



## **Working Paper Series**

*A Youth strategy for Europe's future.*

*The impact of the Digital Revolution on the European youth. Case  
study: Romania*

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*November 2018, Bucharest, Romania*

***A Youth strategy for Europe's future.***  
***The impact of the Digital Revolution on the European youth. Case study:***  
***Romania<sup>i</sup>***

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**Abstract:**

*The youth unemployment is not a new phenomenon and several EU Member States are dealing with various levels of youth unemployment. Moreover the 2008 economic crisis has accentuated this this phenomenon and made even more difficult the youth integration on the labour market.*

*Several EU instruments have been created to deal with this: either the Youth Guarantee or the Youth Employment Initiative. Added to them the Erasmus+ and the European Solidarity Corps represent highly efficient tools for developing personal competencies of the young generation, all while using a simplified budgeting model that may be extended toward financing other youth activities.*

*Despite the efforts taken and the already important results the EU still has a lot to do in regards the accomplishment of the objectives it set up to do. The new social changes from migration to demographic decline up till the new labour forms, interaction and communication generated by the Digital Revolution need to be addressed in order to fully update the European Youth Strategy.*

*Education and employment remain at the top of EU agenda, and the desire to support young people to transit successfully from the former to the latter is clearly visible in the Youth Strategies. Yet the education and training system are still ill-equipped to deal with the upcoming challenges of the Digital Age.*

*The youth remains a highly vulnerable category. Unlike the “millennials” who benefited from all the positive results of the demographic boom, from easier employment to an adequate pension, the today youth, although ‘digital natives’ is having difficulties in finding a proper work place, has difficulties with accommodation and a state guarantee pension seems a faraway dream.*

*At the time being the analysis of the impact of the Digital Revolution on the Youth Strategy is more than necessary as it may play a crucial part in defining the EU policies for the next period.*

*In the case of the digital economy we have on the one hand the specific competencies and qualifications it requires that change the content of employment and on the other hand the processes of “job creation” and “job destruction” that don’t always match in size and dynamics. The youth would require to learn new things such as: soft skills; data science or multidisciplinary, in an ever changing environment. As such a mismatched Youth Strategy would only increase the digital divide and create serious risks either social, economic or political ones.*

**Keywords:** *youth; digitalisation; challenges; European Union*

**Disclaimer:** *This is a working paper, and hence it represents research in progress. The views and opinions expressed in this working paper are those of the author alone and do not necessarily reflect the official policy or position of any organization he is connected to.*

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## **Foreword**

At the time being the analysis of the impact of the Digital Revolution on the Youth Strategy is more than necessary as it may play a crucial part in defining the EU policies for the next period.

In the case of the digital economy we have on the one hand the specific competencies and qualifications it requires that change the content of employment and on the other hand the processes of “job creation” and “job destruction” that don’t always match in size and dynamics.

The youth would require to learn new things such as: soft skills; data science or multidisciplinary, in an ever changing environment. As such a mismatched Youth Strategy would only increase the digital divide and create serious risks either social, economic or political ones.

The purpose of this paper is thus to present the main characteristics of the current European Youth and the challenges it will confront in the future. It takes into consideration and analyse the main framework of the youth policies at the European level and also the current and future challenges: demographic, migration and most important the evolutions driven by the Digital Revolution.

The paper would thus analyse the European and national framework of the Youth Strategy: characteristics and challenges (with a close look on the education and skills) and also analyse the main characteristics of the Digital Revolution and of the Digital Age and their impact upon the implementation of the European Youth and society as a whole.

All the possible policy recommendations in that area would need to implement sustainable measures meant to lead to a real process of social convergence through education for the labour market, the compatibility of competencies with the new societal and labour market demands, the promotion of efficient mechanisms and procedures for active social inclusion of youth.

### **A. The State of Play of today youth. Characteristics and the Youth Strategy Framework**

#### **I. The European and national framework of the Youth Strategy: characteristics and challenges**

##### **I.1. New Skills Agenda for Europe<sup>ii</sup>**

When we speak about the youth and their future the concept of “skills” come up in the forefront of any discussion as they can provide to young people a head start in finding a good job and fulfilling their potential. Yet the situation is quite dramatic in Europe as in 2016 70 million Europeans lack adequate reading and writing skills, and even more have poor numeracy and digital skills, putting them at risk of unemployment, poverty and social exclusion. At the same time, 40% of European employers have difficulty finding people with the skills they need to grow and innovate while a lot of young people work in jobs that do not match their talents.

This situation was therefore reflected in the first principle of the European Pillar of Social Rights: “1. *Education, training and life-long learning. Everyone has the right to quality and inclusive education, training and life-long learning in order to maintain and acquire skills that enable them to participate fully in society and manage successfully transitions in the labour market.*”<sup>iii</sup>

We can see a reflection of it the European Commission Communication – *A new skills agenda for Europe* adopted on 10 June 2016. This new skills Agenda launches a series of ten actions centred around three key work strands:

1. Improving the quality and relevance of skills formation.
2. Making skills and qualifications more visible and comparable.
3. Improving skills intelligence and information for better career choices.

The ten actions are there for the following:

1. **a Skills Guarantee** that would enable low-qualified adults to identify their existing skills and their upskilling needs. *Low-skilled adults should be helped to improve their literacy, numeracy and digital skills and – where possible – develop a wider set of skills leading to an upper secondary education qualification or equivalent.* It was implemented via Council Recommendation of 19 December 2016 on Upskilling Pathways: New Opportunities for Adults<sup>iv</sup>
2. *a revision of the **Key Competences Framework** launched in 2017.* The goal is to develop a shared understanding of key competences and to further foster their introduction in education and training curricula.
3. *Making Vocational education and training (VET) a first choice by supporting opportunities for learners to undertake a work-based learning experience as part of their studies.*
4. *the **Digital Skills and Jobs Coalition** to develop a large digital talent pool and ensure that individuals and the labour force in Europe are equipped with adequate digital skills. Member States are invited to **develop comprehensive national digital skills strategies by mid-2017 on the basis of targets set by end-2016.*** This includes:

- ✓ Establishing national digital skills coalitions connecting public authorities, business, education, training and labour market stakeholders.
  - ✓ Developing concrete measures to bring digital skills and competences to all levels of education and training, supporting teachers and educators and promoting active involvement of business and other organisations.
5. *putting forward a proposal for the revision of **the European Qualifications Framework***. The revision will:
    - ✓ support a regular update of the national qualifications systems;
    - ✓ ensure that qualifications with an EQF level are underpinned by common principles for quality assurance<sup>v</sup>;
    - ✓ ensure that common principles for credit systems are used when qualifications with an EQF level are built on credits;
    - ✓ encourage the use of EQF by social partners, public employment services, education providers and public authorities to support transparency and the comparison of qualifications;
    - ✓ promote the comparability of qualifications between the countries covered in the EQF and other countries, in particular Neighbourhood Countries and other countries with mature qualifications frameworks, in accordance with EU international agreements
  6. *launch a '**Skills Profile Tool for Third Country Nationals**'*. The tool will assist services in receiving and host countries to identify and document skills, qualifications and experience of newly-arrived Third Country Nationals (launched in June 2017)
  7. *a **revision of the Europass Framework*** to set up an intuitive and seamless online service platform. It will provide web-based tools for documenting and sharing information on skills and qualifications, and free self-assessment tools.
  8. *the issue of **brain drain** and promote the sharing of best practice as regards effective ways of tackling the problem.*
  9. *a **Blueprint for Sectoral Cooperation on Skills***. It will help mobilise and coordinate key players, encourage private investment and promote more strategic use of relevant EU and national funding programmes.
  10. *an **initiative on tertiary graduate tracking*** to support Member States in improving information on how graduates progress on the labour market.

The Commission will also engage in a more in-depth dialogue with Member States on how to best use the opportunities offered by existing funding programmes to meet the Agenda' objectives. The main instruments concerned are the European Social Fund (ESF), the European



Regional Development Fund (ERDF), the European Agricultural Fund for Rural Development (EAFRD), the European Maritime and Fisheries Fund (EMFF), the Asylum, Migration and Integration Fund (AMIF), Horizon 2020 and Erasmus +. The potential of the EIB and other financial organisations and products - including the European Fund for Strategic Investments – should also be used to the full to boost private-sector investment in skills development.

## **I.2. European Policies and Initiatives in the youth sector**

### **I.2.1. European Cooperation in the Youth Sector**

The European cooperation in the Youth sector is done mostly through the

- **Open Method of Coordination (OMC)**
- **European Youth Strategy**

The **Open Method of Coordination** aims to set a joint agenda, exchange best practices and improve the evidence base for policy-making. The OMC provides a flexible and efficient means for sharing ideas and implementing policies.

Priorities and the tools needed to achieve agreed objectives are laid down in **the EU Youth Strategy**. In particular, this:

1. identifies and defines joint policy objectives
2. establishes shared tools to measure policy impact
3. encourages benchmarking between Member States i.e. comparison of performance and exchange of best practices<sup>vi</sup>

The EU Youth Strategy sets out a framework for **cooperation** covering the years **2010-2018**. It has two main objectives:

- To **provide more and equal opportunities for young people** in education and the job market
- To **encourage young people to actively participate in society**

These objectives are supported by initiatives in **eight areas**:

- Employment and entrepreneurship
- Social inclusion
- Participation
- Education & training
- Health & well-being
- Voluntary activities

- Youth & the world
- Creativity & culture

In May 2018 a new *Communication of the European Commission - 'Engaging, Connecting and Empowering young people: a new EU Youth Strategy'*<sup>vii</sup> put on the public agenda the European vision for next EU Youth Strategy to be implemented between 2019 – 2027 meant to provide to the young generation a stronger voice

The Commission Communication focuses on the following areas of action:

**ENGAGE:** Fostering young people's participation in civic and democratic life

**CONNECT:** Connecting young people across the European Union and beyond to foster voluntary engagement, learning mobility, solidarity and intercultural understanding

**EMPOWER:** Supporting youth empowerment through quality, innovation and recognition of youth work

By developing cross-sectoral approach it hopes also to address the needs of young people in other EU policy areas.

