Afpa experts design and implement tailor-made training programmes.

Recent Achievement : Assitance in the recruitment and training of heavy plant drivers for AREVA in Niger.
You want to know more: Visit our virtual training center
https://www.afpa.fr/visites-virtuelles



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September 2018

COMPONENT ONE

Vocational Training, Labour Market and Population Mobility: some hints on the Italian Case

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September 2018

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Italy Country Brief

Vocational Training, Labour Market and Population Mobility: some hints on the Italian Case[33]

0.The structure and contents of the document

The structure and contents of this *Italy Country Brief* (ICB) are the following:

- The first paragraph will present the recent (approximately last 10 years) main population mobility trends with reference to "mobility for work";
- The second paragraph will summarize the last 10-15 years dynamics in labour market development;
- The third paragraph will describe the actual structure, dimension and main challenges of Vocational Training System (VT);
- Finally, in the last paragraph, the role of Vocational Training System with regard to population "mobility for work" will be described and briefly discussed.

1.Population recent (internal) mobility trends in Italy

Only population mobility trends *internal* to Italy will be considered in this paragraph[34] and, more specifically, the focus will be on labour mobility.

Internal migrations in Italy became quantitatively relevant during the Fascist Regime (1925-1945): the main reason for these migrations (from rural to urban areas) was the existence of important economic territorial differentials within Italy (Dan and Fornasin, 2013). After the end of the Second World War, internal migrations increased especially involving the rural population of Southern Italy and Veneto Region (a region in North-east Italy). This population was attracted by the industrial cities of North-West Italy (e.g. Milan, Turin, Genoa) but also Rome and the big cities of Southern Italy were typical destinations. Internal migrations reached their peak in Mid-60s': at the end of 60s', migrations from Veneto Region ended while those from Southern Italy and the main islands (Sicily and Sardinia) continued but with a lesser intensity. During the so-called 1973-1974 Oil-Crisis, migrations reduced and returning mobility developed; at the same time, in the 80s', also small-medium size cities became destinations for internal migrations. In all those years, "regional migrations and urbanisation processes have gone together with migrations between minor cities and countryside as well as between mountains and plain territories. ….. Long and short range movements called for a distinction between migrations (long range) and mobility (short range). Movements depended on many causes but they were mostly related to labour market or to the 'marriage market'" (cit., pp. 3-4).

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[34] For intra-EU labour mobility in EU see: European Commission, 2017 *Annual Report on Intra-EU labour mobility*, final report, January 2018, EC Publications (data refers to 2016). The key-results of the analysis (focusing on Italy) are the following (p. 25): a) Germany and the UK remain by far the main destination countries hosting almost 50% of all movers and their number of EU-28 movers was growing faster than EU average compared to 2015; while the other three main countries of residence (Italy, Spain and France) only saw small growth of the number of movers; b) Italian, Polish, Romanian and Portuguese are the main groups of movers; each of these groups has become larger since 2015 with the exception of Portuguese whose numbers remained the same; c) at EU level half of the movers are men and the other half are women; in most EU-13 countries, there were more male than female movers; only Greece and Italy have high shares of female movers where they made up about two thirds.

In the 90s', South to North migration increased again becoming quantitatively relevant but without reaching the levels of the previous decades[35] (*Ibid.)*. The dominant destinations were North-East and Central Italy whit a prominent role of Lombardy, Veneto, Emilia-Romagna, Tuscany and Umbria Regions. In general, recent internal migrations, "because of the relevant social and economic changes occurred in Italy, progressively became shorter in terms of both distances and durations" (cit., p. 4). Nevertheless, South-North flow is absolutely the distinguishing feature of recent internal migration in Italy. In fact, "between 1990 and 2009, about 2,385,000 individuals from the South have migrated in the North of Italy. Italy is a country where there has been a long history of immigration; but in recent years there has been a considerable influx of high skilled migrants from the South to the North of Italy. According to Mocetti and Porello (2010a), between 2000 and 2005 the net loss of graduates in the Southern regions, in terms of transfers to the North-Centre, amounted to 50,000 units against 20,000 units for the entire period of the 1990s" (Celi and Testa, 2016a). The analysis of this trend on the basis of the relationship between "how the upgrading effect of international trade on skill composition of the employed labour force works in Italy and how this process affects internal mobility …. suggests that while the decision of migrating for old people is significantly affected by personal and family safety, the decision of emigration for young people is affected by more dynamic and productive context. Furthermore, the estimates show that export capacity and unemployment rate differential affect significantly the decision of migrating of graduate people, suggesting that graduate people move in search for higher productive and dynamic context" (*Ibid.*).

Therefore (Mocetti and Porello, 2010, p. 1), with reference to the recent South to North internal migrations, "the distinguishing element in the last decade is the increase of Southern Italy migrants with high level of formal (educational) qualification". In general, as partially already underlined, "migration from Southern regions is pulled by the better employment chances existing in Northern regions. This is a clear effect of the persistent difficulties, lack of employment opportunities and delay in development of this area in comparison to the others. In addition, the [South-North] migration upswing of the late 90s' might be due to the diminution of employment in the public sector together with the reduction of houses' prices between the two areas of Italy. In the first decade of 2000, on the opposite, the relevant increase of houses' prices in North and Central Italy counted for about 1/3 of migrations' slowdown" (cit., p. 33). In addition, in the recent years, "the diffusion of fixed-term contracts, mostly involving young entering labour markets for the first time, dissuaded - at least in the short period – permanent transfers in favour of temporary ones (…). Also immigration [from abroad] had an impact on Italians' migration choices: in fact, it had a positive influence on universities' graduates moving while had a negative influence on less qualified people" (cit., p. 33). It is quite evident from what has just been presented that the Vocational Training System (but neither the education system as a whole) is never mentioned as one relevant factor for internal migration or mobility. This is also confirmed by Celi e Testa (2016b, pp. 4-5) whose reconstruction of the "alternative explanations of the existence of inter-regional migration" include many factors but none of them directly referred to vocational training (or education) except for the "migrants' higher level of education" (mentioned factors are the

[35] It is estimated that during 50s-60s' about 4 million people moved from Southern to Northern Italy (Italian population was about 47 million in 1950, 50 million in 1960, 53.6 million in 1970, 56.3 million in 1980 and 1990, 57.6 million in 2000, 59.1 million in 2010: in 2018 it is about 60.4 million.

following: household support and government transfers; differences in housing prices; institutional and environmental factors – such as "to live in cities where the environment is overall more amenable, living and working conditions are better, and professional and social opportunities more interesting", cit., p. 5; the impact of foreign immigrant flows on natives' migration – where "the prevalence of immigrants in parts of the North of Italy induces a higher demand for highly educated migrants, while it depresses the labour demand for unskilled migrants", cit., p. 5).

The South-North migrations involving – as just evidenced – mostly young with medium-high qualifications (that is with upper secondary or tertiary, academic or non-academic, qualifications) depletes Southern regions human capital (Svimez, 2017 e 2018). In the last 16 years, "1,833,000 residents left Southern regions", 50% of them between 15 and 34 years-old, almost 20% with an academic degree: 85% of them moved in other areas of Italy and only 15% went abroad (Svimez, 2018, p. 29): "almost 800,000 of them did not return in Southern regions anymore". The migrants moving from South to North-Centre of Italy are – as confirmed also by very recent data (Svimez, 2018, p. 30) – "for the largest share in working age: those between 25-29 years old and between 30-34 years old presents, in 2016, a negative balance of – respectively – 13,000 and 10,000 units. The increase of migrants with high qualifications involves all the Southern regions [….]: the rate of academic graduates moving to North-Centre is always higher than 27% of the total migrants. Finally, the employed formally residents in Southern regions but working in North-Centre regions or abroad increased by 19.1% in 2016, therefore explaining about ¼ of the total increase of employed in Southern Italy"[36]. Focusing on academic graduates and considering the average per-capita cost of a tertiary level course (about 130,000 Euro in accordance to OCSE: Svimez, 2017, p. 29), the "loss of human capital in Southern regions [due to migrations] corresponds to approximately 30 Billions of Euro (which may increase up to 40 Billion including all the regionalized per-capita public expense)" (cit., p. 30). These figures do not consider people officially living in Southern regions but permanently living in Northern Italy (long-range commuters, more than 50,000 graduates in 2016); do not consider that, differently from the past, there are no financial resources going back as remittance (because very frequently Southern families use their own funding for supporting young graduates to live in the expensive Northern cities); do not consider "the indirect effects of loss for South and benefits for North-Centre in terms of competitiveness and productivity due to qualified labour force mobility" (cit., p. 31); finally, they do not consider "young [Southern] with upper secondary education qualifications who move to North-Centre universities and are likely to remain [in North-Centre areas] after benefitting from upper secondary education costs in Southern Italy[37]" (*Ibid.*). In addition (Svimez 2018, p. 19) "the intellectual migrations from South [to North] produces net benefits for North-Centre regions. The graduates' migration causes a net loss of public expenditure in education of about 2 Billion Euros per-year; the value of public and private consumptions generated by students' immigration in North-Centre regions is about 3 Billion Euros per year (with a corresponding loss for Southern regions)".

[36] For an estimate of the short-term economic effects of graduates' migration from South to North-Centre see also: Colella F., *Analisi di impatto locale dell'emigrazione studentesca*, 2018, under publication in *Rivista Economica del Mezzogiorno* (edited by SVIMEZ).

[37] In 2016/2017 academic year about 26,000 Southern students newly enrolled in universities out of a total of 108,000 chose to enrol in a North-Centre Italy university.

Finally, the Italian National Institute of Statistics (ISTAT) forecasts for the next 50 years envisage a relevant reduction of the population in Italy, more accentuated in Southern regions (5 million people less) than in the rest of the Country (one million less) (Svimez, 2018, p. 28). In addition, there will probably be a "relevant spatial re-distribution of the existing population in favour of North-Centre Regions. Southern regions will lose an important share of its … 15-64 years old population (-5,278,000 individuals) as a consequence of a persistent migration-related loss" (*Ibid.*).

2.Labour market recent trends in Italy

According to the National Institute of Statistics (ISTAT) most recent data on Italian labour market (ISTAT, 2018), "the first quarter of 2018 was characterised by stationary employment compared to the last three months of 2017, in an overall panorama of increasing unemployment and decreasing inactivity" (cit., p. 1). Other relevant elements – basically referred to the first quarter of 2018 - are the following (*Ibid.*):

- employment remained substantially stable compared to the previous quarter, due to the further increase in fixed-term employees (+69 thousand, +2.4%) and the corresponding decrease in both permanent employees (-23 thousand, -0.2%) and self-employed (-37 thousand, -0.7%). The employment rate remained broadly unchanged at 58.2%, too;
- the dynamics over the last year show an increase by 147 thousand employees (+0.6% in one year), limited to fixed-term employees (+385 thousand) against a decline of those on permanent contracts and the self-employed;
- the growth of employment and the related rate for young people aged 15-34 continued, on both the quarterly and yearly bases. The increase in employment, spread across genders and geographical areas, was more intense for women and in the South and Islands area;
- the unemployment rate increased slightly compared to the previous quarter and decreased compared to the previous year, while the rate of inactivity declined moderately in both cases. For the fourth consecutive quarter (that is since one year), the decrease in the number of unemployed continued (-135 thousand in one year, -4.3%). It affected both genders and in about nine cases out of ten young people aged 15-34;
- in the flow data the passage towards employment increased only towards fixed-term work; the increase concerned above all the people with high educational attainment and the residents in the South and Islands area;
- on the business side, the signs of short-term growth in labour demand were confirmed, with increases in employee jobs by 0.8% compared to the previous quarter and 3.3% on an annual basis, as a result of growth in both industry and services. However, the increase in the number of jobs was associated with a decrease in hours worked per employee on a quarter over quarter basis (-0.5%), while these remained unchanged on an annual basis.

Other important figures for describing the actual situation of labour market in Italy are (ISTAT, cit., p. 2):

- employment estimated with the Labour Force Survey, equal to about 23 million people net of seasonal effects, was substantially stable compared to the previous quarter (+9

thousand); growth in the North (+0.1%) and in the South and the Islands (+0.2%) was offset by the decrease in the Centre (-0.3%);
- the employment rate was – as already underlined - stable at 58.2% with a growth for 15-34 year olds (+0.3 points) and 50-64 year olds (+0.1 points) and the decline for 35-49 year olds (-0.2 points);
- the short-term stability of the number of employees was the result of a further increase in fixed-term employees (+69 thousand, 2.4%) against a drop in permanent employees (-23 thousand, -0.2%) and self-employment (-37 thousand, -0.7%).
- in industrial and service enterprises the employee jobs increased by 0.8% on a quarter over quarter basis and by 3.3% on a year on year basis; the number of hours worked rose by 0.9% compared to the previous quarter and by 4.1% compared to the same quarter of the previous year.

Assuming the frequent mention that has been made in the first paragraph to the migration (or mobility) of people – especially young – with high formal qualifications, it is worth evidencing here that (according to the longitudinal data from the Labour Force Survey: ISTAT, cit., p. 3) "the probability of exiting from employment increased as the level of education decreased (it was 4.6% for university graduates, 5.8% for secondary school graduates, and 8.1% for people with compulsory schooling). The type of contract obviously affected the chances of exiting from employment: 18.1% of people with a fixed-term employment contract lost their jobs after one year, with about 4 times higher odds than those with permanent contract and the self-employed. Higher education degree confirmed to be a protective factor for all types of contracts, but particularly for more stable employment; among employees on permanent contracts, the probability of losing their jobs was 2.5 times higher for those with only compulsory schooling than for university graduates (7.0% against 2.8%), and twice as much among the self-employed (6.0% against 3.0%)".

A longer-term backward analysis on Italian labour market recent dynamics (OECD, 2018) highlights the following points on its "trends and prospects". The first one is that "the labour market situation in Italy has improved over the past years but at a slower pace than in other OECD countries. Employment in Italy, as a share of the population aged 15-74 years, has increased by more than 2.3 percentage points since the crisis trough in 2013 and, at 50.9%, it is almost back to its pre-crisis level (51%)". Therefore, as a second point, "the unemployment rate in Italy has been decreasing but at 11.2% in April 2018 it remains the third highest among OECD countries and 4.6 percentage points above its 2008 level". Finally, "real wage growth has been negative since 2016. [….] Stagnant productivity growth as well as a significant share of workers in low-paid, involuntary part-time jobs is one of the key factors behind the adverse wage developments in Italy". This last point is linked to "job quality and labour market inclusiveness" issues with (OECD, cit.) "Italian labour market [performing] below the OECD average in all key indicators of job quality and inclusiveness, except earnings quality[38] in which Italy is above the average". Therefore, "given the poor performance in terms of unemployment and the significant incidence of short-term contracts, the degree of labour market security of Italian workers is the fourth lowest in the OECD, after Greece, Spain and

[38] That is "gross hourly earnings in USD adjusted for inequality by giving more weight to the lower end of the earnings distribution" (OECD, 2018).

Turkey". In addition, also as a consequence of the long and severe economic crisis, "poverty has increased: 13.6% of working-age persons live in households with less than 50% of the median income, up from 10.7% in 2006" as well as "the employment gap for disadvantaged groups, such as mothers with children, youth, older workers, non-natives, and persons with partial disabilities". This gap is the "fourth highest among OECD countries but it has slightly decreased over the last decade. The gender labour income gap is also above the OECD average". Finally, moving to unemployment benefits (particularly relevant for a Country with a high unemployment rate), "in 2016 less than one in ten unemployed was receiving unemployment benefits in Italy, one the lowest coverage rate in the European Union as a result of high long-term unemployment and low maximum potential duration of benefits. The coverage rate is expected to increase following the reforms to the system of unemployment benefits entered in force in 2015".

Focusing in mostly *qualitative* terms on Italian labour market performance in the last 15 years (Marino and Nunziata, 2017), three relevant issues emerge. The first one is the "pronounced differences across age groups: young individuals are facing high unemployment and low participation rates while older individuals have seen their participation and employment level increase" (cit., p. 1). The second one, strongly linked to internal migrations, is that "regional differences are still significant, as shown by a more dynamic North and a stagnant South" (*Ibid.*). Finally, the third one is that "undeclared employment is high, especially in the South" (*Ibid.*). An overall balance of the strengths and weaknesses of Italian labour market, comparing the before-after "double-dip recession" situations[39], may be summarized as follows (*Ibid.*):

- as for strengths: after a significant increase during the double-dip recession (2008-2013), both average and long-term unemployment began to decrease since 2014; job vacancies have increased after the 2009 relevant drop; female labour market participation is, although slowly, increasing; 55-64 yy.oo. workers' labour market participation increased substantially; real earnings have increased (but without a corresponding increase in productivity);
- as for weaknesses: unemployment remains higher than pre-crisis level; Southern regions continue to lag behind the rest of the Italian regions in all labour market aggregates; female labour market participation is low, especially in Southern regions; a huge increase of youth unemployment since 2008 without a corresponding decrease since 2014; a reduction, since 2000, of 15-24 yy.oo. labour market participation.

Differences in unemployment by regions has been mentioned as a structural criticality of Italian labour market constantly influencing internal migrations. On this point, "the differences between unemployment rates across regions did not change much, in relative terms, after the crisis (….). Southern regions have always been characterized by much higher levels of unemployment than the North, typically three to four times higher in pre-crisis years, while smaller differences existed between Central and Northern regions. At the end of 2007, the unemployment rate in the south was slightly more than three times higher than in the north, at 11.1% and 3.5% respectively. The double-dip recession slightly reduced this gap, starting a slow and ongoing convergence process; Southern unemployment is currently about 2.5

[39] The first recession lasted from March 2008 to May 2009 and the second one from June 2011 to April 2013.

times higher than in the North. Unfortunately this convergence seems to be a result of poor performance by Northern regions rather than improvement by Southern regions" (cit., pp. 7-8).

As above shortly mentioned, "Italy undertook a major reform of the labour market in 2014-2015" whose name is *Jobs Act* (Law 183/2014: EC, 2017). Although the *Jobs Act* will probably be amended in the next months by the new Italian Government (who entered in office last June), it is useful here to shortly present the main results of a recent analysis of the key changes introduced by the reform as for employment protection, passive and active labour market policies (EC, cit., pp. 34-35). A first area of changes concerns "measures [which] are expected to reduce segmentation and its alleged negative impact on the economy ". With this aim, "the Jobs Act has contributed to bring Italian labour market institutions more closely into line with international benchmarks and with the principles of *flexicurity*": in addition, "employment protection legislation for (new) permanent contracts is now aligned with that of major European partners, although it remains more restrictive than the OECD average, and the use of 'atypical' contracts, which are characterised by very weak employment protection and very low social benefits, is restricted". A second area of changes regards the "focus of passive policies" which "has shifted significantly from job to worker protection: [….] unemployment insurance was made more generous and extended in coverage, which enhances the fairness of the system". A third area of modifications involves active labour market policies whose "planned strengthening" is expected to "help reducing moral hazard issues in passive policies and improve job matching, in turn helping efficient matching and reducing structural unemployment". The combination of these three *blocks of changes* makes the Jobs Act "an important step towards addressing Italy's long-standing productivity sluggishness, and enhancing the ability of the Italian economy to withstand external shocks and adjust to the challenges of the ever-changing global economy". Nevertheless, "the impact of the overall reform on productivity is expected to materialise in the longer term" and it is also depending on "flanking measures in other areas [which] are necessary to compound the effect and deliver the entire potential impact of these measures" (where "the reform of ALMPs" is indicated as probably the most important among these *flanking measures* together with the increase of public administrations effectiveness and of justice system functioning). In addition, "looking forward", at least three relevant "policy gaps" remain (*Ibid.*): "in the medium term, the new employment protection legislation, which currently applies to new hires only, could be more effective if extended to existing permanent contracts (to the extent possible)"; "a more comprehensive approach is needed to increase female labour market participation"; "the framework for collective bargaining needs to be strengthen, to cater for local differences in productivity developments [….]" (in 2016 only some 20% of firms were covered by firm or territorial-level contracts).

3.Structure, dimension and challenges of the Vocational Training System in Italy

In Italy (INAPP, 2016, p. 16-17), "all young people have the right/duty (*Diritto/dovere*) (Law 53/2003) to pursue their education and training for at least 12 years before reaching age 18 and should not leave education and training without a qualification. Compulsory education lasts 10 years, up to 16, and includes the first two years of upper secondary general education or VET[40]. Young people complete lower secondary education at age 14. At this stage, learners sit a state exam to acquire a certificate (EQF level 1) which grants admission to the upper

[40] Please note here the use of acronym VET (Vocational Education and Training) and not VT (Vocational Training) like in the paragraph's title (see below for the implications of this difference).

secondary level where young people have the opportunity to choose between general education and VET. At upper secondary level, young people may opt for:
(a) five-year programmes which include the two last years of compulsory education and three years (under the right/duty of education and training) in: (i) high schools (*licei*). These provide general education programmes at upper secondary level; (ii) technical schools; (iii) vocational schools. […] The qualifications awarded after successful completion of high school, technical and vocational school are at EQF level 4 and a state leaving exam at the end of them gives access to higher education;
(b) Regional [Education and] Vocational training courses (IeFP) (3 or 4 years - EQF 3 or 4 respectively);
(c) an apprenticeship-type scheme (EQF 3 or 4).
At post-secondary level, the Italian system features higher technical training (IFTS, ITS) and short programmes or courses (post-leFP and others). VET courses also exist at higher education level. Tertiary education (ISCED levels 665, 667, 766, 767, 768, 864) is divided into higher education programmes at the university and higher education programmes at non-university institutions. Italian VET also offers adult education and Continuing Vocational Training (CVT)".

For the purposes of this report it is important to highlight that (INAPP, cit., p. 17) "in Italy, the expression *Vocational Education and Training* is reserved for specific programmes primarily under the remit of the regions and autonomous provinces" (the literal translation of the Italian commonly used expression would be *Vocational Training*, without mentioning the word Education). Differently, "from a European perspective the term 'education and training' comprises all types and levels of general and education and vocational education and training (VET). Irrespective of the provider or governance scheme, VET can take place at secondary, post-secondary or tertiary level in formal education and training or non-formal settings including active labour market measures. VET addresses young people and adults and can be school-based, company-based or combine school and company-based learning (apprenticeships). Therefore, the term VET also covers the technical and vocational schools". Being this report's focus on Italy, the *Vocational Training System* of our interest will not include general adult education as well as technical and vocational upper secondary education. This assumption implies including in *Vocational Training* a very limited number of young (mostly unemployed) and, on the opposite, a quite relevant number of adult (mostly employed and attending *Continuous Vocational Training*, CVT). In quantitative terms (INAPP, cit.; ISFOL, 2016; INAPP, 2018A; INAPP, 2018B):

- students enrolled in regional initial VET courses are about 322,000 out of 2,700,000 total students in upper secondary education (of whom: 870,000 in technical education and 550,000 in vocational education)[41];
- apprentices are 410,000 (2016) but only 150,000 of them attend formal training external to companies (and 95% of the total apprentices has a contract aimed at achieving an occupational qualification and not an education/VET/academic qualification or degree);

[41] Should also technical and vocational upper secondary education included in Vocational Training, Italy would score "highly compared with the EU average for participation in IVET: the share of IVET students as a percentage all upper secondary students is higher (55.8%) than the EU average (47.3%) The share of upper secondary IVET with direct access to tertiary education (80.7%) is also well above the EU average (66.7%) (data for 2015)" (Cedefop, 2017).

- about 7,000 students are enrolled in non-academic tertiary level courses (INDIRE, 2017) compared to 1,700,000 students enrolled in universities (ISTAT, 2017);
- almost 4 Millions of employees belonging to companies with at least 10 employees participated in training organized by companies (CVT) in 2015[42] to improve, update or develop new skills or competences. In the same year (ANPAL 2018, p. 19 and foll.), training companies with at least 10 employees were about 116.000 out of a total of approximately 190.000. Since 2010, the share of companies with at least 10 employees which benefitted of training increased from 55.6% (2010) to 60.2% (2015). The same indicator was 15% in 1993, 23,9% in 1999 and 32,2% in 2005[43].

Actual challenges and key-issues for the Vocational Training System in Italy must be presented separately for initial and continuous training: such a separation allows also a better understanding of the relationship between vocational training and internal mobility for work.

Starting from initial vocational training (at both upper secondary and tertiary level), the system has undergone a considerable number of reforms since its creation. This has become even more apparent over the last two decades, during which the EU and the internal social demand exerted a growing pressure to modernise the system and take into account the changes that are currently affecting advanced economies. Yet the system's changes seem to be more concerned with internal factors inherent to its history (the concurrence between the State and the regional level in providing VET, the perceived second-rate status *affecting* the system in comparison with education, the reduction of funding affecting it in recent years) rather than to the occupational and economic contexts the system has to interact with (the non-academic tertiary level supply is partly an exception but its dimension, as already mentioned, is absolutely small. If the regional initial VET system continues in the next years along its current trajectory, the most likely outcomes will be the following: a system concentrated (in terms of students) in some areas of Italy, mostly involving those around the age of 18 and whose growth in terms of participants will be possible only in the post-secondary segment; with a high level of instability and poor institutionalisation because of its lacking of continuous and long-term funding. A different path could lead to a system, regionally-based, mostly structured in a dual scheme (although with Italian features) in which the cooperation with companies and other organisations may offer employment opportunities to young people who prefer not to enter upper secondary education or university programmes. This second path might be qualified through the improvement of training/learning standards, service and delivery standards, repositories and inventories that would lead to an increased qualitative level of programmes where the vertical integration within the different regional training programs would mean, for students, the possibility to go through vocational and locally rooted training paths which start with the three-year certificate programmes, continue with the one-year diploma and end up with post-secondary High/Higher Technical programmes (Cedefop, 2018A).

[42] Last year available.

[43] Cedefop counted about 1,600,000 recipients involved in CVT in 2012 and the Ministry of Labour and Social Policies estimated 2,500,000 people 15-64 y.o. involved in adult training *and* education (also adult education was therefore included). Focusing on *employees non-formal learning participation* - a category which largely correspond to CVET in Italy - the involvement rate was 4.3% in 2007, 4.8% in 2010, 6.4% in 2015 (after a 7.5% peak in 2014: Ministry of Labour and SSPP, 2017, p. 14).

Moving to CVT (ANPAL, 2018, p. 19), the above presented figures show that in-company training is expanding in Italy, especially in the last decade, actually involving more than half of Italian companies. Nonetheless, the incidence of, and participation in, employer-sponsored training – derived from the 2010 CVTS data[44] – still stand below the EU averages (Cedefop, 2017). In 2010, 36% of employees participated in CVT courses compared with 38% in the EU, and 56% of employers reported providing training compared with the EU average of 66%. Differences in employee participation in on-the-job training are more pronounced: 11% for Italy compared with 20% for the EU as a whole. The percentage of individuals who wanted to train, but did not do so is also relatively large in Italy (17.8%) compared with the EU (9.5% in 2011). Training participation is strongly dependent of company's size but even if smaller companies are traditionally less prone to invest in training, it is among them that the number of training companies increased most (ANPAL, cit., p. 19). CVT Survey longitudinal data show a huge increase of employees' participation in company-based training but the ranking of Italy - 22nd in Europe for the rate of companies offering training out of the total companies' number - is affected not only by the very high number of micro and small active companies (a really distinctive features of Italian economic structure) but also by the low tendency in using training models different from ordinary courses (which, again, implies attendance problems for micro and small companies employees). An important point (Cedefop, *under publication*, p. 4[45]) is that, in relation to Vocational Training System as a whole, CVT is considered in Italy "a kind of self-standing sub-system which (also according to Cedefop, 2014a and 2014b) is outside the education and the academic system; it is mostly targeted to employees even if, under certain conditions, also unemployed (to be intended as employees who lost their employment) are involved; it does not include adult education; it is basically composed by three areas: 1) training provided and financed by the private sector; 2) training financed by public funding (at national or regional level) and delivered by accredited public and private providers; 3) training funded by the so-called Inter-professional Funds (private organisations funded by employees' and employers' but whose structure and activities are regulated by the law and controlled by public authorities)". All this assumed, CVT in Italy is mostly identified with "job-related training" *(Ibid.)*. In recent years, so-called *Inter-professional Funds* (managed by Social Partners) played a crucial role in promoting and implementing CVT (1,300,000 companies and more than 10,000,000 employees are actually enrolled in the 19 funds actually operating: ANPAL, 2018, p. 33 and foll.). The already mentioned (although insufficient) increase of the involvement of small and micro companies employers and employees as well as the use of training as a "customer fidelity strategy" by technologies suppliers were two other factors characterizing CVT development since 2000. Also the improvement of Public Administrations' (as employers) investment on employees' skills and competences played a role together with the introduction of sectors' laws envisaging an obligation for regular training attendance (e.g. a certain number of hours every year in the health or legal professions or on topics like safety at work). Finally, a relevant CVT development lever was the "involvement …., especially as a response to 2008-2013 crisis, of low/middle skilled workers as a way for contrasting and/or preventing their unemployment" (Cedefop, *under publication*, p. p. 12).