As a novelty we should mention issues such as:

- A clearer link between EU youth policy implementation and related programme activities in Erasmus+ and the European Solidarity Corps.
- A renewed EU Youth Dialogue to take youth concerns better into account and ensure wider outreach, including through innovative formats.
- Tracking of EU spending for youth in main funding programmes.
- An agenda for youth work to further improve its quality, innovation and recognition and to allow other sectors to capitalise on the potential of non-formal learning.

### **I.2.2. Erasmus + Programme**<sup>viii</sup>

Erasmus+ is the EU's programme to support education, training, youth and sport in Europe for 2014 – 2020. With a budget of 14.7 billion it has a flexible structure, with simpler financing conditions. The programme wants to tackle issues such as: reducing unemployment, especially among young people and promoting adult learning, especially for new skills and skills required by the labour market.

Its budget is 40% higher than for the period 2007-2013 and reflects the importance EU provides to these areas. Also it is said that the 2021-2027 budget would double.

Erasmus+ helps the young generation to develop their competences and improve their employability chances while offering them the chance to take part in European projects. The

youth organizations can develop new and innovative approaches in a nonformal context and can cooperate with other organization from other countries.

It does that by:

- Facilitating the transition between education and work;
- Funding for more than 25 000 partnerships across 125 000 education, training and youth organisations and enterprises. These organisations work with peers in other countries in their own sector and other sectors to develop, transfer and implement innovative education, training and youth practices. For example, they develop new teaching practices or curricula, or allow students to study real-life cases in business and industry;
- Boosting employment and entrepreneurship;
- Support for more than 300 large partnerships among education institutions and enterprises to tackle skills gaps and foster start-ups.<sup>ix</sup>

#### What about Romania?

In accordance with the 2016 data, 24 625 participants in 511 Romanian projects benefited from mobility in higher education, vocational education and training, school education, adult learning and youth for a total grant amount of € 43.75 million.<sup>x</sup>

Attention! In the European programmes the maximal age of eligibility is 30 years old while in Romania the youths are all those up till 35 years of age.

In May 2018, for the next long-term EU budget 2021-2027, the European Commission is proposing to double the funding for Erasmus to €30 billion. With doubled funding, this programme will be even more effective in supporting key political objectives such as building a *European Education Area* by 2025, empowering young people and promoting a European identity through youth, education and culture policies.<sup>xi</sup>

### **I.2.3. European Solidarity Corps<sup>xii</sup>**

The European Solidarity Corps brings together young people to build a more inclusive society, supporting vulnerable people and responding to societal challenges. It offers an inspiring and empowering experience for young people who want to help, learn and develop.

This strategic instrument was officially launched in December 2016 after having being announced by the EC President Jean-Claude Juncker in his State of the union speech from September 2016.

In the beginning it was financed by various other similar EU programs the most extensively used being the Erasmus + more precisely the European Voluntary Service.

There is already an EU Regulation regarding it from 2 October 2018 regarding the legal framework of the European Solidarity Corps and amending Regulation (EU) No 1288/2013, Regulation (EU) No 1293/2013 and Decision No 1313/2013/EU<sup>xiii</sup> which clearly stipulates that it „shall enhance the engagement of young people and organisations in accessible and high-quality solidarity activities with a view to contributing to strengthening cohesion, solidarity and democracy in Europe, with particular effort to the promotion of social inclusion.”

As a general objective the ESC wants “promote solidarity as a value, mainly through volunteering, enhance the engagement of young people and organisations in accessible and high-quality solidarity activities as a means to contribute to strengthening cohesion, solidarity, democracy and citizenship in Europe, while also responding to societal challenges and strengthening communities, with particular effort to promote social inclusion.”

The European Solidarity Corps has an overall indicative financial envelope of EUR 375.6 million of the EU Budget for the period 2018-2020<sup>xiv</sup>. For the next long-term EU budget 2021-2027, the Commission is proposing a new programme for the European Solidarity Corps beyond 2020, with €1.26 billion to broaden the opportunities it offers.<sup>xv</sup>

#### **I.2.4. ENTER! Recommendation of the Council of Europe**

In 2009, the Council of Europe’s youth sector initiated the Enter! project aiming at the development of youth policy responses to exclusion, discrimination and violence affecting young people, particularly in multicultural disadvantaged neighbourhoods.<sup>xvi</sup>

Later on starting from this project the Committee of Ministers of the Council of Europe on 21 January 2015 adopted the Recommendation CM/Rec(2015)3 **ACCESS OF YOUNG PEOPLE FROM DISADVANTAGED NEIGHBOURHOODS TO SOCIAL RIGHTS that needed to promote a youth policy based on the principles of** the to the European Social Charter<sup>xvii</sup>

This Recommendation provided some concrete recommendation such:

- improve the living conditions of young people from disadvantaged neighbourhoods by providing accessible, affordable and youth-friendly public services and other measures in the fields of education and training, employment and occupation, health, housing, information and counselling, sports, leisure and culture;

- implement concrete measures to work towards abolition of the segregation and isolation that negatively affects disadvantaged neighbourhoods irrespective of their location;
- promote meaningful opportunities and programmes for consultation and participation of young people from disadvantaged neighbourhoods in all matters related to the planning and management of their living environment;
- implement concrete measures to enable all young people to exercise their active role in society without discrimination;
- recognise the role of non-formal education and youth work, and those who deliver them, notably youth workers and youth organisations, for the prevention of discrimination, violence and exclusion and the promotion of active citizenship in disadvantaged neighbourhoods and provide support for their development;
- develop gender-sensitive approaches to the elaboration of youth policies in disadvantaged neighbourhoods, and provide support for the capacity building and equal participation of young women and young men;

Although it was a very concrete starting point and is not compulsory this Recommendation can provide a useful tool for all the interested parties in order to identify relevant measure for a certain community and ways of acting.

### **I.2.5. Youth Guarantee**

Started following the *Council Recommendation of 22 April 2013 on establishing a Youth Guarantee* the youth guarantee has as purpose to „ensure that all young people under the age of 25 years receive a good-quality offer of employment, continued education, an apprenticeship or a traineeship within a period of four months of becoming unemployed or leaving formal education.”<sup>xviiiix</sup>

Its implementation is based on six action principles: 1 Building up partnership-based approaches. 2 Early intervention and activation. 3. Supportive measures for labour market integration. 4 Use of Union funds. 5 Assessment and continuous improvement of schemes. 5 Implementation of Youth Guarantee schemes.

At the EU level the **main EU funding programme to facilitate the roll-out of the Youth Guarantee is the Youth Employment Initiative**, launched in 2014, **that** supports in particular regions where youth unemployment is higher than 25% and has a total budget of EUR 6.4 billion<sup>xx</sup>

Romania presented a Youth Guarantee Implementation Plan on 24 December 2013 and updated in September 2017. Yet *the implementation of the Youth Guarantee remains weak due to significant delays while the number of young people neither in education, employment or training (NEETs) remains very high*<sup>xxi</sup>

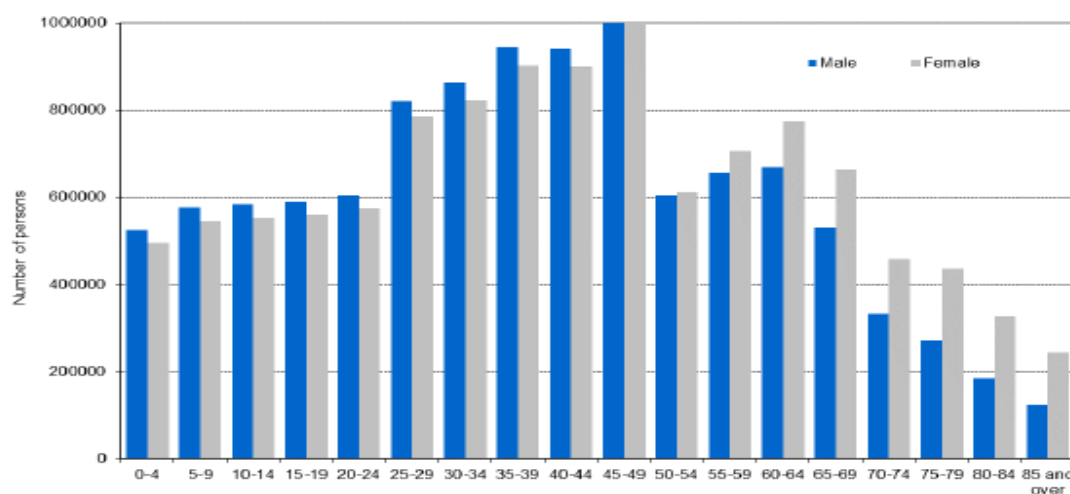
## II. Youth in Europe and Romania

### II.1. Being young in Romania

When speaking about youth we need first of all to see what we define as “youth”? UNESCO defines youth as ‘period of transition from the dependence of childhood to adulthood’s independence and awareness of our interdependence as members of a community. Youth is a more fluid category than a fixed age-group.’ Therefore “youth” is often indicated as a person between the age where he/she may leave compulsory education, and the age at which he/she finds his/her first employment. This latter age limit has been increasing, as higher levels of unemployment and the cost of setting up an independent household puts many young people into a prolonged period of dependency.<sup>xxii</sup>

The UN, defines ‘youth’, as those persons between the ages of 15 and 24 years. In the EU Strategy for Youth, the term ‘youth’ refers to teenagers and young adults aged between 13 and 30 years. EUROSTAT statistics consider the youth population to be aged between 15 and 29 years.<sup>xxiii</sup> While the Romanian legislation defines youth as being between the ages of 14 and 35 years old.