[44] The Continuous Vocational Training Survey implemented at EU level (last edition in 2015).

[45] Within the Cedefop project *Changing nature and Role of VET in Europe*: quotations and pages refer to the Work Assignment 4 final report on "VET and lifelong learning" in the version produced by the author on behalf of Giacomo Brodolini Foundation (Rome, 2017).

4.Vocational Training System, labour markets and (internal) mobility for work in Italy: some final considerations

Italian internal "mobility for work" is, since 1990, mostly from Southern to Northern (largely) and Centre regions (see Par. 1 above); in more recent years, this mobility involved a considerable flow of high-skilled and young people that move in search of higher productive and dynamic contexts. Better employment chances existing in Northern regions are the most relevant factor pulling migrations from Southern regions. An effect of South-North internal migrations for work (and, in a lesser extent, for graduating) is the depletion of Southern regions human capital. In the last 15 years (Svimez, 2017, p. 29), "1,7 Million people emigrated from Southern regions opposite to one million of returns … : they are mostly 15-34 years old young (72.4%) and academic graduates – who are 1/3 of the total – ". The Italian National Institute of Statistics (ISTAT) envisages, for the next 50 years, a relevant reduction of the population in Italy, more accentuated in Southern regions (5 million people less) than in the rest of the Country (one million less) (Svimez, 2018, p. 28). In addition, there will probably be a "relevant spatial re-distribution of the existing population in favour of North-Centre Regions. Southern regions will lose an important share of its … 15-64 years old population (-5,278,000 individuals) as a consequence of a persistent migration-related loss" (*Ibid.*).

Recent internal "mobility for work" occurred in a labour market, comparing the pre-post crisis situations (OCED, 2018), whose main indicators "improved over the past years but at a slower pace than in other OECD countries"[46]: it is relevant, for our purposes, that (OECD, cit.) "the Italian labour market performs below the OECD average in all key indicators of job quality and inclusiveness, except earnings quality: [.....] the degree of labour market security of Italian workers is the fourth lowest in the OECD, after Greece, Spain and Turkey". Also as a consequence of the long and severe economic crisis, "poverty has increased: 13.6% of working-age persons live in households with less than 50% of the median income, up from 10.7% in 2006": the same trend is for "the employment gap for disadvantaged groups, such as mothers with children, youth, older workers, non-natives, and persons with partial disabilities". Italian labour market performance in the last 15 years presents three relevant issues (Marino and Nunziata, 2017): "pronounced differences across age groups: young individuals are facing high unemployment and low participation rates while older individuals have seen their participation and employment level increase" (cit., p. 1); "regional differences [….] still significant, [with] a more dynamic North and a stagnant South" (*Ibid.*); a high level of "undeclared employment [….], especially in the South" (*Ibid.*).

The relationship among mobility "for work" and labour market developments, on one side, and Vocational Training System, on the other side, is strongly *shaped* in the Italian experience by the system's structure and size. As for the structure, Vocational Training is definitely divided in an *Initial* sub-system (which extends till the non-academic tertiary level) and a *Continuous* sub-system (targeted to employed and unemployed); in addition, the Initial sub-system – which is under the responsibility of Regions/Autonomous Provinces - does not formally include *Upper Secondary Vocational Education* programs (which are under the State's responsibility). As for the size, as shown in Par. 3, the Initial sub-system involves an absolute minority of the total students of the corresponding age (about 11% but 21% including also

[46] See Par. 2 above.

Vocational Education programmes) while the *Continuous Vocational Training* sub-system involvement rate (calculated on employed) is about 16-17%. In addition, relevant internal differences affect both *Initial* and *Continuous* VT sub-systems (where Initial VT sub-system is largely concentrated in North/Centre regions while Continuous VT participation mostly involves large companies and medium-high skilled employees).

Therefore, in the light of what has just been summarized (and more extensively presented in Parr. 1, 2, 3), the role of Italian Vocational Training System with regard to population "mobility for work" (that is supporting or impeding or being indifferent) may be defined – with reference to the last 15 years - as

- largely indifferent for *Initial Vocational Training* (because of its limited size and uneven territorial diffusion – this is largely true also if *Upper Secondary Vocational Education* is included – but also because "mobility for studying", basically from South to North, involves young who moves for studying at university and not in Vocational Training System);
- slightly supportive, especially in the more recent years and with an increasing trend, for *Continuous Vocational Training* (within a general framework for which those who "move for work" already have initial education/vocational training qualifications, also medium-high level qualifications, and CVT is used for supporting their re-employment, e.g. after a company or sector's crises, or - more usually - career paths, but once moved; in addition, organisations, also concentrated in the same territorial area, which have a positive reputation in human resources development through CVT may be an "attractor" for medium-high skilled workforce).

Assuming this increasing role of CVT in supporting, or maybe better: *consolidating* and *adapting*, "mobility for work" in Italy, an important distinction – which also reflects in different ways of accessing CVT opportunities – is between *pure company-driven* training (totally paid by companies' funds), *Social Parts agreed* training (funded through the so-called *Inter-professional Funds*, operating since 2005) and *Individual Access* training (introduced in 2000 and paid by public funds or by trainees). It is important here to underline that CVT increasing supportive role in "mobility for work" remains in Italy, as already mentioned, quite differentiated by organisations' dimension, gender, sector, trainee's formal qualification and occupational position. An effort for reducing these differences is actually undergoing but it requires time, resources and – above all - a coherent institutional and cultural environment to be satisfactorily implemented. Not surprisingly, access to CVT opportunities is one the main issues still *open* for CVT in Italy together with those regarding i) training/learning methods (with the quest for moving from traditional forms/setting to *different-from-classroom* settings), ii) learning outcomes formal recognition/certification (an issue which is strictly related to labour mobility) and iii) the quality of training suppliers (a crucial element for the quality of training and of learning outcomes as well).

Going back to *Initial Vocation Training*, two exceptions to the "indifference" judgement above expressed may be the following (they do not modify the general picture but it is important, also in perspective, not to forget them). The first one is represented by apprenticeships aimed at achieving formal Vocational Training qualifications at upper secondary or tertiary level, under the so-called Types 1 and 3 Apprenticeships. Nonetheless, the two Types represent less than 5% of the total apprenticeships contracts and, above all, the attendance of specific

training is the *consequence* of having an apprenticeship contract that is to be employed as apprentice (the lever is therefore the employment and not the training). The second one, more relevant in Italian experience, consists in the so-called *industrial districts* where, in general, the connection and interaction between the productive structure and the initial VT sub-system are particularly strong (but however less relevant than those involving upper secondary vocational and technical education or universities). Industrial districts "are dense centres of life and work, characterised by one or a few related localised industries tightly intertwined with the local society and the local institutional setup (Becattini et al., 2009): they are "a socio-economic construct" (Dei Ottati, 2006; Sforzi, 2015)[47]. In accordance with the literature, "*external economies* play a key role in the success of industrial districts. These are advantages not internal to the individual company, but internal to the local system involving the same businesses, and therefore external to the single firm. In fact, industrial districts enjoy external economies due to the advantages of agglomeration, and rising returns due to the widening demand. So, the advantages of external economies are due to the industrial district as a whole. Examples of such advantages include the presence of a large and stable skilled workforce [….]" (Schilirò, 2017, p. 2). This is the point of interest here: skilled workforce may certainly be attracted *already trained* from outside the district but it may be as well locally trained *also* through initial Vocational Training (we use "also" because on-the-job training, Continuous Vocational Training, upper secondary vocational and technical education, universities generally give the most relevant contribution in training skilled workforce). Initial Vocational Training in industrial districts is targeted to under-18 or to over-18 attending non-academic tertiary level education/training: the most consistent experiences, also historically rooted, are those of districts focused on typical Italian *excellences* like mechanics, clothing, textile and wear, leather and footwear, ceramics, wood and furniture, metals and metal products, food. In these districts, albeit with the limits deriving from its small dimension, also initial Vocational Training - deeply embedded in local economic culture and strongly linked to productive processes - plays a slightly supportive role (although indirectly) for incoming "mobility for work".

[47] Istat, the National Statistics Institute, through the 9th General Industrial and Services Census of 2011 (Istat, 2015), identified 141 industrial districts, 40 units less than the number of industrial districts surveyed in the previous Census of 2001. Note that five regions, located in North and Central Italy, concentrates 74% of total districts.

References

ANPAL (2018), *XVIII Rapporto Annuale sulla Formazione Continua*, ANPAL Publications, Rome

Becattini G. (ed.) (1987), *Mercato e forze locali: il distretto industriale*, Il Mulino, Bologna

Becattini G., Bellandi M., De Propris L. (2009), *A Handbook of Industrial Districts*, Edward Elgar, Cheltenham (UK)

Bellandi M., De Propris L. (2008), Small Firms and Industrial Districts, in: Michael Dietrich and Jackie Krafft (eds.), *Handbook on the Economics and Theory of the Firm*, pp. 375-387, Edward Elgar, Cheltenham (UK)

Cedefop (2014, a), *Spotlight on VET-Italy*, European Union Publications Office, Luxembourg

Cedefop (2014, b), *Vocational Education and Training in Italy (short description)*, European Union Publications Office, Luxembourg

Cedefop (2017), *Country Statistical Overview: Italy,* European Union Publications Office, Luxembourg

Cedefop (2018, a), *The Changing Nature and Role of Vocational Training and Education in Europe (Work Assignment 2, Case Study focusing on Italy, by Simone Rosini and Alberto Vergani)*, www.cedefop.europa.eu

Cedefop (2018, b), *Developments in Vocational Education and Training Policies in 2015-2017: Italy*, www.cedefop.europa.eu/en/publications-and-resources/country-reports/vetpolicy-developments-italy-2017

Celi G., Testa G. (2016,a), Globalisation and Labour Mobility in Italy, occasional unpublished paper, University of Foggia, Foggia

Celi G., Testa G. (2016,b), The Effects of Globalisation on Regional Migration in Italy, Working paper n. 85, University of Sussex, Brighton (UK)

Dan N., Fornasin A. (2013), Una indagine CATI per lo studio della mobilità interna in Italia in un'ottica longitudinale, Università di Udine-Dipartimento di Scienze Statistiche ed Economiche, Quaderno 4-2013, Udine

Dei Ottati G. (2006), L'effetto distretto: alcuni aspetti concettuali, in: *Economia Marche*, 25(2), pp. 69-82

European Commission (2017) (Pinelli, Torre, Pace, Cassio and Arpaia), *The Recent Reform of Labour Market in Italy: a Review*, EC Discussion Paper 072, December 2017, European Union Publications Office, Luxembourg

European Commission (2018), 2017 *Annual Report on Intra-EU labour mobility*, final report, January 2018, European Union Publications Office, Luxembourg

INAPP and other (2016), *Vocational education and training in Europe – Italy,* Cedefop, European Union Publications Office, Luxembourg

INAPP and other (2018, a), XVII Rapporto di monitoraggio sull'apprendistato, INAPP Publications, Rome

INAPP (2018, b), Rapporto Nazionale sul Sistema di IeFP, INAPP Publications, Rome

ISFOL (2014), *The Development of VET System in Italy (VET in Europe Country Report 2013)*, Isfol, Rome

ISFOL (2016), Relazione sulla attuazione della legge 845/1978, Isfol Publications, Rome

ISTAT (2018), Labour Market (First Quarter 2018), ISTAT Flash, Rome, June 2018

Marino F., Nunziata L. (2017), The Labour Market in Italy 2000-2016, IZA World of Labour, IZA, Bonn (D)

Ministry of Labour and Social Policies (2017), *Relazione sulla Formazione Continua in Italia*, Rome (report prepared by INAPP, Rome)

Mocetti S., Porello C. (2010), *La mobilità del lavoro in Italia: nuove evidenze sulle dinamiche migratorie*, Banca d'Italia, Questioni di Economia e Finanza, Occasional Papers n. 61, Rome

OECD (2018), *Employment Outlook: Italy*, Paris (F)

ReferNet (Cedefop) (2016), *VET in Europe reports: Italy*, European Union Publications Office, Luxembourg

Schilirò D. (2017), *Italian industrial districts: theories, profiles and competitiveness, in: Management and Organizational Studies* , Vol. 4, No. 4 (December 2017), pp. 1-11

Sforzi F. (2015). Rethinking the Industrial District: 35 Years Later, in: *Journal of Regional Research, 32*, pp. 11-29

SVIMEZ (2017), *Rapporto 2017* (Introduzione e sintesi), www.svimez.info

SVIMEZ (2018), Rapporto 2018 (Anticipazioni), www.svimez.info

COMPONENT ONE

Labour Market and Vocational Education and Training in Poland

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Contents

1. Summary

Poland's social, fiscal and economic situation is good and the labour market is booming. Nevertheless, Poland has to safeguard growth prospects by addressing the challenges connected to rapidly shrinking working-age population and ageing, shortages of skilled workers and highly educated specialists and by boosting innovation. The mobility patterns show that despite regional discrepancies in the level of economic development internal mobility in search for better jobs is hindered by relatively low wages, lack of affordable housing and insufficient social services. Policies of regional and local development aimed at stopping the outflow of residents play a role too. Job vacancies have been to some extend filled by migrant workers mainly from Ukraine, but such temporary immigration from Eastern neighbour countries has reached its limits and new migration policy is needed. The labour reservoir are inactive population, in particular women, older and low-skilled people whose employment rate has been always below EU average as well as unemployed and employees in badly matched jobs. Supporting development of high quality human capital is a great challenge. Poles are relatively well educated compared to many of their EU counterparts. The majority of population have at least upper secondary education and among young people, almost half have higher education degrees. The dropout level is also below EU average. However, the participation of adults in lifelong learning is very low and many adults have their basic skills at the lowest level. Vocational education and training was neglected until recently. People with Vocational education & training qualifications compared to those with higher education were more likely to be unemployed or at risk of poverty and social exclusion and the transition from education to labour market has been longer for Vocational education & training graduates compared to Higher education graduates. Currently Vocational education & training system undergoes major reforms and the public and private investments in Vocational education & training are increasing. The new integrated qualification system has been established to stimulate participation in Life-long learning and facilitate mobility and skills supply. Higher education system and R&D sector are being reformed too. Pressure on human capital development and greater responsiveness to the needs of employers are also the basis for reforming public employment services.