Permanent resident population by age groups and sex on 1<sup>st</sup> of July, 2018



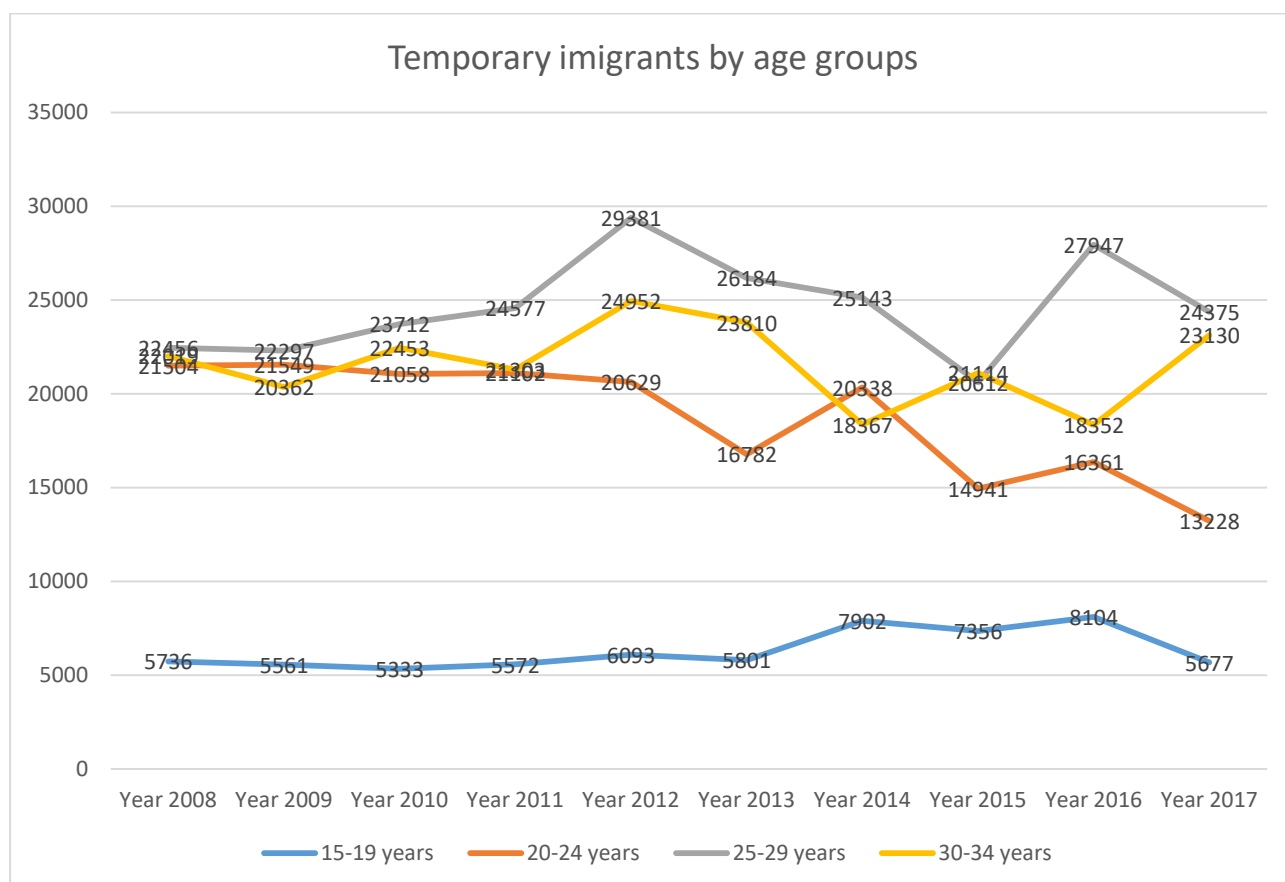
*Figure 1 Permanent resident population by age groups and sex on 1 July 2018*

Source : [http://www.insse.ro/cms/sites/default/files/com\\_presa/com\\_pdf/popdom1iul2018e.pdf](http://www.insse.ro/cms/sites/default/files/com_presa/com_pdf/popdom1iul2018e.pdf)

The young population (15-29 years old) is of approximately 88 million persons in the European Union, out of which 3,4 million are from Romania, and represent approx. 17% of the total population, dropping from 22% in 1990.

### **An all over Europe youth**

In accordance with international statistics<sup>xxiv</sup>, 3 578 504 Romanians lived outside the national borders out of which 3 108 643 in the European Union. One thirds of them live in Italy while approx. 1,2 million in Spain and Germany. Each year approx. 200.000 persons are enlisted as temporary migrants<sup>xxv</sup>, meaning they have left informally without changing their residence in Romania. From an age perspective the statistics show that the majority of the persons that went abroad are working age persons (88%). Out of 207 578 registered migrants in 2016, 93 457 are young people aged 15 to 29 years that surpasses those between 30-64 years.



*Figure 2 Temporary immigrants by age groups*

Source: INS, TempoOnline

## Why the young people go?

The youth motivation for going abroad is not necessarily linked with obtaining high incomes but are also related to a series of reasons both material and personal, from family and friend's reunion to education opportunities and a better life condition. Simply put youth departure is seen as a path toward success<sup>xxvi</sup>.

It seems to be a strong link between the desire to go abroad (even temporary) and gender (men are more incline to go), family status (those married are less tempted to leave). Also, there no significant differences between youth from urban or rural areas, incomes or labour market status as regards emigration. As for the return – it is more motivated by family issues<sup>xxvii</sup>.

## II. 2. Being young in Europe<sup>xxviii</sup>

### *As the Eurostat data shows there are just under 167 million children and young people in the EU-28 in 2016*

Figures for 2016 indicate that there were just over 510 million inhabitants in the EU-28. Of these, 79 million were children aged 0-14 years, which was 9 million fewer than the number of young people aged 15-29 years. As such, nearly one third of the EU-28's population — just under 167 million inhabitants — were under the age of 30 in 2016, with children accounting for a 15.6 % share of the EU-28's population and young people for a slightly higher share, 17.4 %.

The combined share of children and young people (those aged 0-29 years) in the EU's population fell from 39.6 % in 1996, through 35.5 % in 2006, to 33.0 % by 2016 (see Table 1). The rate of change in the number of young people was relatively constant over the period under consideration, while the decline in the proportion of children was much less during the period 2006-2016 than during the period 1996-2006 (as a result of a modest upturn in fertility rates)<sup>xxix</sup>.

The general trend is a reduction of the share of young people and the consequences are dramatic.

Children and young people in the population, EU-28, 1 January 1996, 2006 and 2016

	1996 (*)		2006		2016 (*)	
	Population (thousands)	Share of total population (%)	Population (thousands)	Share of total population (%)	Population (thousands)	Share of total population (%)
Children and young people (0-29 years)	189 425	39.6	174 787	35.5	166 804	33.0
Children (0-14 years)	86 509	18.1	78 993	16.1	78 889	15.6
Young people (15-29 years)	102 917	21.5	95 794	19.5	87 915	17.4

(\*) EU-27 instead of EU-28.

(\*) Break in series.

Source: Eurostat (online data code: demo\_pjangroup)



*Table 1 Children and young people in the population*

Source: Eurostat

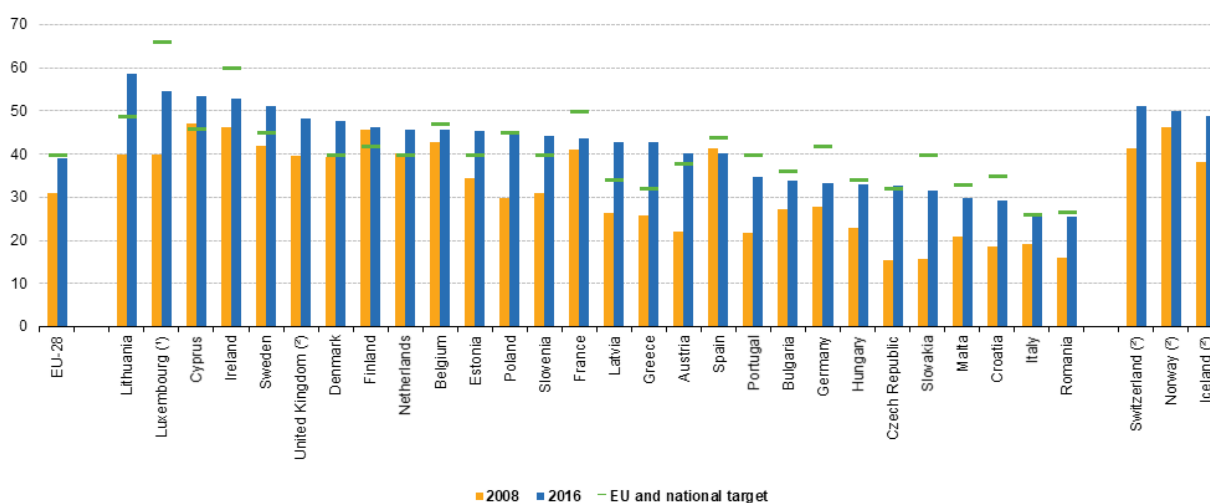
### *What consequences from a declining share of children and young people?*

Adding up the share of young and old-age people who will depend on the working-age population, today's generation of children will face an increased burden in relation to supporting the remainder of the population as they move into work. For example, maintaining welfare systems, pension schemes and public healthcare systems is likely to pose a challenge, while the overall demand for services from such systems and schemes is likely to increase, due to the rising number of elderly people. As such, policymakers are concerned about how to ensure the long-term sustainability of public finances in the face of a declining share of economically active people<sup>xxx</sup>.

### **II.2.1.What about education?**

**People aged 30-34 years with tertiary educational attainment, 2008 and 2016**

(% share)



Note: tertiary education is classified as ISCED levels 5-8. In those cases where the national target has been set within a range between two possible values, the value of the lower end of the range is shown. Breaks in series.

(\*) 2016: low reliability.

(\*) No target.

Source: Eurostat (online data code: edat\_ifse\_03)

eurostat

*Figure 3 People aged 30-34 years with tertiary educational attainment*

Source: Eurostat

Tertiary education (ISCED levels 5-8) — provided by universities and other higher education institutions, such as colleges and institutes of technology — plays a key role in

knowledge-based societies. This is another area where a Europe 2020 target has been set by policymakers, namely, that by 2020 at least 40 % of the population aged 30-34 years should have a tertiary level of education. As with the indicator for early leavers from education and training, this target was transposed into national targets to reflect the specific situations of each EU Member State (see Figure 3).

Across the EU-28, in 2016 almost two fifths (39.1 %) of the population aged 30-34 years had completed a tertiary education (just 0.9 points below the Europe 2020 target). There were 18 EU Member States that reported that more than 40.0 % of people aged 30-34 years had a tertiary level of education, while 13 had already surpassed their national targets for 2020.

In 2016, more than half of all people aged 30-34 years had a tertiary level of educational attainment in Lithuania, Luxembourg (note this value is of low reliability), Cyprus, Ireland and Sweden. By contrast, there were 10 EU Member States where this share was below 40 %, among which the lowest levels of tertiary educational attainment were recorded in Romania, Italy, Croatia and Malta (all less than 30 %).

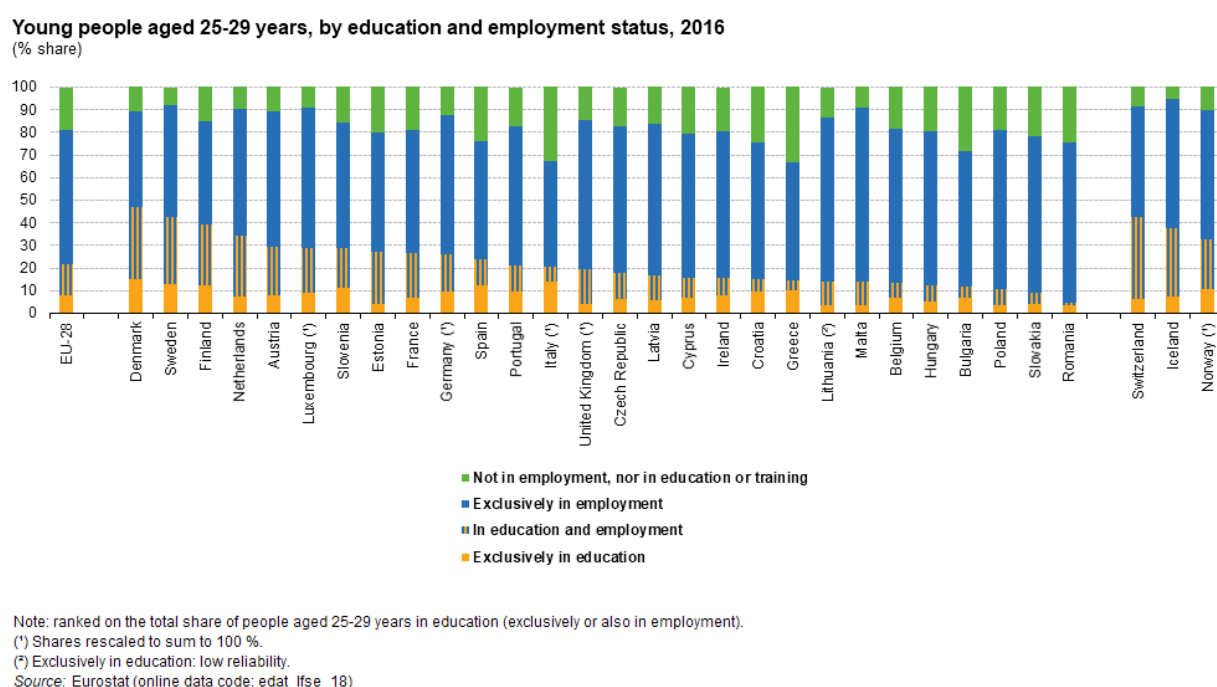
Compared with 2008, the share of people aged 30-34 years in the EU-28 with a tertiary level of educational attainment was 8.0 points higher in 2016. Spain was the only EU Member State to record a fall in its share, while the biggest increases — within the range of 15.0-19.0 points — were seen in Lithuania, Austria, the Czech Republic, Greece, Latvia and Slovakia.<sup>xxxi</sup>

### **II.2.2. What about employment?**

In 2016, 59.5 % of young Europeans aged 25 – 29 years group were exclusively in employment, while an additional 13.6 % combined education and employment. A majority (18.8 %) of the remaining young people aged 25-29 years were neither in employment, nor in education or training, leaving 8.0 % exclusively in education.

In 2016, the share of young people aged 25-29 years who were exclusively in employment was more than three quarters (76.8 %) in Malta, while shares above 70 % were also recorded in Lithuania, Romania and Poland. Otherwise, the transition from education into employment concerned a majority of young people aged 25-29 years in all but four of the EU Member States in 2016: Italy and the three Nordic Member States were the only exceptions. This could be explained, to some degree, by the relatively high (double-digit) shares of young people aged 24-29 years in Italy and the Nordic Member States who remained exclusively in education; Spain, Slovenia and Greece were the only other Member States to report shares above 10 %.

In the Nordic Member States the relatively low share of young people aged 25-29 years exclusively in employment could also be attributed to a high share of this subpopulation combining education with employment opportunities, whereas in Italy almost one third (32.5 %) of all young people aged 25-29 years were neither in employment, nor in education or training; this was the second highest share among the Member States, just behind Greece (33.5 %).



eurostat

*Figure 4 Young people aged 25-29 years, by education and employment status*

Source: Eurostat

### II.2.3. Young people neither in employment nor in education or training

***Young people neither in employment nor in education were more numerous in the 25-29 years age group (than in younger age groups) and were more likely to be men than women***

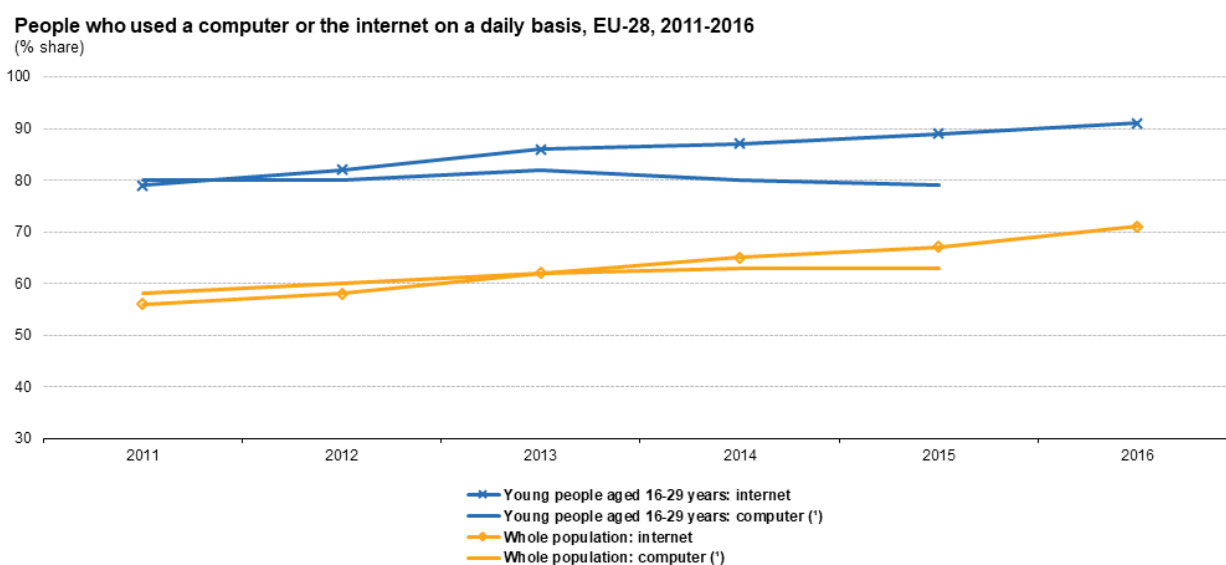
In 2016, 11.6 % of people aged 15-24 years and 18.8 % of people aged 25-29 years in the EU-28 were neither in employment nor in education or training. The lowest proportions of people aged 15-24 years neither in employment, nor in education or training were recorded in the Netherlands (4.6 %), Luxembourg (5.4 %), Denmark (5.8 %), Sweden (6.5 %) and Germany (6.7 %). At the other end of the range, the highest shares were recorded in Italy (19.9 %), Bulgaria (18.2 %) and Romania (17.4 %).<sup>xxxii</sup>

## II.2.4. Being young in a digital world

More appropriately for the purposes of this paper are the statistics related to the issue of the digital involvement of young people in Europe and Romania.