2. Current economic and socio-demographic situation

Economy

Currently the Polish economy is in the upward phase of the business cycle and GDP rose in 2017 by 4.6%[48]. Poland's income gap narrowed vis-a-vis the "old" EU countries and its GDP per capita in PPP terms in 2017 stood at 70 % of the EU average. However the main driver of Polish economy is the consumption. Innovation activity and Research and Development investments remain weak. Poland's share in global trade in high technology products is moderate[49]. Only a small percentage of companies operating in Poland conducts research and development or implements innovations. Also the labour productivity is 40% below OECD average (OECD 2018). Furthermore, more and more companies indicate labour shortages as a key factor limiting firms' growth (Deloitte, 2017). To sustain raising living standards it's essential to reach untapped labour reservoir, boost skills and strenghten higher education, research and innovation.

Demography

In 2017, the population of Poland reached 38,434 thousand residents (GUS, 2018a). The fertility rates have been falling since 1990s and recent slight increase in number of births was only a temporary effect resulting from the improvement of the financial situation of families. The population forecast indicates that number of women aged 25-29 and 30-34 will decrease (GUS, 2017a) and the chances that the number of births will significantly increase significantly are weak. The aging process of the Polish population is therefore accelerating. The group of people aged 65 in 2017 constituted 17% of the general population and according to forecasts, in 2050, every third inhabitant of Poland will be 65 years old or more (GUS, 2018a).

Mobility patterns

The majority of Poles live in towns they were born. The data from the National Population and Housing Census shows that 57% of the total population did not leave theirs towns for a period of 12 months or longer (GUS, 2014b). Almost 39% of the total population of the country are

[48] Bank Danych Makroekonomicznych: http://bdm.stat.gov.pl
[49] Eurostat http://ec.europa.eu/eurostat/data/database

migrants who have come or returned to the place of current residence - earlier they lived in a different place by at least a year. For almost 96% of the population arriving, the previous place of residence was a different place in the country, and only for 4% - abroad. Therefore internal migrations prevailed. People changed their place of residence mostly for family reasons (46%, followed by housing reasons (29%), work (9%) or education (5%). Women, young and better educated people are more likely to change their place of residence.

With regard to the rural-urban migration historically the major trend was the migration from rural to urban areas. The trend reversed in late 1990s and currently we observe higher outflow from urban areas than inflow. This is mainly caused by the outflow of residents from the city centers to the nearby villages (GUS, 2017d). Commuting to work concerns 32% of all workers and men are more likely to commute than women (GUS, 2014a).

At the end of 2016, there were around 2, 515 thousand Poles living temporarily outside Poland (GUS, 2017b). The vast majority - about 2, 096 thousand lived in EU Member States, mainly in Great Britain (788 thousand), Germany (687 thousand), the Netherlands (116 thousand) and Ireland (112 thousand). Most of the emigrants (73%) migrated in search for work and at least some of them constitute the potential labour reservoir as they may decide to return to Poland.

Labour market situation

The situation on the labour market is good with the unemployment rate at record low level. However, the employment rate does not grow as expected and remains low in particular among women, older and low-skilled persons.

Job vacancies have reached high level. They are mainly concentrated in the private sector and in medium and large enterprises (GUS, 2018e). Large number of vacancies are filled by temporary migrant workers mainly Ukrainians and citizens of other Eastern neighbour countries. However this reservoir of labour force is drying up and Poland faces the urgent need to reformulate its migration policy. Foreign immigration keeps the wages down despite low unemployment but the wage pressure is strengthening.

The employment rate in first quarter of 2018 was 54% (48.2% for women and 64.5% for men) (GUS, 2018c). The level of economic activity rate among people with the lowest level education in the same period was 16.2%, among those with basic vocational education - 56.3% while in the group of people with higher education - 80.5%. The employment rate of people above 55 years of age was 47.6%.

The number of unemployed registered in labour offices at the end of June 2018 amounted to 967 thousand and is decreasing (GUS, 2018a). The registered unemployment rate 5.9%. The highest unemployment rate was registered in Warmińsko-Mazurskie region (10.0%) and the lowest in Wielkopolskie region (3.3%). The share of women among unemployed amounted to 56.2%. The share of people with basic vocational education or less was 53.5%. The majority of registered unemployed are long-term unemployed (over 12 months) and their activation requires overcoming additional barriers related to their health status, personal situation or lack of motivation.

The unemployment rate based on LFS among people with higher education in the first quarter of 2018 was 2.2%. The highest unemployment rate (11.1%) was recorded among people with the lowest level of education (at most gymnasium) (GUS, 2018c).

In the first quarter of 2018, the total number of passive persons over 15 was 13,405 thousand people (GUS, 2018c). The great part of the entire passive population consists of people over 60/65, of whom over 90% are people whose main cause of inactivity is retirement. In the youngest age category, almost all of inactive people were in the formal education system. In the group of economically inactive people aged 20-64, i.e. the most common reason for not seeking work is retirement and illness or disability. The recent lowering of the retirement age increased the number of retirees despite some efforts taken to encourage older workers to remain longer in employment to avoid the risk of old-age poverty. Another reason for inactivity are also care for children or other dependents, other personal or family reasons and education. Despite improvements in last decade access to childcare remains insufficient, especially in rural areas, and institutional long-term care for the elderly falls significantly short of needs. Both, care for children and elderly and gender difference in life expectancy explain women's predominance among inactive population. Furthermore, the large family benefits introduced in 2016 to increase the fertility rate and bring down the poverty rate among

families with large number of children apparently discourage less skilled women to enter the labour market after childbirth or induce them to withdraw from the labour market. Poverty and income inequality have fallen, also due to the large family benefits introduced in 2016). According to the Eurostat data the risk of poverty or social exclusion dropped from 28% in 2009 to 20% in 2017.

The levels of unemployment, availability of job offers or average remuneration strongly differ depending on the region and also within the region. Structural mismatches are partially a result of relatively low mobility. The scale of internal migration from areas with low demand for labour to the areas with higher demand is insufficient. This leads to the persistence of high unemployment in some regions despite labour shortages in other dynamically developing areas. Main reasons for low internal mobility are lack of affordable housing and relatively low wages. Other factors are insufficient access to childcare and elderly care that forces people to rely on their relatives' support. Furthermore, policies aimed at supporting internal migration from less to more economically dynamic regions and metropolitan areas are challenged by regional development policies and programmes. Many smaller and medium-size towns and cities faced with the threat of severe depopulation undertakes efforts to stop the outflow of inhabitants and attract its former residents to return.

3. Vocational education & training system and participation in lifelong learning

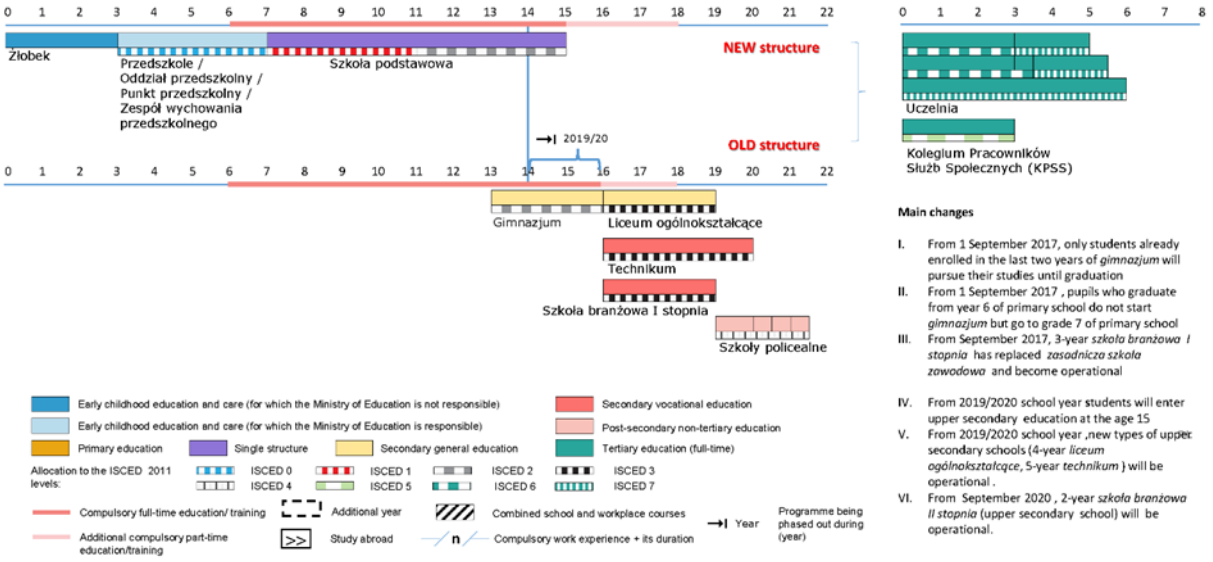
Educational system

The education system in Poland is centrally managed by two institutions – the Ministry of National Education (general and vocational education) and the Ministry of Science and Higher Education (higher education). The national educational policy is developed and carried out centrally, while the administration of education and the running of schools are decentralized. Education is compulsory until the age of 18 and full-time compulsory education at school concerns children and young people aged 6–16 years, whereas part-time compulsory

education (to be provided either at school or at the employers' premises) concerns young people aged 16–18 years.

Currently Poland undergoes educational reform. Previous educational system included 6-year primary education and 3-year lower-secondary education (gymnasium). Upper-secondary education lasted 3-4 years depending on the programme. In 2017 the gymnasium stopped enrolling new students and primary education was extended by 2 years, followed by 3-,4-or 5- years secondary education depending on the programme. Higher education institutions offer first-, second- and third-cycle programmes. There is also a tertiary non higher education institutions offering vocational education to secondary school graduates (Graph 1). Adult education is provided by public and non-public schools for adults, public and non-public HEIs, continuing education centres, practical training centres and further and in-service training centres.

Graph 1. The structure of Polish education system



Source: European Commission/EACEA/Eurydice, 2017. *The Structure of the European Education Systems 2017/18: Schematic Diagrams*. Eurydice Facts and Figures. Luxembourg: Publications Office of the European Union.

Educational attainment level of Poles

The educational attainment level of Poles is constantly increasing, in particular the share of people with higher education is growing. According to the Eurostat Poland has one of the highest percentages in the EU of people with at least (upper) secondary education (corresponding to EQF level 3 or 4) – 92.1% of population aged 25-64 as well as with higher education among younger cohorts – 45.7% of population aged 30-34 in 2017. Women are better educated than men (more than 30% of women have higher education compared to 20% of men).

However, the study by the *Programme for the International Assessment of Adult Competencies* (*PIAAC*) shows that the problem is the quality of its education and some 15 % of adults has serious problems with both using texts and calculations to cope with life, and 13% have problems in either reading or mathematical thinking. Only 38% of adults have at least some basic digital skills (computer and internet) (IBE, 2013). Furthermore, deficits in basic skills are perceived as embarrassing and people with low qualifications and skills are least likely to benefit from any educational offers. This has also to do with very traditional understanding of education in Poland (classrooms, teachers) and fear of low skilled adults to re-enter the educational environment associated with frustration or failure.

Participation in education and lifelong learning

Thanks to the effective implementation of compulsory education and the obligation and well-organized program for the reintegration of young people who left school, an indicator of early school leaving in Poland is very low. According to the Eurostat in 2017, the percentage of people aged 18-24 years prematurely leaving education and training was 5.0, well below EU average but slightly above target Europe 2020 national target set at 4.5%.

Participation in pre-school education has constantly risen since 2001 and reached almost 95% of children aged 4 or more. The availability and affordability of childcare services in Poland have improved significantly with exception of childcare provision for youngest children below 3 years of age.

Among lower secondary school (gymnasium) graduates, the most popular educational track has been general upper secondary leading directly to higher education. The share of students attending technical schools was 38.8% in the school year 2016/2017, while only 14% of students chose basic vocational schools (GUS, 2018d). For many years Vocational education & training schools were neglected and Vocational education & training graduates and in general people with Vocational education & training qualifications compared to those with higher education were more likely to be unemployed or at risk of poverty and social exclusion and their transition from education to labour market has been longer.

The share of young people in the age group that is no longer in compulsory education, not in employment nor in education and training (NEET) is moderate in Poland – 9.5% of people aged 15-24 (Eurostat). The NEET rate is higher for young people with vocational education than for those with general education. This is because a large share of persons with general upper secondary education continue their education at higher levels, while most young people with a vocational education enter the labour market. Women are especially at risk of NEET, probably due to responsibilities related to motherhood.

High educational activity of young people contrasts with very low adult participation in learning. According to the Eurostat in 2017 only 4% of adults participated in Life-long learning, compared to the EU average of 10.9%. However different studies give slightly different results. If the notion of education covers all kinds of educational activities (including self-education), and the reference period is extended the share of adults participated in Life-long learning grows. It shows that data on non-formal and informal education is very sensitive to the methodology used.

Employed are more likely to engage in Life-long learning activities than inactive or unemployed. According to the Continuing Vocational Training Survey CVTS 2015 data, 44.7% Polish companies, compared to EU-28 average of 72.6%, provided vocational training to their employees and 37.1% of employees participated in this training, compared to EU-28 average of 40.8% (Eurostat). Despite relatively low incidence of participation in CVT compared with

other EU countries, in last decade we observed a significant increase of the share of companies providing training to their employees.