### *Daily internet use overtook daily computer use among young people in 2012*

In the EU-28 a far higher proportion of young people made use of a computer and the internet on a daily basis than the rest of the population. Almost four out of every five (79 %) young people used a computer on a daily basis in 2015, which was 16 points higher than among the whole population (63 %). There was a modest reduction in rate at which young people used computers on a daily basis: having peaked at 82 % in 2013, this share fell in consecutive years to 79 % by 2015, possibly reflecting a move to using other types of devices. By contrast, the share of the total population that made use of a computer on a daily basis rose at a modest pace, rising by 5 points from 58 % to 63 % over the period 2011 to 2015.<sup>xxxiii</sup>



eurostat 

*Figure 5 People who used a computer or the internet on a daily basis*

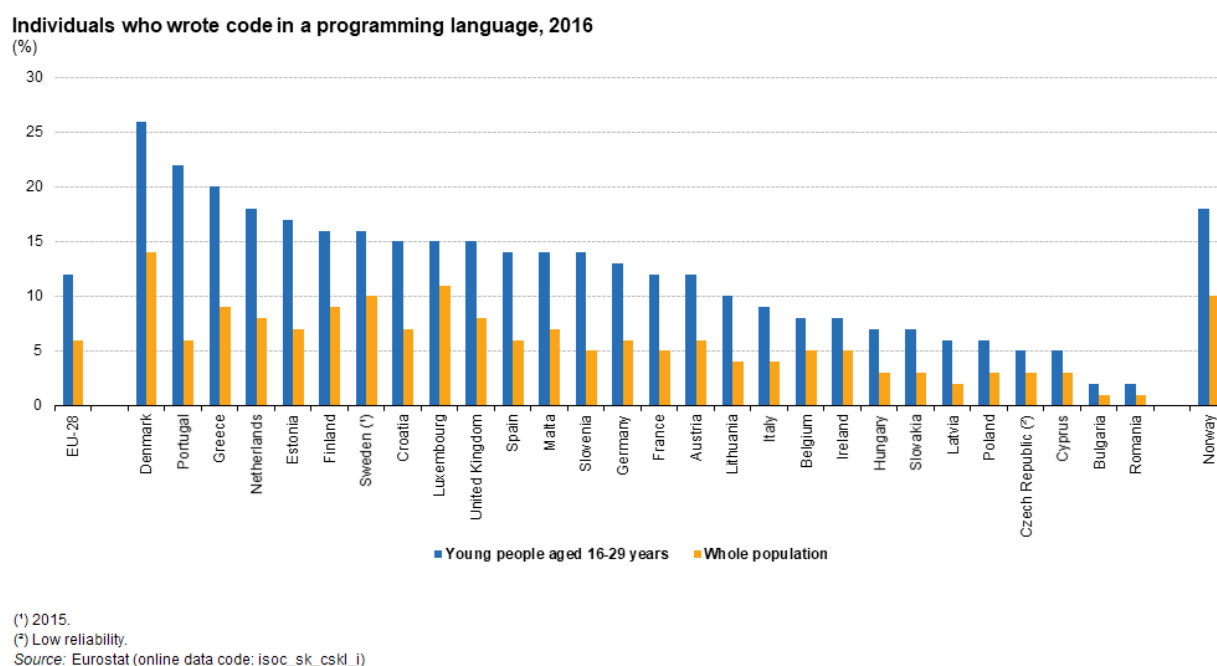
Source: Eurostat

### *The share of young people who had written computer programming code was twice as high as the share for the whole population*

In 2016, four fifths of all young people aged 16-29 years in the EU-28 reported that they had (at any time in the past) performed basic computer tasks such as copying or moving a file or

a folder, while a higher share (87 %; 2014 data) had used cut, copy and paste functions. The share of young people that had carried out some of the other tasks on a computer was lower, for example, those creating presentations or documents that integrate text, pictures, tables or charts (59 %), or those that used a spreadsheet (52 %). The proportion of young people that reported having carried out these basic computing tasks was 21-24 points higher than the average for the whole population, with the exception of using spreadsheets where the difference was lower (14 points).

More technical competences, such as writing code in a programming language, were much less widespread as just 12 % of young people in the EU-28 reported that they had ever carried out such an activity, although this was double the 6 % share that was recorded for the population as a whole.



eurostat 

*Figure 6: Individuals who wrote code in a programming language*

Source: Eurostat

***Young people were almost twice as likely (as the total population) to use the internet to look for a job or to submit a job application***

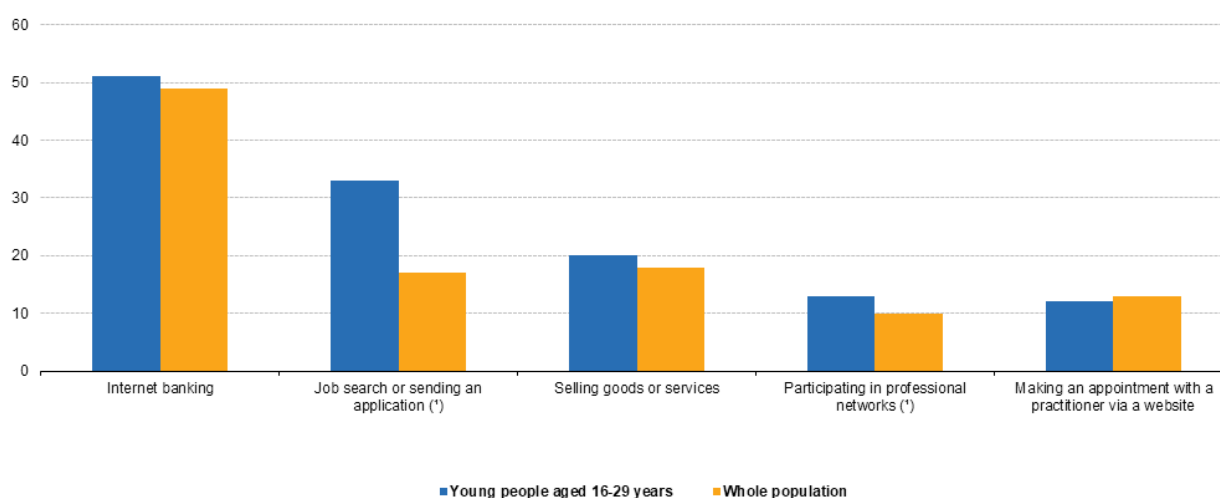
Online banking and participating in professional networks (such as LinkedIn) are two internet activities used to a similar degree by young people and the whole population (see Figure 17). In 2016, 51 % of young people used online banking in the EU-28, only 2 points higher than the average for the whole population. Online professional networks were used by

only 13 % of young people, broadly in line with the 10 % share for the whole population (2015 data), although it should be noted that many young people are likely to still be studying and therefore not yet looking to establish such networks.

For the two remaining activities shown in Figure 17, young people in the EU-28 were almost twice as likely to use the internet to look for a job or to submit a job application (33 % compared with 17 % for the whole population in 2015), while one fifth (20 % in 2016) of young people sold goods or services over the internet (for example, by using online auctions) compared with 18 % for the population as a whole. While 13 % of the total population of the EU-28 used the internet to make an appointment with a (medical) practitioner in 2016, the share for young people was 1 point lower; it should however be noted that as young people tend to be in better health, they may be expected to require fewer such appointments.

The proportion of young people selling goods or services online varied greatly between the EU Member States in 2016. Hardly any young people made online sales in Greece (2 %), while the proportion remained below 10 % in Romania, Cyprus, Lithuania and Italy. In 12 EU Member States the proportion exceeded one fifth, rising to 38 % in Denmark and peaking at 46 % in Croatia. The proportion of young people selling online exceeded the average share for the whole population most notably in Croatia and Estonia. By contrast, the share of young people selling online was the same as the average for the whole population in Germany, Ireland and France and was below the average for the whole population in the Netherlands, Sweden and the United Kingdom<sup>xxxiv</sup>.

**People who used the internet for web banking, professional purposes and selling online, EU-28, 2016**  
(% share)



(\*) 2015.

Source: Eurostat (online data code: isoc\_ci\_ac\_i)

*Figure 7: People who used the internet for web banking, professional purposes and selling online*

Source: Eurostat

### **What future for young people in the digital world?**

Young Europeans spend an increasing amount of their time consuming digital media. While time spent watching television may be falling, their use of online media has grown rapidly, facilitated through a range of services such as video streams, chat rooms, blogs or social media. Although the internet can provide a place for young people to share their experiences and to exchange their views, there are also risks.

Some concerns over the use of the internet centre on the safety of children and young people and their behaviour, for example, increasing solitude as young people withdraw to a private place to go online. Furthermore, some children and young people may have their privacy violated when they are online or alternatively they may be exposed to potentially harmful content, which may create dependency, anxiety or aggression.

The use of ICTs is widespread among children and young people and is, in some instances, reaching saturation. Young people generally possess a wider range of ICT skills (than older generations) and it seems likely that this pattern will continue for future generations with young people likely to remain at the forefront of adopting new technologies (be these hardware or software/services). The challenge for policymakers within this domain will be to ensure that the social and economic benefits from exploiting ICTs are delivered in unison with the safe use of digital media, in particular for more vulnerable sections of society.<sup>xxxv</sup>

### **B. The upcoming digital age. What does it mean?<sup>xxxvi</sup>**

#### **I. Conceptual clarifications**

Starting from the speciality literature review we can define the digital revolution as being „a general acceleration in the pace of technological change in the economy, driven by a massive expansion of our capacity to store, process and communicate information using electronic devices”. Having its origins in the 1950-60 the digital revolution would be accelerated by the creation in early 1970s of the microprocessors – a general-purpose programmable electronic device capable of processing digital information. More and more performant it will be included in the computers and other digital systems<sup>xxxvii</sup>.

This digital revolution was at the basis of the digital age defined as „a historical period marked by the widespread use of digital technologies in different aspects of human activity, including the economy, politics and most forms of human interaction. This widespread use of digital technologies implies a profound transformation of social, economic and political systems, in the same way as the steam engine or electricity transformed past societies”<sup>xxxviii</sup>.

The digital revolution thus determines a series of inflexion points at the societal level such as:

1. *The changes in the methods and tools used in the economy tend to cluster around periodic ‘revolutions’, rather than following linear and incremental trends.*
2. *There is a time lag between the initial big bang of innovation provoked by a technological revolution and its full transformation of the socioeconomic structure.*

A series of „periods” have thus been identified, the first one being the *installation period* which generally lasts about three decades. It is a period marked by growing imbalances between the old and new industries, and the firms and workers that benefit from the new technologies and crisis. The second period also lasts approximately three decades and is being called the *deployment period* the new technologies are mature, the new infrastructures have been installed, and the skills and knowhow required for the new tools and methods are widely diffused – where we are now. Then the potential drops and we enter in the next preparatory phase for the new technological revolution.

3. *For a technological revolution to produce valued and shared benefits to society, the institutional framework has to significantly change in order to deal with the broad socioeconomic implications of the new forms of economic activity.*

These social and economic imbalances if they collide with unreformed institutions would generate political crises<sup>xxxix</sup>.