In 2017 only 4% of unemployed participated in training organised by PES (Ministry of Family, Labour and Social policy MRPIPS, 2018). The low incidence of engaging of unemployed in learning has to do with the socio-demographic features of unemployed (most of them are long-term unemployed whose links with the labour market are very weak) and expected low effectiveness of training as a means of labour market activation (the less motivated, less skilled unemployed the less effective training).

Adult education and CVT remain the greatest challenge. It becomes also evident that he promotion of learning at work should play a key role as it is the most common learning environment for adults. This applies in particular to older employees and those working in small and micro companies. Furthermore, effective adult learning policy requires policy orientation to non-formal education, creation of an attractive and adequate educational offer for people with low basic skills and dissemination of a new adult learning model based on three foundations: (1) an individual assessment of skills taking as a basis the demand for skills; (2) provision of flexible educational services in an adult environment, in particular at work or in close connection with work, based on short and modular cycles; (3) recognition of professional experience in the system as well as the effects of training.

4. Human capital development - major reforms

General education and Vocational education & training reforms

The reform program in the education sector, initiated in recent years, aimed to adapt the structure education and curricula to the demand for skills in the labour market and challenges of modern life. In order to adjust the effects of education to the current social expectations and requirements of the labour market, emphasis was put on:

- Increasing responsiveness of Vocational education & training to the local labour market and economic needs
- Preparing young people to better navigate their careers, instilling social values such as cooperation, developing interpersonal skills and competences such as creativity,

innovation and entrepreneurship, critical thinking, and basic competencies such as efficient communication in Polish and in modern foreign languages (literacy), numerical skills and mathematical thinking and digital skills.

The reform of vocational education and training included changes in the structure of vocational pathways, curricula, the financing system and the increased involvement of employers. The sectoral education is now divided into two programmes. The first stage sectoral schools offer three-year programmes ending with the attainment of a vocational qualification certificate for a single qualification occupation. Graduates of this school can enter the labour market or continue their education in the second stage sectoral schools, which offer two-year programmes for further development of vocational qualifications gained in the first stage. Graduates of second stage sectoral schools can also take the secondary school examination (*matura*) and access higher education. There is also an option to enter comprehensive 5-year vocational programmes (*technicum*) ending with the attainment of both vocational qualification and secondary school examination (*matura*).

Starting in 2019, the allocation of funds for initial vocational education will be based i.a. on the demand for specific occupations in the region, the effectiveness of the education process and the level of training costs in specific occupations. The reform also introduces the obligation to cooperate with employers when launching new programmes and allows schools to open short-cycle trainings for adults ('vocational skills courses'). To further support the implementation of the Vocational education & training reform, the Ministry of Education established in January 2018 an advisory body - the Council of Vocational Schools Directors.

Higher education reform

A comprehensive reform of the higher education system was adopted by Poland in summer 2018. The law commonly called the ‘Constitution for Science’ contains provisions on the general modernisation of the sector: universities (public and non-public) will be divided into academic and professional schools. A new body for university governance – the university board - will be created, with new competences including the choice of the rector. Universities will be required to establish doctoral colleges and scholarships will be guaranteed for all PhD students. Short-cycle studies will be introduced and there will be a new Council of Scientific Excellence. The higher education and science-financing model will also change, with an

evaluation of the quality of scientific activities conducted every four years by the Science Evaluation Committee at institutional and not at programme level. New paths to academic teaching will also be introduced.

There is also more emphasis put on practically oriented university studies. In order to strengthen the cooperation of higher education institutions (HEIs) with the economic sector regarding study programmes, the act provides for two paths of study emphasising practical knowledge: mandatory six-month practical placements and dual-degree training. Vocational higher educational institutions will focus on providing both the local and the regional labour markets with the most sought-after specialists.

Integrated qualification system

The Polish Qualifications Framework currently is one of the main tools to support lifelong learning. The Act on the Integrated Qualifications System that establishes the Polish Qualifications Framework and the integrated qualifications registry came into force in January 2016. Integrated qualifications system is open to all types of qualifications (school and outside-of-school, sectoral, state regulated and non-regulated qualifications so called „market qualifications). Apart from greater integration of already existing formal qualifications system, it aims at developing new qualifications and building the system of validation of prior learning. It was designed to provide a new impetus for development of non-formal education and facilitate job mobility as well as career and educational progression.

In addition, 15 sectoral councils for competences are planned to be established. The main aims of the sectoral councils are: (a) to collect information from various labour market stakeholders and recommend systemic solutions and changes in the area of education; (b) to stimulate cooperation between education providers and employers.

Employment policies

Coping with labour shortages, reducing skills mismatches and developing relevant skills are currently major preoccupation for public employment policy in Poland.

In 2014 year several new instruments have been introduced to support human capital development and increase public investment in skills. Greater emphasis was put on unemployed-initiated training (including training vouchers), faster transition from school-to-work, greater involvement of employers in designing training programmes (through tripartite training agreements) and internal mobility (relocation grants).

New financial instrument boosting CVT had been also established in a form of the National Training Fund (NTF). National Training Fund being a separate part of the Labour Fund (created from employers' taxation) is intended for co-financing of lifelong learning of employees and employers. Thanks to NTF, several thousand employers, most of them being micro enterprises and over 100 thousand people can take part in lifelong learning. In 2018, the Labor Fund resources allocated for the financing of tasks carried out under the NTF are set at PLN 105.6 million. The priorities of spending NTF funds in 2018 also correspond to the challenges of the labor market. The funds are intended, among others to support for lifelong learning in deficit vocations identified at a given commune or regional level, support for training combined with the use of new technologies and work organisation tools in companies, support for lifelong learning for people over 45 years of age.

In the near future some steps are planned towards even greater responsiveness of PES to the needs of employers becoming one of the major PES clients and increasing the availability and optimization of forms of assistance provided by labor offices to unemployed and job seekers. It includes:

– increasing the participation of the so-called "Poor working people" in lifelong learning by financing from the Labor Fund the costs of their training and certification;

- modifying forms of assistance for the long-term unemployed by, among others: granting long-term unemployed and unemployed without vocational qualifications priority in access to trainings;

– strengthening the role of social partners at the regional / provincial level in deciding on the allocation of NTF funds;

– granting access to the NTF for all entities paying contributions to the Labor Fund (not only employers) and people performing work on the basis of civil law contracts;

– preferential access to the NTF funds for employers investing in lifelong learning of persons ages 50+;
– financial support for returnees from migration abroad planning to start their own businesses.

Other initiatives are aimed at improving labour market information, better diagnosing the skills needs at the local labour market and short- and long-term skills forecasting.

5. References

Deloitte (2018). Trendy HR 2018. Czas odpowiedzialnych firm. Analiza polskich wyników badania Human Capital Trends 2018. Warszawa: Deloitte Touche Tohmatsu Limited

GUS (2014a) Dojazdy do pracy. Narodowy Spis Powszechny Ludności i mieszkań 2011. Warszawa: Główny Urząd Statystyczny

GUS (2014b) Migracje wewnętrzne ludności. Narodowy Spis Powszechny Ludności i Mieszkań 2011. Warszawa: Główny Urząd Statystyczny

GUS (2017a). Atlas demograficzny Polski. Warszawa: Główny Urząd Statystyczny

GUS (2017b) Informacja o rozmiarach i kierunkach emigracji z Polski w latach 2004–2016. Warszawa: Główny Urząd Statystyczny

GUS (2017c) Kapitał ludzki w Polsce w latach 2012-2016. Warszawa: Główny Urząd Statystyczny

GUS (2017d) Migracje wewnętrzne ludności na pobyt stały według województw w latach 1974-2016. Warszawa: Główny Urząd Statystyczny

GUS (2018a) Bezrobocie rejestrowane I-II kwartał 2018. Warszawa: Główny Urząd Statystyczny

GUS (2018b). Ludność. Stan i struktura oraz ruch naturalny w przekroju terytorialnym w 2017 r. Stan w dniu 31 XII, Warszawa: Główny Urząd Statystyczny

GUS (2018c) Monitoring Rynku Pracy – kwartalna informacja o rynku pracy w drugim kwartale 2018. Warszawa: Główny Urząd Statystyczny

GUS (2018d) Oświata i wychowanie w roku szkolnych 2016/2017. Warszawa: Główny Urząd Statystyczny

GUS (2018e) Popyt na pracę w II kwartale 2018. Warszawa: Główny Urząd Statystyczny

IBE (2013) Umiejętności Polaków – wyniki Międzynarodowego Badania Komeptencji Osób Dorosłych (PIAAC). Warszawa: Instytut Badań Edukacyjnych

MRPiPS (2018). Wspieranie przez urzędy pracy rozwoju zasobów ludzkich środkami Funduszu Pracy. Dane statystyczne 2013-2017. Warszawa: Ministerstwo Rodziny, Pracy I Polityki Społecznej

OECD (2018). OECD Economic Surveys: Poland 2018, Paris: OECD (dostęp 10 kwietnia 2018: http://dx.doi. org/10.1787/eco_surveys-pol-2018-en)

COMPONENT ONE

The UK's experience with labour market and vocational training

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Contents

Acronyms Used

BIS	(Department of) Business, Innovation and Skills (now the Department for Business, Energy and Industrial Strategy (BEIS)
BME	Black and Minority Ethnic (groups)
CAVTL	Commission on Adult Vocational Training and Learning
CEBR	Centre for Economics and Business Research
CIPD	Chartered Institute of Personnel and Development
DfE	Department of Education
ESS	Employer and Skills Survey
EU	European Union
GDP	Gross Domestic Product
IPPR	Institute for Public Policy Research
LEP	Local Enterprise Partnership
NVQ	National Vocational Qualification
NRS	National Retraining Scheme
OECD	Organisation for Economic Co-operation and Development
RQF	Regulated Qualifications Framework
SME	Small and Medium (-sized) Enterprise
VET	Vocational Education and Training
UKCES	United Kingdom Commission for Employment and Skills

1. Introduction

In the context of both responding to unemployment and employability, and in ensuring that a country's workforce is able to deliver the skillsets that are required by the economy, high quality vocational education and training stands as a key labour market activation policy (Hansen *et al.*, 2002). However, under the steer of the European Employment Strategy (now the Europe 2020 growth strategy), EU countries have approached this challenge very differently, and the UK has tended to adopt a distinctive perspective on supporting its vocational training infrastructure. Within the OCED, the UK's expenditure on active labour market policies has been notably low (Zwart and Baker, 2018). Notwithstanding this, the current position taken by government in the UK is that the adult skills system plays a crucial role in economic growth (BIS and DfE, 2016). Notably, devolution in the UK has enabled variations in vocational education and training systems to evolve in Scotland, Wales and Northern Ireland in comparison to England.

This report reflects upon the recent history of vocational education and training in the UK, relating changes in the labour market to changes in how VET is organised and delivered, in order to meet the skills challenge of the future. It then turns to the policy challenges that are currently being raised as to how VET can underpin and drive quality-orientated economic development, taking into account broader trends and the stakeholders that need to be engaged in this process.

2. Recent History of Vocational Education and Training (VET)

In delivering on VET'S aim to harmonise training and the skillsets demanded by the economy, the UK has traditionally adopted a hands-off approach in terms of intervening on quality, and coordinating employer-employee needs. This is otherwise known as a voluntarist or liberal market approach, and rests upon the assumption that qualified job-seekers will align themselves with positions, providing for a relatively flexible, and potentially responsive, jobs market. Notably this style is distinctive from the majority of other European countries, who have, in large part, taken a more interventionist approach to VET.

2.1 Structure of VET

The UK organises its vocational training around National Vocational Qualifications (NVQs), rebranded as the Regulated Qualifications Framework (RQF) in 2015, which runs from levels 1 to 8. These are competency-focused work-based qualifications. Apprenticeships provide a work-based aspect of study, addressing intermediate-level skill shortages. Notably, VET in the UK is more focused on adult apprenticeships than are its European comparators, where youth apprenticeship schemes have tended to be more established and integrated with the education system (Fuller and Unwin, 2011).

The Learning and Skills Act of 2000 provided for the UK's Learning and Skills Council to coordinate training with employers' needs for skills. The UK Commission for Employment and Skills (UKCES) was established in 2008 to raise employers' voice and to provide guidance to the sector on skills and employment, in part informed by the Employer and Skills Survey (ESS) that it managed. The UKCES closed in 2017 amid funding cuts, superseded by the Institute for Apprenticeships. VET provision in the UK is diverse, ranging between employers, and with greater investment made by larger organisations (Page and Hillage, 2006). However, 60% of

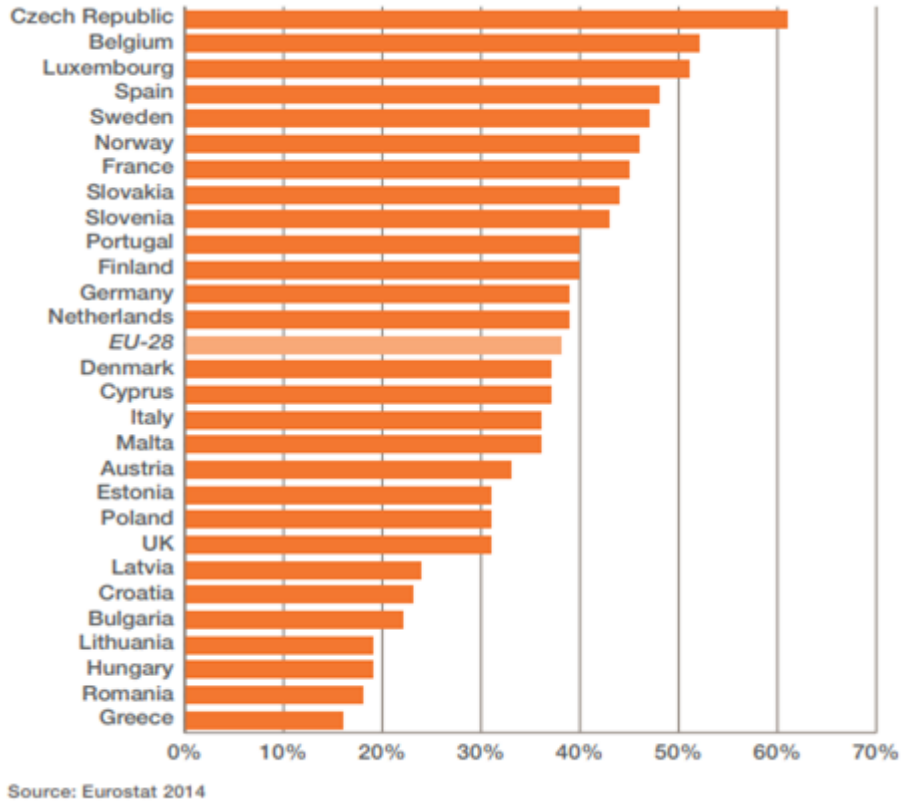
private sector employment in the UK is provided by small and medium enterprises (SMEs), that is, a jobs market of 16.1 million[50]. This presents a potential gap in provision.

Delivery of VET in the UK is through a mixed market of providers from the public, private and third sectors (charitable organisations), with approximately half of government funding for skills going to further education colleges (Dromey and McNeil, 2017). Consequently, there is variation of coverage between areas. Very often providers do not specialise in providing VET, but its delivery will form one part of their remit.

2.2 Gaps in provision

There is growing concern in the UK around the mismatch between VET and employer need. Furthermore skill shortages are not aligned with the expansion in higher education seen over the past two decades, which has seen a movement from a small professional elite to a mass education system (Foley and Brinkley, 2015). Critical debate has long regarded VET as a weakness in the UK's education system, and the UK currently scores 16th out of 20 OECD countries on its technical education (OECD, 2014). Participation levels in continuing vocational training are relatively low in comparison to the rest of the EU, with the UK falling into the bottom quarter of countries participation-wise (see Figure 1).

Figure 1: Employee participation in continual vocational training (%) by EU country, 2010



Source: Eurostat 2014

By the 2000s, it was already being estimated that one in five UK firms were experiencing inadequacies in employees' skills (Page and Hillage, 2006), with particular areas of need identified around communication, customer services and team-working. The greatest skills

[50] https://www.fsb.org.uk/media-centre/small-business-statistics

gaps were recognised around semi- and unskilled staff, precisely the groups who were the least likely to receive work-related training.
So too, inadequacies have been identified among those undergoing training, with one third of NVQ completers finding themselves unable to translate their qualifications into the kinds of earnings and career progression that they might expect (Wolf Report, 2011), an indicator that led the authors to conclude that the UK's systems of vocational qualifications was no longer fit-for-purpose. Analysis of this inconsistency has identified a two-fold problem: that NVQ qualifications were too shallow and narrow in scope for modern job demands, and in relatively broad occupational pathways, but also that the structure of the UK's labour market incorporated an abundance of lower-level jobs with little opportunity for career progression (Brockmann *et al.*, 2011; Keep, 2012). Indeed, Dieckhoff's comparative analysis found that VET provided only a weak safety net, with untrained individuals not significantly worst off that those who had undergone vocational training (2008).

2.3 Political drivers and change

Fluctuation in the UK between Conservative and Labour governments has, in turn, presented a distinctive set of political imperatives driving VET policy. In the 1990s, under a Conservative government, further education colleges became self-governing, with the intention of becoming more responsive to local labour market need.

The mood shifted again under the subsequent New Labour government (1997-2010), which concentrated on expanding state investment in education and training, aiming to make UK workforce skills more competitive. It advocated for a VET system that produced, "*a modern class of technicians, associate professionals and people with higher-level craft and trade skills*" (BIS, 2009: 6).

VET policy in the UK was influenced by the aforementioned Wolf Review of 2010, reviewing age 14-19 vocational education and training; in assessing the then system of vocational qualifications as not fit-for-purpose, the Review (2011) recommended greater deregulation of providers and the expansion of apprenticeships. A further independent review of VET was conducted by the Commission on Adult Vocational Training and Learning (CAVTL) under the Coalition Government[51] (2010-15), part of whose remit was to identify good practice in the sector. This too pushed for the UK's VET system to modernise in order to respond to current challenges and transformations:

> *"Strong advanced economies need high-quality vocational education and training that can respond to and prepare us for all changes in work, advances in knowledge and technology, and the increasing demand for people with higher levels of skills.*" (CAVTL, 2013: 7)

The report contended that the most important enabler of a successful VET system was its design to work "*as a two-way* street" (2013: 7), that is, being driven by genuine collaboration between training providers and employers, in contrast to the way in which education and skills have tended to be positioned as separate sectors in the UK. The review also emphasised the importance of fostering the sort of VET system that would complement SMEs, where it saw

[51] The first Coalition Government in the UK since the Second World War, and formed between the Conservative and the Liberal Democrat parties.

the greatest growth as being. Following CAVTL's review, and driven by a concern to improve the UK's global competitiveness, the current[52] Conservative government has pledged to invest £500m a year in VET. However, adult skills funding has been much depleted by the austerity measures initiated by the Coalition Government in 2010, to the extent of dropping by half over the period 2010/11 and 2020/21 (Round, 2018), and the UK has some distance to travel in catching up with its European neighbours on this issue.

2.4 Employer role

Successive UK governments have positioned themselves as employer-led in their approach to VET. However, their policy actions have not always matched this rhetoric, and indeed the voluntarist approach which has broadly characterised the UK's actions on VET provides for a shortfall to potentially arise in the alignment of skills development with employer needs. Consequently, the UK has recently seen increased pressure for an industrial strategy, some response to which has been provided by the Government's 2017 *Industrial Strategy* white paper (see section 6).

Perhaps the most significant recent policy action on VET, and an attempt to engage with relatively low levels of employer investment in training in the UK, has been the 2017 introduction of the Apprenticeship Levy. Under this system, employers who have a paybill of more than £3 million are compelled to invest 0.5% of this in apprenticeship programmes, a requirement that it is estimated will affect 2% of UK employers (HM Treasury, 2015). Non levy-paying employers have 90% of apprenticeship costs met by government, in a policy framed as a 'co-investment', with more concessions available to smaller employers. So too the digital apprenticeship accounts of levy-paying employers will be topped-up a further 10% by government, and where training costs exceed the amounts in their accounts, government will invest 90% of these budgets.

It is still too early to evaluate the impact the Apprenticeship Levy, particularly as take-up and knowledge has been uneven in its first year of operation (CIPD, 2018). However, early indicators on the direction of travel is that the Levy will increase the number of apprentices as anticipated, although about a quarter of employers appear not to be engaging at present (CIPD, 2018), and SMEs are a key group to convince, whose barriers to training may extend beyond financial factors. The CIPD's[53] analysis also suggested that there was an issue around widening access to be broached around apprenticeships, since young people from BME and low-income backgrounds were about half as likely to be taken on for a level 3 apprenticeship, in turn limiting their labour market mobility (CIPD, 2018), an access concern echoed by the Learning and Work Institute (2018). The Apprenticeship Levy has not yet addressed this issue. An additional concern is that the Levy might incentivise some employers to present pre-existing training as apprenticeships, representing no overall gain in training opportunities, a concern that could be allayed by requiring employers to spend funds on in-demand skills (OECD, 2017). The OCED also make the case that employer reluctance around utilising the Levy highlights the need to make a stronger business case to employers of the need for training (2017), that is, of the productivity, profits and workforce gains to be produced from investing in training.

[52] At the time of writing, in power 2015-2018 (with a General Election in 2017).

[53] The UK's professional association for human resource management specialists.

3. The Changing UK labour market

> "*We are living in a period of profound economic turbulence. Establishing a sound economic footing for future generations will require us to value and develop, as never before, people with the creative ability to combine technical, professional and personal skills. Businesses are operating in increasingly demanding and dynamic environments – their needs for skills and knowledge changes with every new technology, every product, and every significant new customer who comes along. And with job growth likely to be greatest in small companies, we need a strong VET system to support those businesses, and to recognise and nurture entrepreneurial talent.*" (CAVTL, 2013: 11)

3.1 Key labour market changes

One of the key changes to the modern labour market, which will affect workforce planning and skills investment is that with increasing life expectancies working lives will be extended, and with this there will be a need to expand lifelong learning. So too, an ageing demographic will drive an increased demand around particular sectors, such as the need for more health and social care staff.

The march of technology has multiple impacts in terms of vocational education and training. It is transforming the learning experience: how it is structured, but also its timescale, and the nature of learning-teaching relationships. So too technology and automation are continually changing labour markets, as well as how individual jobs are performed, which has cumulative impacts upon the kinds of skills that are required within the workforce.

Globalisation has unequal impacts upon regions, with some local areas in the UK seeing a significant loss of work, and with that a disruption of their skills expectations. National labour markets have seen dramatic changes in recent years (Halford *et al.*, 2016) in terms of both labour market structures and new organisational forms, including subcontracting, outsourcing, and looser networks of organisations working together towards particular aims. All of this affects employers' skill requirements. With shifts in the way that work is organised, there has been a loss of lifelong occupational security, and this informs career expectations and underlines a need for lifelong learning to ensure that individual skillsets remain current.

A further complicating factor in VET provision is the increasing incidence of non-standardised employment across Europe, in which access to training, as well as social protection may be more limited. Non-standard employment, which in data collection terms has included part-time, temporary, fixed-term work, and self-employment, is often precarious and increases workforce inequalities. It can additionally have very variable levels of employment protection and working conditions, including the opportunity to pursue apprenticeships and skills development. This may be an issue for forms of work in which younger workers are over-represented, such as involuntary part-time work and digital platform work. In the UK, non-standard employment has taken on a particular significance: self-employment has risen rapidly in recent years, temporary agency work is the highest in Europe at 3.8%, and there was a big increase in the proportion of people employed on zero-hours contracts from 2013 in the UK (Eurofound, 2017). Low-skilled workers are particularly likely to experience this kind of job insecurity (Zwart and Baker, 2018).

3.2 The UK labour market and population mobility

While changes in work have been a common experience in developed countries, the UK labour market has a number of unique features or circumstances. Primary among these is the current

context of Brexit, and the uncertainty of how this will affect labour supply, which is in turn prompting mounting pressure for strategies to be developed that will enable the UK to cope with the loss of a skilled migrant workforce. A recent IPPR report framed the insecurity presented by Brexit, and the skillset changes likely to occur in the UK over the next decade or so, in terms of a 'skills crisis' (Dromey and McNeil, 2017).

The UK has seen a shift away from market dependence upon manufacturing towards a service-based economy, a transformation that has occurred in a relatively short space of time, and which demands a significant reskilling of its workforce. There have been notable gendered dimensions to this, since manufacturing industries were often male-dominated, and at the same time, there has been growing polarisation between higher and lower-skilled jobs. Furthermore, social mobility is limited in the UK, which has one of the lowest-levels of intergenerational social mobility in the OECD (Zwart and Baker, 2018). The OECD has estimated that it would take 5 generations for children born into families at the lower end of the income distribution to reach average income: children's qualification patterns and occupational attainments tend to mirror their parents' (OECD, 2018). Furthermore, an estimated quarter of UK workers have low basic skills, a figure below that of most other OECD countries, and this has lasting impact upon employability, career progress, and dispositions towards lifelong learning (Zwart and Baker, 2018).

While internal labour mobility characteristics are decidedly less marked in the UK than in China, there are still some characteristics to be noted. These are key to the analysis of VET development, since participants can only engage in training that sits within the orbits of their mobility. The UK shares with the rest of Europe, higher levels of inter-regional labour mobility than of cross-border mobility, with local authority mobility estimated at 4.9%: which is comparatively raised within the EU, albeit measured differently (Eurofound, 2014). Cross-border mobility flows, while low overall (about half that of the US), as with other EU countries, are raised for countries with related languages, that is, for example between the UK and Ireland (Eurofound, 2014): language being an enabler in work.

Some gendered effects around internal labour mobility are observable, such as female graduates' greater mobility than their male counterparts (Faggain *et al.*, 2007). There has also been some limited evidence that individuals with more resources are better equipped to respond to regional labour market disadvantage through becoming mobile, and stronger evidence that it is the young adult population that is most likely to become geographically mobile in order to pursue more productive labour markets (Pearson and Lawless, 2012). Individual resources structure students' experiences of mobility, with greater geographic mobility displayed by the more socio-economically advantaged groups of undergraduate students (Donnelly and Gamsu, 2018). Correspondingly, least student mobility, as measured from 'home' to region of study, is observed in more deprived regions, including the North East and North West of England, and Wales, areas historically associated with working-class culture and industry in the UK (Donnelly and Gamsu, 2018). The authors noted that staying closer to home for these students provided a complex mixture of family and cultural resources, which outweighed the perceived benefits of mobility at this stage in their life. Such mobility differences are significant if they then lead to longer-term geographic patterning of post-graduation skills, which disadvantage particular regions in responding to skill shifts in the labour market, and which will consequently require a nuanced and responsive local industrial strategy to resolve.

A factor which impacts on the UK's internal labour mobility is the availability of public transport, particularly in relation to public transport utilised for commuting purposes. There

are substantial variations – both in terms of per capita and in absolute terms – in public spending on transport in different areas of the UK. For example, the levels of planned public spending per capita on transport is nearly five times higher in London than in Yorkshire and the Humber (IPPR 2018). Thus public transport is disproportionally invested in in different geographical areas, which in turn impacts upon, and potentially impairs, individuals' capacity to effect mobility within labour markets.

Within the UK, the housing market is also an important factor that impacts upon internal labour mobility, and there are several reasons for this. Firstly, research by the BBC (2018) revealed that for a one-bedroom rental flat to be considered affordable, an individual's gross annual income would need to be £24,800 in England. In Scotland this amount is £20,700 and in Wales it is £17,600. Thus there are substantial differences in housing costs in different geographical regions of the UK, which are reflected too in property prices. However, irrespective of these differences, minimum wage rates are universal across the UK in the public sector (with some London weightings). Consequently, the higher living costs in some areas are likely to make labour markets less mobile than they might be if there was more intervention around wage rates. It is therefore unsurprising that research indicates that low skill/education workers – who typically earn lower salaries – are particularly constrained by the housing market (Gregg *et al*., 2004).