## **II. Implications of technological change on work and employment**

Four different aspects of the implications of technological change for work and employment can be differentiated:

- *Tasks and occupations*: every new technology involves some new way of carrying out a particular process, and therefore a change in the associated tasks;
- *Conditions of work*: are affected the physical, psychological and environmental requirements and conditions of work;



- *Conditions of employment*: are affected the contractual and social conditions of the work, including issues such as stability, opportunities for development and pay;
- *Industrial relations*: the relatively institutionalised ways in which workers and employers organise their relations and settle their disputes<sup>x1</sup>.

### III. Three factors of changes

#### III.1. Digitisation of processes<sup>xli</sup>

The increase use of digital technology is changing the face of the world of work by using technologies such as Industry 4.0 and Work 4.0; Internet of things (IoT); Virtual reality, augmented reality and telepresence and 3D Printing:

It has serious implication either as regards the job quality or the labour market.

The implications for the job quality would affect issues such as

- *skills* - the shift to sensors' information and data driven processes, is going to move the production control from managers to skilled technicians. If the nature of jobs is changing and workers need to acquire new digital skills in a fast- changing environment, continuous lifelong learning becomes very important (BCG, 2016; Compagnucci and da Empoli, 2016; Gosse and Dancette, 2016). Those best placed to succeed in the world of tomorrow are those who have a good education and can learn new skills fast.

- *Social interaction and teamwork*

- *Physical risk and psychosocial risk*

- *Working time and work-life balance* - the blurring of boundaries between work and free time could negatively impact work-life balance

As regards the *implications for the labour market* - there are still not many quantitative or qualitative studies about its implications for work and employment. Predictions on the effects of these technologies on the labour market range from *mild changes where jobs will just incorporate more technology and humans will continue performing tasks which cannot be digitised* to *scenarios where robots and algorithms will take up most of the jobs in manufacturing and in services*.

#### III. 1. Automation of work<sup>xlii</sup>

This process means the replacement of human input by machine input for some tasks in production becomes more widespread not only in manufacturing - d as the replacement of (human) labour input by (digitally-enabled) machine input for some types of tasks within production and distribution processes. It is a combination of advanced robotics, artificial intelligence and machine learning

The implications for the job quality are similar with those related to the digitalisation process. As nuances we can mention the ideas of replacing the `unsafe~ working jobs with better ones.

As regards the implications for the labour market the main elements that stand out are the substitutability of human labour by robots and machines and well as the job polarisation.

Concerning the substitutability of human labour by automation technologies the studies varied a lot depending by country and region and type of job. The automation probability is higher in jobs that involve routine tasks and lower if jobs require social interaction is in line with the task-based literature.

In Europe the probabilities of automation are 30% to 40%. Total of jobs susceptible to automation according would be thus: Belgium 49%; The Netherlands 2-3 million jobs (conservative); UK 35%; EU average 54%; France 42%.

Other authors reported much lower probabilities of automation: OECD (Arntz et al, 2016) estimated that on average 9% of jobs are automatable across OECD member countries. The authors also highlighted heterogeneities across countries: the risk of automation ranges from 6% in Korea to 12% in Austria.

The time horizon of technological change also varies. For instance authors such as Manyika *et al* in *A Future that Works: Automation , Employment , and Productivity* from 2017 offers as a time frame the year **2055 with plus – minus 20 years** depending on the implementation costs and the legislative framework.

There are going to be also changes as regards the tasks structure, as future jobs would be a combination of technical tasks and non-routine tasks, where workers have comparative advantages: interpersonal interaction, flexibility, adaptability, and problem solving.

### **III.3. Coordination by platforms<sup>xliii</sup>**

The concept of the platform economy relates to the idea of exchanging and using (under-utilised) resources (that is, physical and financial capital or human capital and talent) primarily enabled and driven by the internet and platform technologies.

They have been defined at the European level as *collaborative economy*. The term "collaborative economy" refers to business models where activities are facilitated by collaborative platforms that create an open marketplace for the temporary usage of goods or services often provided by private individuals. The collaborative economy involves three categories of actors: (i) service providers who share assets, resources, time and/or skills — these can be private individuals offering services on an occasional basis ('peers') or service providers acting in their professional capacity ("professional services providers"); (ii) users of these; and (iii) intermediaries that connect — via an online platform — providers with users and that facilitate transactions between them ('collaborative platforms'). Collaborative economy transactions generally do not involve a change of ownership and can be carried out for profit or not-for-profit.<sup>xliv</sup>.

*The implications for job quality* are rather negative by the loosening of the employee status and of the stability as well as through low incomes and unsecure payments.

*The impact on the labour market* is a diverse one. Platforms may contribute to inclusive labour markets: in principle they provide opportunities for sources of income and social mobility in regions of the world with stagnant local economies, while mitigating the lack of experts in other areas. It is also about a 'race to the bottom' in quality and shifts from skilled work to unskilled work due to the process of fragmenting jobs into tasks and even microtasks implemented by some platforms

#### **IV. What about the European Union? What should the youth expect for in the future<sup>xlv</sup>**

If we want to have a comprehensive starting point for a youth reform analysis we should start with a series of scenario that may provide or not some policy options. For that purpose, the **Europe 36** scenarios seen below may be of assistance.

##### **IV.1. Positive scenario. Industrial renaissance in Europe**

In this scenario European firms learned very quickly to combine the skills of their workforce with the technological opportunities of digitalisation. Productivity gains lead to a re-shoring of production activities back to Europe, because productivity-adjusted wage advantages of Asian locations decreased, and production in Europe close to many key clients is much more capable to take up the advantages of flexible production from digitalisation. There was also jobs destruction from digitalisation, in particular in service firms of the banking, insurance, and

professional services sector. A number of middle-skills jobs in these firms and in administrative were replaced by machines. However, many of these losses were compensated by new jobs where non-routine skills are augmented by digitalisation.

Education and a 'no child left behind' policy are seen as the main instruments to fight economic inequality in the long term. In social policy, one guiding principle is still flexicurity and enhancements of this concept, which help employees and employers to cope with the raising need for flexibility due to digitalisation.

## **IV.2. Negative scenario. Europe's industrial misery**

Digitalisation wiped out considerable parts of employment in Europe, as forecasted by some employment studies from the 2010s. Economic growth has virtually stopped, and we can witness the economic decline of regions and even whole countries. In retrospect, it seems that many people had grave difficulties to compete with new technologies based on their acquired skills, which seemed outdated when compared to the productivity of machines.

Jobs destruction appears in all sectors of the economy, but is most pronounced in administrative and office occupations. The argument that job losses are compensated by new jobs turned out to be wrong; new information technologies created much less new jobs than destroyed existing employment because of two reasons; first, technological progress in ICTs went much faster than many expected, leading to a much larger number of tasks which could be replaced by machines and software; second, absolute cost advantages of services provided by ICTs turned out to be so huge that firms preferred machines over people even if they have to forego some non-routine tasks provided by employees. Social and political stability is fragile, and the opposition against 'everything digital' has been growing.

## **IV.3. Regional divergences scenarios. Europe's growing double digital divide**

Digitalisation turned out to have very different effects on the Member States and regions of the European Union. In the economic centres and the metropolitan areas, digitalisation has led to renewed growth, a vibrant entrepreneurial culture and growing incomes. In rural areas, digitalisation had hardly a positive economic impact, and economic divergences between metropolitan and rural areas have deepened.

## V. What about Romania

Romania cannot avoid the impact of the automatization on its youth. Although the studies dedicated to Romania specifically lack in depth and number there is a National Bank of Romania Report from 2017 that cites European Commission data which say that Romania has the highest percentage of job under threat of automatization – over 60%.<sup>xlvi</sup>

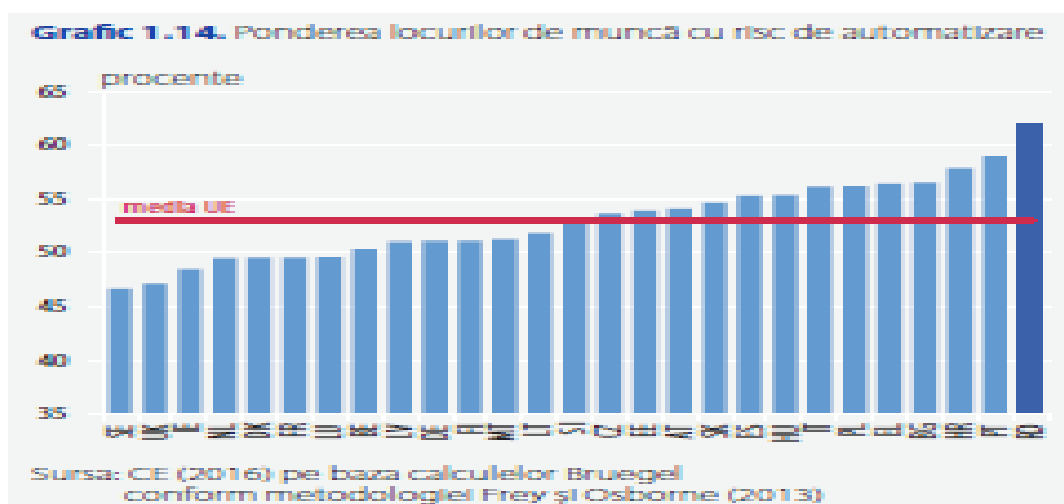


Figure 8. Percentage of jobs under threat from automatization

Source: *Financial Stability Report 2017*

Another study done by ManpowerGroup in 2018 for Romania called the *Revolution of competences 2.0* says that approx. 17 % of employers estimate a reduction of the employed staff. Moreover the most impacted areas would be the administrative and support ones<sup>xlvi</sup>.