Secondly, there is a shrinking stock of social housing[54] and government data indicates that 1.8 million households are waiting to be allocated a social home (Shelter, 2018). The waiting time for such an allocation is lengthy and an analysis of the English Housing Survey in 2010/11 showed that two-thirds of those on the waiting list had been waiting for longer than one year (Shelter, 2018). Consequently, once a family is allocated a social home in a particular area, the household is likely to be reluctant to give up this home since the allocation of a home in a different geographical area can entail a substantial wait. The Centre for Social Justice (2013) in the UK argues that social housing tenants are disproportionately geographically immobile in comparison to the rest of the population and a key reason for this is the current social housing system, which they suggest traps social tenants in geographical areas. There are complex reasons then, why labour market mobility in the UK is informed by socio-economic factors, and it cannot be assumed that population movement will follow skill shortages without first addressing the infrastructural issues raised here, and tackling the *causes* of the barriers to geographic labour mobility.

By contrast, there are some aspects of the UK welfare system that promote internal labour mobility. The welfare system provides work-related benefits, which are universally applicable across all areas of England, Wales and Northern Ireland[55]. Thus, individuals are free to move around these areas of the UK and remain entitled to the same benefits, such as Universal Credit, which financially supports individuals seeking work. In many other senses, however, the introduction of Universal Credit has attracted widespread criticism (Dwyer and Wright, 2014; Millar and Bennett, 2017), not least for failing to support workers in precarious labour markets (Dean, 2012). There is also concern that a single benefit (Universal Credit replaced six previous working benefits) will inevitably be unable to provide appropriate support to claimants' wide range of labour market and broader circumstances (Millar and Bennett, 2017). This signals a clear need for employment and social protection management systems to work

[54] Shelter (2018 [online]) defines social housing as: "housing let at low rents on a secure basis to those who are most in need or struggling with their housing costs. Normally councils and not-for-profit organisations (such as housing associations) provide social housing in the UK."

[55] Scotland now has devolved power of its welfare system.

together in an integrated way to ensure that workers on low incomes are able to effect desired mobility and skills development that is also likely to benefit the economy. Additionally, policy instruments need to work intelligently, informed by labour market data to tackle geographical disparities, and to talk to each other on multiple levels. Despite this, Eurofound (2014) noted a broader lack of utilising policy instruments to target mobility around skill shortages in EU countries, and even less evaluation of these techniques.

3.3 Scoping of future skills

Changing labour markets and occupations will shift the skills base needed within the UK economy. Certain occupations, including education, healthcare, and public sector organisations have been forecast to grow, while there will be a reduced demand for the skills incumbent in construction, agriculture, and administration (Bakhshi *et al.*, 2017). Through mapping future employment patterns, the authors of the Nesta report anticipated that the skills most central to the new economy will be communicative, higher-order cognitive, systems and digital skills. The latter will be critical both in and of themselves in a labour market being driven by technological change, but also in terms of being maintained over the lifecourse, and in training being integrated into occupational structures across social groups. Other jobs likely to prove resilient, or for which there will be increased demand include those not subject to international trade, such as food preparation, hospitality and leisure services, and elementary occupations; creative jobs; and artisanal jobs (Bakhshi *et al.*, 2107).

One of the challenges for policy makers will be developing the kinds of training infrastructures that ensure a ready labour supply of the skills needed for the future economy, and many of the UK's future skills needs are anticipated to be at the VET level. Other key trends driving the UK's future job markets are decarbonisation and the creation of green jobs (such as, scientists, engineers and technicians); the ageing demographic (informing a need for more health and social care staff, and prompting concerns about replacing retirees); globalisation (prompting the unequal distribution of work and loss of work opportunities in some areas; and Brexit (and the potential loss of a migrant workforce) (Dromey and McNeil, 2017).

3.4 Capacity-building around VET

The challenge then, is building capacity around vocational education and training in order to meet the demands of the new work landscape and quality-orientated economic development within a global economy. So too VET systems much be responsive to local needs and maintain the quality of the qualifications provided, in order to ensure appropriate coverage that fits with employers' needs. Part of this will include ensuring that local enterprise partnerships (LEPs) – the voluntary partnerships between local authorities and businesses, with the responsibility for leading on local economic growth - have good access to labour market data to support this. Funding cuts around the UK's austerity policy (2010 – current) have provided an additional challenge, and Brexit is likely to further complicate matters.

The key response to changing skill demands from the UK government has been the Apprenticeship Levy (see section 2.4 above), operational from 2017, and intended to bolster adult further education. Critics have already suggested that the Levy will be insufficient to counter existing skills deficits in the workforce, and have proposed that its reach be extended as a central strategy of investing in high-quality skills development and VET (Dromey and McNeil, 2017).

4. Changing VET in relation to labour market needs

A number of areas of the UK's vocational education training system look likely to shift in the near future in relation to its changing labour market.

4.1 VET impacts upon labour force quality

The funding cuts of the UK's austerity regime have had the unintended effect of incentivising training providers to pursue easy wins, that is, to offer cheaper-to-deliver and more simple courses, at the expense of developing more complex and higher-quality training that might engage employers in more challenging ways. The effect of this can be to work against the development of specialist and higher-quality vocational training, and to exacerbate skills gaps in some sectors, at precisely the point when future indicators point towards an economy that requires a range of innovative and specialist skills (Bakhshi *et al.*, 2017; Dromey and McNeil, 2017). This is already becoming apparent: in 2015 the UKCES Employer Skills Survey reported that 14% of employers were experiencing skills gaps within their workforces, and two-thirds of employers were experiencing recruitment difficulties (UKCES, 2016). A consensus is emerging in the UK that its VET system is in urgent need of steering towards greater trainee-skills alignment or matching in order to avoid further growth in the skills gap, and with it an overall decline in labour force quality.

4.2 Relationship between VET, age and career

A critical issue in the ensuring that VET meets the needs of the future workforce is taking a lifecourse approach to training needs, particularly so with increasing life expectancy and the kinds of demographic shifts that necessitate extended working lives as a policy tool. The UK's participation in lifelong learning is currently higher than the EU average (19.4% compared to 9.1%) (European Centre for the Development of Vocational Training, 2013). So too, apprenticeships have been getting older in the UK, influenced by the 2017 funding changes. However, apprenticeships still remain a relatively younger training experience in the UK, with 54% of starts from the under 25s (Powell, 2018). So too, the UK's vocational training system has been criticised for its rigidity around specific occupational pathways, which fails to foster the kind of outlooks among participants likely to position them as lifelong learners (Keep, 2012).

4.3 Gaps and inequalities

A number of gaps and inequalities are evident in the UK VET system, which provide learning for future development. Firstly, pay progress has not matched VET development (Leitch, 2006), some indication that the UK's vocational training has low value with employers. One consequence of poor alignment between VET and post needs, noted by Dieckhoff (2008), is that employers need to provide additional in-house training; however, internal training will be job-specific and unlikely to provide transferability to other organisations, potentially keeping employees stuck in posts that they have outgrown. Indeed, the OECD estimate that the UK has one of the EU's highest rates of under-qualification (2017). Simultaneously, it displays the single highest rate of over-qualification for jobs (Dromey and McNeil, 2017), suggesting a mismatch at the higher education level between qualifications and workforce skills needed. Over-qualification is itself a form of underemployment, and indeed the underutilisation of skills within the economy provides a concern regarding its potential impacts upon national efficiency. The authors of the IPPR report suggest that some of the indicators that can be utilised to identify workforce skills shortages include low productivity, low pay, and sectoral imbalances (Dromey and McNeil, 2017). The OECD Skills for Jobs database currently identifies knowledge gaps in the UK workforce relating to education and

training, health services and STEM subjects, as well as sectoral-transferrable skills gaps around verbal, quantitative, complex problem solving, reasoning and social competences (OECD, 2017).

Relative to its EU neighbours, the UK currently has low levels of employer investment in VET, and this fell by 13.6% between 2007 and 2015 (Dromey and McNeil, 2017: 65) (see Figures 2 and 3 below). Notably, this comparison predates the introduction of the Apprenticeship Levy in the UK, which it might be expected will increase employer contributions over the longer-term.

A further inequality in vocational training in the UK, is the growing geographical discrepancy in the UK's provision, with a widening skills gap evident between the north of England and the rest of the UK (OECD, 2015). This is likely to have impacts upon productivity, and further exacerbate regional differences and quality of life issues (Round, 2018). The UK training system has proved ill-equipped to address workforce inequalities, particularly in terms of its poor engagement with deindustrialising regions (such as the north of England), and those with least skills and financial resources the least likely to participate in training. Zwart and Baker (2018) suggest that a useful policy response to addressing geographical skills mismatch issues would be to promote workers' labour market mobility by removing barriers to their moving to posts where their skills were needed (see section 3.2).

Figure 2: Cost per employee of continuing vocational training courses by EU country, 2010

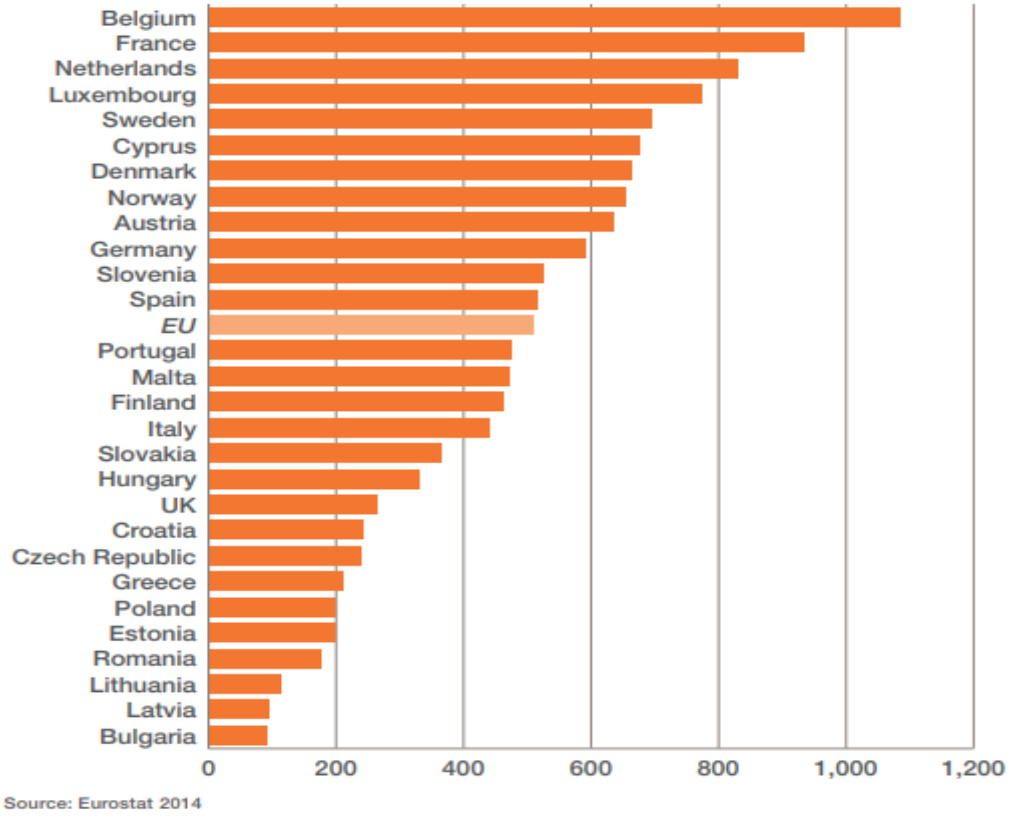
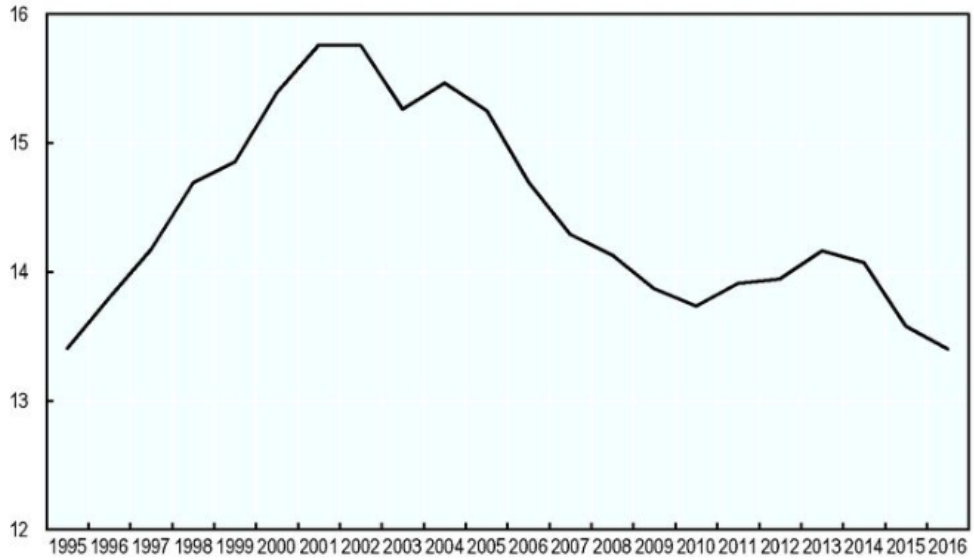


Figure 3: Share of employees age 16-64 receiving job-related training in the UK over time



Source: Office for National Statistics.

5. Future challenges

Key among the issues that will provide a future challenge to the way VET is organised in the UK is demographic change, and the ageing workforce which this has prompted. It is estimated that there will be a shortfall of 6.5m younger workers entering the labour market by 2022 (CIPD, 2012). The implications of this shift are that there will be a more pressing need for VET to be effectively targeted at young people to provide maximum occupational gain, but also that VET will need to expand its range across the labour force.

Alongside this, there is a need to raise and maintain the quality threshold of VET to ensure that it meets employers' needs within changing workplaces. Technological shift will be a key challenge within this, both in terms of provision reflecting how learning process are being revised by technology, and also in ensuring that vocational training's content incorporates ongoing skill shifts that have been driven by technological change.