### Impactul tehnologiei asupra numărului de angajați în următorii doi ani

% care va crește numărul de angajați

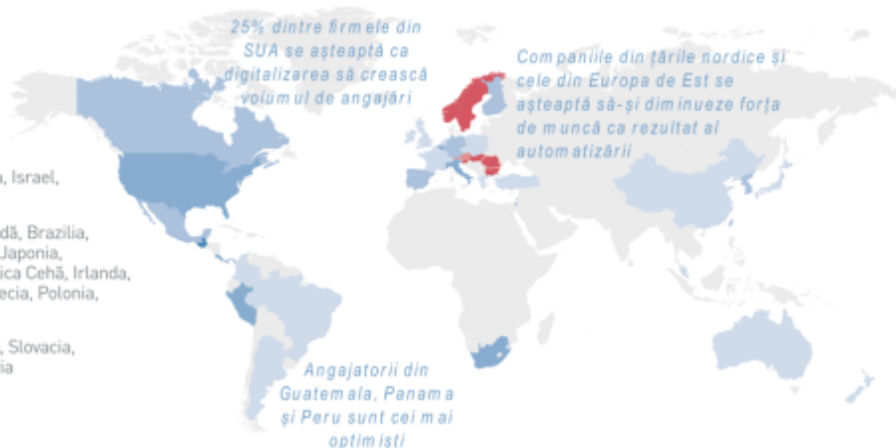
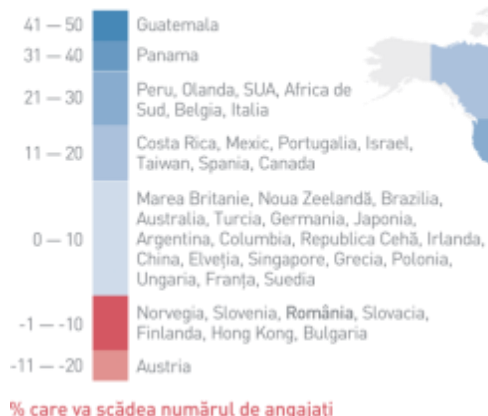


Figure 9. The impact of technology on the number of employees in the following two years

Source: *Revolution of competences 2.0, 2018*

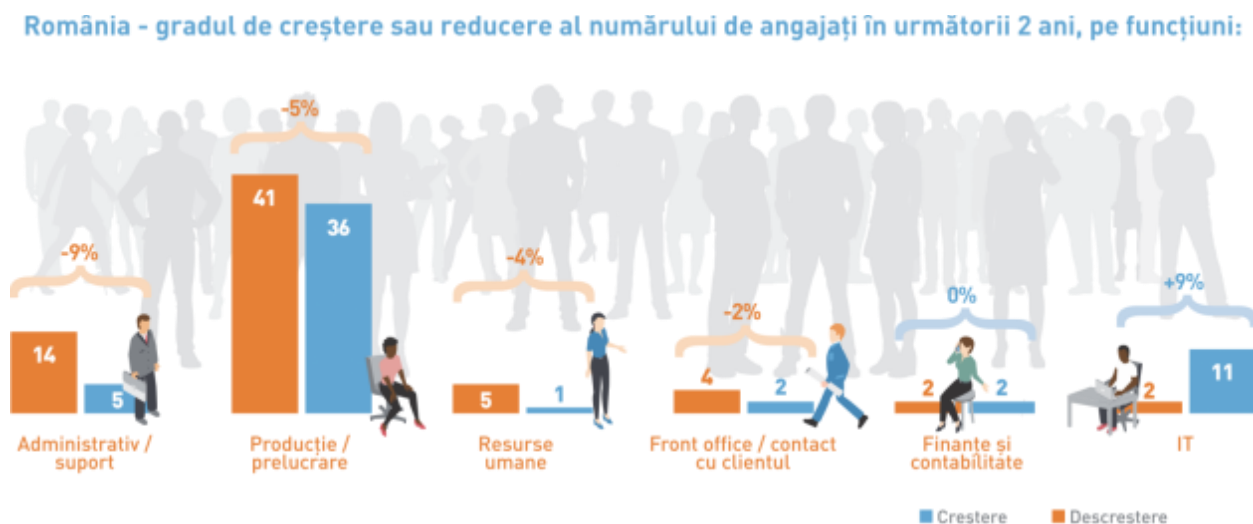


Figure 10. Romania – degree of increase and of reduction of the number of employees in the following 2 years, on professions

Source: *Revolution of competences 2.0, 2018*

### C. Instead of Conclusions. Possible recommendations

The question of the automatization and its impact upon the youth is going to be a very hot topic, the present working paper presenting just an incomplete picture of the topic, the limits of which are the solely responsibility of the author.

There is yet to be presented to the youth of Europe a coordinated plan that would facilitate the transition toward an automatization dominated economy and the lack of any such strategic plan would only make harder a transition process that is on the move and cannot be stopped.

The European Union can be in the forefront of the beneficiary regions of this inexorable process and may become an world wide success story given its socio-economic, cultural and educational process. Unfortunately, the absence of such coordinated strategy can lead, in this author opinion to regional divergences the *Europe 2036 Scenario - Europe's growing double digital divide* becoming a grim reality of a possible future.

What history has taught us is that Europe has the capacity to reinvent itself after major disasters (as it was the case after the terrible devastations of the Second World War) and can create an European Union wide consensus on what is to be done. In this case the European Youth Strategy

can become a major transformative instrument if properly calibrated for the upcoming challenges.

Luckily the solutions are not revolutionary ones but on the contrary they can be taken and put into practice by any EU Member State government as they are within reach policy options.

<b>Policy Option</b>	<b>To do measures</b>
<b>1. Education</b>	<p>A more flexible education policy will make it possible for both younger and older people to adapt to new working conditions.</p> <p>Investments in education should cover all educational levels and should also account for the social dimension – support should start from early childhood, covering children at kindergarten, pre-school and elementary school age.</p> <p>Deciding what skills should be taught – fostering non-routine skills is the most pertinent path to follow.</p>
<b>2. Research and development</b>	<p>Europe should invest in R&amp;D at all levels, from basic research, which has a considerable training effect on scientific and technological staff, to applied development.</p> <p>Policy - makers should consider balancing tax incentives for business R&amp;D with direct support to foster R&amp;D and innovation in areas such as ICTs or health</p> <p>Deciding what freedom should be granted to recipients of public funding for R&amp;D in choosing the areas they want to research.</p>
<b>3. Entrepreneurship</b>	<p>Europe needs more support for new firms in the fields of ICTs and biotechnology. Besides soft measures, such as training and consulting for people who want to start a business, this may also include measures to increase the</p>

	<p>available amount of venture capital. However, it cannot be the task of governments to provide venture capital.</p> <p>Instead, governments should generate incentives for individuals to invest more in start-ups and small firms, and they should also make efforts to strengthen the capital markets in Europe.</p>
<b>4. Infrastructure</b>	<p>Europe should invest in upgrading its internet infrastructure.</p> <p>As regards the digital infrastructure, it is clearly the task for the European level to ensure equal access to connectivity</p>
<b>5. Employment regulations</b>	<p>Europe will be well-served by sticking to the concept of flexicurity.</p> <p>Policy should avoid moving from current non-regulation to over-regulation.</p> <p>working time reduction may be the right measure if the goal is to reduce inequality caused by new unemployment</p>
<b>6. Tax and social security policies</b>	<p>EU Member States' tax systems may need to undergo a shift from taxing labour as the main source of revenue, to taxing these components instead.</p> <p>Taxing the super-rich by imposing higher income taxes and introducing a stronger progression in income taxes or wealth taxes is seen by many as a way to decrease inequality and raise funds for the state.</p>
<b>7. The idea of an unconditional basic income</b>	<p>Introducing an unconditional basic income – a fixed sum of money provided by the government – for every citizen or resident of a country, regardless of whether they are employed or not</p>



Table 2. Policy options

Source: STOA Options Brief (2018)<sup>xlvi</sup>

## References and further readings (selected)

Bogdan Florian & Sebastian Țoc (2018) “What Happens to Policies When Assuming Institutions? A Short Story About Romania’s Never-Ending Educational Reform”, *European Education*, 50:4, 320-335.

Boushey, H., DeLong, J. B. & Steinbaum, M. (2017), *After Piketty. The Agenda for Economics and Inequality*. Cambridge, Massachusetts: Harvard University Press.

Caritas Cares (September 2017), *Poverty and Social Exclusion among young people*, Romania Report.

Council of Europe (2015), *ACCESS OF YOUNG PEOPLE FROM DISADVANTAGED NEIGHBOURHOODS TO SOCIAL RIGHTS*, Recommendation CM/Rec(2015)3.

Council of Europe, *Enter! Access to Social Rights for Young People*.

Council of the European Union (2013), *COUNCIL RECOMMENDATION of 22 April 2013 on establishing a Youth Guarantee*, 2013/C 120/01.

*Council Recommendation of 19 December 2016 on Upskilling Pathways: New Opportunities for Adults*,

Dacs, Bernhard (2018), *The impact of new technologies on the labour market and the social economy Study* European Parliamentary Research Service.

Domanski, D. and Kaletka, C. (22 June 2017), “Exploring the Research Landscape of Social Innovation: A deliverable of the project Social Innovation Community (SIC)”, *TU Dortmund University*, <https://zenodo.org/record/825169#.WryVIZe-nIU>

Ellison, M. (2014), “No future to risk? The impact of economic crises and austerity on young people at the margins of European employment and welfare settings”, *Social Policy Review* 26: Analysis and Debate in Social Policy.

Eurofound (2013) *Third European Quality of Life Survey – Quality of life in Europe: Social inequalities*. Publications Office of the European Union, Luxembourg.

Eurofound (2016) *Exploring the diversity of NEETs*. Publications Office of the European Union, Luxembourg.

European Commission - Youth employment,  
<http://ec.europa.eu/social/main.jsp?catId=1036&langId=en>

European Commission (2010), *European Union Youth Strategy 2010 – 2018*,  
[https://ec.europa.eu/youth/policy/youth-strategy\\_en](https://ec.europa.eu/youth/policy/youth-strategy_en)

European Commission (2016) - *Social Agenda 46 – Boosting youth employment*,  
<http://ec.europa.eu/social/main.jsp?catId=737&langId=en&pubId=7951&furtherPubs=yes>

European Commission (2016), *COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS A NEW SKILLS AGENDA FOR EUROPE Working together to strengthen human capital, employability and competitiveness*, COM/2016/0381.