6. Relationship between VET and quality-orientated economic development

The UK experience of VET provides several learning points in terms of how VET can impact upon quality economic development in the labour market. The Apprenticeship Levy has been the key policy tool used by UK government in recent years in taking a more proactive approach to VET, and even before this experts were arguing that investment in vocational skills would have economic benefits for the country. For example, the Centre for Economics and Business Research (CEBR) estimated that raising VET spending by 10% would in turn increase UK Gross Domestic Product (GDP) by £163b (CEBR, 2015). And in quantifying the impacts of existing spending, the CEBR estimated that investments over 2010-11 of £1.2b on apprenticeships had seen an economic impact of £25.3b (CEBR, 2013).

By contrast, low-skilled workers, one of the consequences of weak VET systems, actually have a negative impact upon national productivity and growth, and this is in direct contrast to the simulating economic effect of high-skilled workers (Zwart and Baker, 2018). The OECD argue that a key way for the UK to improve job quality and productivity will be through strengthening skills, and that this will also have significant impacts on individual quality of life since the impacts of higher skills on earnings is accentuated in the UK (Zwart and Baker, 2018; OECD, 2016). VET is a key tool then in promoting both labour market productivity and social mobility.

Another approach to stimulate VET provision has been preferential tax schemes for defined numbers, a catalyst that has been successful in some sectors, for example, in the UK seafaring industry (see case study in section 6.1 below). More broadly, there are relatively few sector-specific training levies in the UK, since this approach fell out of favour in the 1980s, and those remaining tend to be within the construction, engineering and film industries (OECD, 2017).

6.1 Case Study: Support for Maritime Training (SMarT) scheme

Shipping is an industry of key strategic importance to the UK, with 95% of imports and exports being transported by sea (Department for Transport, 2018). The Support for Maritime Training (SMarT) scheme was launched in 1998 to support the vocational training of officers, cadets and ratings (Maritime and Coastguard Agency, 2014). Alongside this, the UK Tonnage Tax scheme provides an incentive for the provision of training to seafarers, in that in order to accrue financial benefits shipping companies must sign up to and agree finding for training, basing this upon their fleet size. The way the scheme works is that shipping companies are provided with the opportunity to pay tonnage tax (a form of corporation tax) on a fixed notional profit, rather on than the actual profits made on their shipping activities, and that this is calculated on the basis of ships' net tonnage.

The scheme has been successful based on a number of indicators, which provides a strong signal that it has achieved quality-orientated economic development within the UK labour market. Officer Cadet numbers have doubled, and with this the industry has benefited from an improved supply of trained seafarers, an efficiency that has broader economic benefits. An independent review has estimated that each SMarT beneficiary generated an additional £14,500 output in comparison to the UK's average worker productivity, and that the scheme in total has produced economic benefits of between £58 and £70m (scaled up to current prices) (Chamber of Shipping, 2016). In recognition of this success, in 2018 the Government announced that SMarT funding would be doubled to £30m/year (Gov, 2018).

7. Recent policy development on these issues

The *Post 16 Skills Plan* of 2016 attempted to confront some of the long-standing problems in the UK's VET system, and to propose reform, including around VET's relatively weak standing and connections to work pathways. It set out a vision that effective training be provided to create a high-skill workforce, and that 16 year olds were offered robust choices about academic and technical training that prepared them for the modern labour market. This was to be provided through a common framework of 15 routes of technical education (branded 'T levels', and designed in consultation with employers), with a higher proportion of time invested in weekly training by participants than previously, and a raising of the quality standards of technical education to new global standards. This is in contrast to the markedly varied routes through vocational education that have previously characterised the sector, including more than 20,000 courses being on offer (Zwart and Baker, 2018). The Institute of Apprenticeships, which is part of this sequence of policy change, sets out to coordinate employer panels around apprenticeship standards.

Following on from this, the UK's *Industrial Strategy* white paper has committed the Government to raising the standing of technical education to that of academic education, with high levels of occupational competency (HM Government, 2017). This has been kick-started by the extension of the Apprenticeship Levy earlier in 2017, intended to provide for 3m new apprenticeship starts by 2020, and it was anticipated that T-levels would eventually attract

£500m of funding. The White Paper also announced the creation of a National Retraining Scheme (NRS), tapping into concerns that training required a more age-distributed focus to be taken, as well as those relating to the changing skills makeup necessitated by an increasingly digitised and automated labour market. The NRS would be stimulated by a £64m investment in the priority areas of digital and construction training, and together this policy programme provides some departure from the UK's more traditional free market (and arguably unsuccessful) approach to VET, offering the potential to bring it more in line with the more interventionist approach of comparable developed countries.

8. Conclusions

Vocational training stands amid changing times and some of the new challenges ahead will call for more responsive VET infrastructures, that expertise and skills are built in line with labour market demands, and that the quality of training is maintained. Thus far, the UK's market-reliant approach has not prevented skills gaps from emerging within its labour force, indicating a need for better communication with employers regarding their VET needs. Indeed, the pace of change amid international labour markets (Halford *et al.*, 2016) arguably calls for more accurate and nuanced forecasting and management of anticipated skills sets supported by high-quality data, with active labour market policies deployed around low-skilled workers for whom the risk of labour market deprivation is greater. This broader set of employment and social protection policy will need to engage with the barriers to mobility in order to promote participation in the kind of VET that will drive the skillsets of the economy's future.

Now and in the future, there is a need to invest in extending the reach of VET provision, as well as developing consistent incentives to ensure that employers in turn invest in VET. This process has already started in the UK with the Apprenticeship Levy, and initiatives like the SMarT scheme in the seafaring industry suggest the potential in developing sectoral schemes. At the broader level, shifts in demography and work organisation will drive a demand for lifelong learning, and there is significant work to be done in developing an infrastructure that supports this. Finally, policy should focus attention on how high-quality VET can be driven, at the same time as making it attractive to deliver by the different kinds of providers who have come to characterise the UK vocational and education training market.

References

Bakhshi, H., Downing, J., Osborne, M. and Schneider, P. (2017) *The Future of Skills: Employment in 2030*, London: Pearson and Nesta.

BBC (2018) Where does rent hit young people the hardest? https://www.bbc.co.uk/news/business-45559456

BIS (2009) *Skills for Growth*, London: Department of Business, Innovation and Skills.

BIS and DfE (2016) *Post-16 Skills Plan*, Cm 9280 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/536043/Post-16_Skills_Plan.pdf

Brockmann, M., Clarke, L. and Winch, C. (eds.) (2011) *Knowledge, Skills and Competence in the European Labour Market: What's in a Vocational Qualification*? Abingdon: Routledge.

CAVTL (2013) *It's about work … Excellent adult vocational teaching and learning*, Learning and Skills Improvement Service 324.

CEBR (2014) *Economic impact of apprenticeships: A CEBR report for the Skills Funding Agency*. Available at: http://www.cebr.com/reports/economic-impactof-apprenticeships

CEBR (2015) *Report for the City & Guilds Group.*

Centre for Social Justice (2013) Social mobility requires geographical mobility. https://www.centreforsocialjustice.org.uk/csj-blog/social-mobility-requires-geographic-mobility

Chamber of Shipping (2016) *SMarT Plus.*

CIPD (2012), 'Managing a healthy ageing workforce: a national business imperative'. London: CIPD.

CIPD (2018) *Assessing the early impact of the Apprenticeship Levy: Employers' perspective*

Dean, H. (2012) 'The ethical deficit of the United Kingdom's proposed Universal Credit: Pimping the Precariat?', *Political Quarterly,* 83 (2): 353–9.

Department for Transport (2018) UK port freight statistics 2017 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/739789/port-freight-statistics-2017.pdf

Dieckhoff, M. (2008) 'Skills and occupational attainment: a comparative study of Germany, Denmark and the UK', *Work, Employment and Society*. 22 (1): 89-108.

Donnelly, M. and Gamsu, S. (2018) ' Regional structures of feeling? A spatially and socially differentiated analysis of UK student im/mobility', *British Journal of Sociology of Education* https://doi.org/10.1080/01425692.2018.1426442

Dromey, J. and McNeil, C. (2017) *Skills 2030: Why the Adult Skills System is Failing to Build and Economy that Works for Everyone*, IPPR https://www.ippr.org/files/publications/pdf/skills-2030_Feb2017.pdf

Dwyer, P. and White, S. (2014) 'Universal Credit, ubiquitous conditionality, and its implications for social citizenship', Journal *of Poverty and Social Justice*, 22 (1): 27-35.

Eurofound (2014) *Labour Mobility in the EU: Recent trends and policies*, publication office of the European Union, Luxembourg https://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_document/ef1456en_1.pdf

Eurofound (2017) *Labour Market Change: Non-standard forms of employment: Recent trends and future prospects*, Dublin: Eurofound https://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_document/ef1746en.pdf

European Centre for the Development of Vocational Training (2013) *On the way to 2020: data for vocational training and training policies. Country Statistical Overviews*, Research Paper no.31, https://warwick.ac.uk/fac/soc/ier/publications/2013/th_lg_cedefop_research_paper_no._31_2013.pdf

Eurostat (2014) *Continuing Vocational Training Survey* https://ec.europa.eu/eurostat/web/microdata/continuing-vocational-training-survey

Faggian, A., McCann, P. and Sheppard, S. (2007) 'Some evidence that women are more mobile than men: Gender differences in UK graduate migration behaviour', *Journal of Regional Science*, 47 (3): 517-539.

Foley, B. and Brinkley, I. (2015) *Unemployed and overqualified? Graduates in the UK labour market*, The Work Foundation.

Fuller, A. and Unwin, L. (2011) 'Vocational training and education in the spotlight: back to the future for the UK's Coalition Government?', *London Review of Education*, 9 (2): 191-204.

Gregg, P., Machin, S., & Manning, A. (2004). Mobility and joblessness. In *Seeking a premier economy: The economic effects of British economic reforms, 1980-2000* (pp. 371-410). University of Chicago Press.

Gov (2018) Government doubles trainee funding in SMarT move to boost UK maritime sector https://www.gov.uk/government/news/government-doubles-trainee-funding-in-smart-move-to-boost-uk-maritime-sector

Halford, S., Hudson, M., Leonard, P., Parry, J. and Taylor, R. (2016) *The New Dynamics of Work Scoping Study*, Work Futures Research Centre Working Paper http://workfutures.southampton.ac.uk/files/2013/08/2016-NewDynamicsOfWork.pdf

Hansen, H., Hespanha, P., Machado, C. and van Berkel, R. (2002) in van Berkel, R. and Møller, I.H. (eds.) *Active Social Policies in the EU: Inclusion through participation?* Bristol: Policy Press.

HM Government (2017) *Industrial Strategy: Building a Britain fit for the future* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/664563/industrial-strategy-white-paper-web-ready-version.pdf

HM Treasury (2015) *Spending review and autumn statement 2015*, Policy paper.

IPPR (2018) New transport figures reveal North to receive "indefensible" £2,555 less per person than London. https://www.ippr.org/news-and-media/press-releases/new-transport-figures-reveal-north-to-receive-indefensible-2-555-less-per-person-than-london

Keep, E. (2012) *Reforming Vocational Qualifications: Some problems ahead?*, SKOPE Issues Paper 28.

Learning and Work Institute (2018) *All change: Where next for apprenticeships? Ten essays on quality, access and the future https://www.learningandwork.org.uk/wp-content/uploads/2018/06/All-Change_Where-next-for-apprenticeshpis-1.pdf*

Leitch, S. (2006) *Prosperity for all in a global economy – World class skills*, The Stationary Office http://dera.ioe.ac.uk/6322/1/leitch_finalreport051206.pdf

Maritime and Coastguard Agency (2014) Support for maritime training https://www.gov.uk/guidance/support-for-maritime-training-smart

Millar, J. and Bennett, F. (2017) 'Universal Credit: Assumptions, Contradictions and Virtual Reality', *Social Policy and Society*, 16 (2): 169-182.

OECD (2014) *Skills Beyond School: Synthesis report*, OECD Reviews of Vocational Education and Training http://www.oecd.org/education/skills-beyond-school/Skills-Beyond-School-Synthesis-Report.pdf

OECD (2015) *Employment and Skills Strategies in England, UK*, OECD Reviews on Local Job Creation, Paris: OECD Publishing https://www.oecd-ilibrary.org/employment/employment-and-skills-strategies-in-england-united-kingdom_9789264228078-en

OECD (2016) *Skills Matter: Further Results from the Survey of Adult Skills*, OECD Skills Studies, Paris: OECD Publishing https://www.oecd-ilibrary.org/education/skills-matter_9789264258051-en

OECD (2017) *Getting Skills Right: United Kingdom*, Paris: OECD Publishing https://read.oecd-ilibrary.org/employment/getting-skills-right-united-kingdom_9789264280489-en#page1

OECD (2018) *A Brocken Social Elevator? How to promote social mobility. How does the United Kingdom compare?* Directorate for Employment, Labour and Social Affairs http://www.oecd.org/social/broken-elevator-how-to-promote-social-mobility-9789264301085-en.htm

Page, R. and Hillage, J. (2006) *Vocational Education and Training in the UK: Strategies to overcome skills gaps in the workforce*, Institute for Employment Studies, Brighton.

Pearson, S. and Lawless, P. (2012) 'Population mobility in regeneration areas: trends, drivers, and implications; evidence from England's New Deal for Communities Programme', *Enviro*

Powell, A. (2018) *Apprenticeship Statistics: England*, House of Commons Briefing Paper.

Round, A. (2018) 'Northern Leaders Must Tackle Widening Skills Crisis', IPPR https://www.ippr.org/news-and-media/press-releases/northern-leaders-must-tackle-widening-skills-crisis

Shelter (2018) Improving social housing. http://england.shelter.org.uk/campaigns_/why_we_campaign/Improving_social_housing

UK Commission for Employment and Skills (2016) *UKCES Employer Skills Survey 2015: UK Report* https://www.gov.uk/government/publications/ukces-employer-skills-survey-2015-uk-report

Wolf, A. (2011) *Review of Vocational Education – The Wolf Report*, London: Department for Education (DFE).

Zwart, S. and Baker, M. (2018) 'Improving productivity and job quality of low-skilled workers in the United Kingdom', *OECD Economics Department Working Papers*, No.1457, Paris: OECD Publishing.