European Commission (2016), *Factsheet: EU-wide factsheet on the Youth Guarantee and the Youth Employment Initiative - three years on*

European Commission (2017) - *Employment and Social Developments in Europe, Annual Review* 2017,  
<http://ec.europa.eu/social/main.jsp?catId=738&langId=en&pubId=8030&furtherPubs=yes>

European Commission (2017) - *Joint Employment Report 2017 Main findings from the Scoreboard of key employment and social indicators*,  
<http://ec.europa.eu/social/main.jsp?langId=en&catId=1196&newsId=2757&furtherNews=yes>

European Commission (2017) - *Social Agenda 48 - A European pillar for a social triple A*,  
<http://ec.europa.eu/social/main.jsp?catId=737&langId=en&pubId=8007&furtherPubs=yes>

European Commission (2017)- Brussels, 22.11.2017 COM(2017) 677 final 2017/0305(NLE)  
*Proposal for a COUNCIL DECISION on guidelines for the employment policies of the Member States* <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52017PC0677>

European Commission (2017), “Social Innovation as a Trigger for Transformations: The Role of Research”, *Research and Innovation*, [http://ec.europa.eu/research/social-sciences/index.cfm?pg=library&lib=policy\\_reviews](http://ec.europa.eu/research/social-sciences/index.cfm?pg=library&lib=policy_reviews)

European Commission (2018) - *Country Report Romania 2018 Accompanying the document COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN CENTRAL BANK AND THE EUROGROUP 2018 European Semester: Assessment of progress on structural reforms, prevention and correction of macroeconomic imbalances, and results of in-depth reviews under Regulation (EU) No 1176/2011 {COM(2018) 120 final}*, Brussels, 7.3.2018 SWD(2018) 221 final COMMISSION

STAFF WORKING DOCUMENT , <https://ec.europa.eu/info/sites/info/files/2018-european-semester-country-report-romania-en.pdf>

European Commission (2018), *EU budget: Commission proposes €1.26 billion to reinforce the European Solidarity Corps*.

European Commission (2018), *EU budget: Commission proposes to double funding for Erasmus*.

European Commission (2018), *European Corps Solidarity Guide*.

European Commission (2018), *European Pillar of Social Rights*

European Commission (2018), *The Youth Guarantee*.

European Commission (2018), *YOUTH GUARANTEE & YOUTH EMPLOYMENT INITIATIVE*.

European Commission (2018), *Youth Guarantee country by country Romania May 2018*.

European Commission (February 2018) – *Employment and Social Development in Europe - Quarterly Review*

European Commission *ERASMUS+ The EU programme for education, training, youth and sport (2014-2020)*.

European Commission -*European employment strategy - Employment guidelines*, <http://ec.europa.eu/social/main.jsp?catId=101&intPageId=3427>

European Commission, (2017), *Reflection paper on the social dimension of Europe*, [https://ec.europa.eu/commission/publications/reflection-paper-social-dimension-europe\\_en](https://ec.europa.eu/commission/publications/reflection-paper-social-dimension-europe_en)

European Commission, *A renewed EU Youth Strategy proposed by the European Commission for 2019-2027*.

European Commission, *COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS A European agenda for the collaborative economy*

European Commission, *ERASMUS+ 2016 IN NUMBER Romania Factsheet*.

European Commission, *Erasmus+, What is Erasmus+ ?*.

European Commission, *EU Youth Strategy, Cooperation with Member States*.

European Commission, *European Solidarity Corps – Our Mission and Principles*.

European Commission' *The European Pillar of Social Rights in 20 principles*.

European Parliament (2018) *Draft report Guidelines for the employment policies of the Member States , Amendments 37-179 on Guidelines for the employment policies of the Member States*

European Union Agency for Fundamental Rights, *Age of majority*.

Eurostat (2017), *Being Young in Europe today – demographic trends*.

Eurostat (2017), *Being Young in Europe today – digital world – access and participation*.

Eurostat (2017), *Being Young in Europe today – education*, Eurostat, 2017.

Eurostat (2017), *Being Young in Europe today – labour market – access and participation*.

Eurostat (2017), *Being Young in Europe today*.

Eurostat, Statistics Explained (June 2017), „Europe 2020 indicators - poverty and social exclusion”, [http://ec.europa.eu/eurostat/statistics-explained/index.php/Europe\\_2020\\_indicators -  
\\_poverty and social exclusion](http://ec.europa.eu/eurostat/statistics-explained/index.php/Europe_2020_indicators_-_poverty_and_social_exclusion)

Fernández-Macías, Enrique (2018), *Automation, digitalisation and platforms: Implications for work and employment*, Eurofound, Publications Office of the European Union, Luxembourg,

Hudson, P. & Tribe, K. (2017) *The Contradictions of Capital in the Twenty-First Century. The Piketty Opportunity*. London: Agenda Publishing.

ILO- *The Global Initiative on Decent Jobs for Youth* - <http://www.ilo.org/global/topics/youth-employment/databases-platforms/global-initiative-decent-jobs/lang--en/index.htm> ,  
<https://www.weforum.org/reports/the-global-human-capital-report-2017>

KOF Swiss Economic Institute - *The KOF Youth Labour Market Index* ,  
<https://www.kof.ethz.ch/en/forecasts-and-indicators/indicators/kof-youth-labour-market-index.html> , <http://viz.kof.ethz.ch/public/yunemp/>

Manpower (2018), *Revoluția Competențelor 2.0 [Revolution of Competences 2.0]*

National Bank of Romania (2017), *Raport asupra stabilității financiare [Financial Stability Report]*, No. 1, 2017, National Bank of Romania, Bucurest.

OECD- *The OECD Jobs for Youth review*,  
<http://www.oecd.org/employment/theoecdjobsforyouthreview.htm>

Peruffo, Eleonora, Lea Schmidlechner, Ricardo Rodriguez Contreras, Daniel Molinuevo (2017), *Automation of work. Literature review*, European Foundation for the Improvement of Living and Working Conditions.

Peruffo, Eleonora, Lea Schmidlechner, Ricardo Rodriguez Contreras, Daniel Molinuevo (2017), *Coordination by platforms. Literature review*, European Foundation for the Improvement of Living and Working Conditions.

Peruffo, Eleonora, Ricardo Rodriguez Contreras, Daniel Molinuevo, Lea Schmidlechner (2017), *Digitisation of processes. Literature review*, European Foundation for the Improvement of Living and Working Conditions.

Pîslaru, Dragoș-Nicolae, Elena Botezatu, Andrei Popescu, Iolanda-Mihaela Stăniloiu, *Pilonul european al drepturilor sociale: reducerea inegalităților și a decalajelor sociale în România. Evoluții ale politicilor și inițiativelor europene din domeniul tineretului [European Pillar of Social Rights: reducing inequalities and social disparities in Romania. Evolutions of European politics and initiatives in the youth sector]*, forthcoming 2019

Porter, M. E., Stern, S. and Green, M. (2017), “Social Progress Index 2017”, *Social Progress Imperative*, <http://www.socialprogressimperative.org/wp-content/uploads/2017/06/English-2017-Social-Progress-Index-Findings-Report.pdf> .

PricewaterhouseCoopers (2014) *The future of work. A journey to 2022*, International: PricewaterhouseCoopers

PricewaterhouseCoopers (2017) *Workforce of the future: The competing forces shaping 2030*, International: PricewaterhouseCoopers

Raudenbush, S. W. and Eschmann, R. D. (2015), “Does Schooling Increase or Reduce Social Inequality?” *Annual Review of Sociology*, 41, 443-470.

*Regulation (EU) 2018/1475 of the European Parliament and of the Council of 2 October 2018 laying down the legal framework of the European Solidarity Corps and amending Regulation (EU) No 1288/2013, Regulation (EU) No 1293/2013 and Decision No 1313/2013/EU.*

Romanian Ministry of Youth (2015), *Strategia Națională în domeniul politicii de tineret 2015-2020 [National Youth Strategy 2015 – 2020]*, <http://mts.ro/wp-content/uploads/2016/02/Strategia-tineret-final.pdf> .

Sandu, Dumitru (2017), *The Migration Process of the Romanian Youth: A European Comparative Approach*.

Sebe, Mihai, “Impactul revoluției digitale asupra pieței muncii. Aspecte socio-politice. Consecințe pentru România”[The Impact of the Digital Revolution on the Job Market. Socio-political Issues. Consequences for Romania] in Radu Puchiu, Marius Stoian and Marcel Foca, *Caiet Documentar 3 România digitală [Documentary Paper 3 Digital Romania]*, Club Romania Publishing House, Bucharest, 2018.

Special report No 5/2017: *Youth unemployment – have EU policies made a difference?*, European Court of Auditors, April 2017

Stoiciu, Victoria (coordinator) (2014), *Tineri în România, griji, aspirații, atitudini și stil de viață [Youth in Romania, concerns, aspirations, attitudes and life style]*, Friedrich Ebert Stiftung, 2014

Susskind, R. & Susskind, D. (2015) *The Future of the Professions. How Technology Will Transform the Work of Human Experts*, Oxford.:Oxford University Press

Tymowski Jan, (2018) *EU Youth Strategy, European Implementation Assessment*, European Parliamentary Research Service, Brussels

UNESCO, *What do we mean by “youth”?*.

United Nations (2017), *Trends in International Migrant Stock: The 2017 Revision* (United Nations database, POP/DB/MIG/Stock/Rev.2017),

Vasile V., Pisică S, Dobre A.M. (2015) “Demographic Perspective of Qualitative Youth Employability on Romanian Labour Market”, *Procedia Economics and Finance*, Volume 22

WEF (2017) - *The Global Human Capital Report 2017*, World Economic Forum, [www3.weforum.org/docs/WEF\\_Global\\_Human\\_Capital\\_Report\\_2017.pdf](http://www3.weforum.org/docs/WEF_Global_Human_Capital_Report_2017.pdf)

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### Endnotes

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<sup>i</sup> The views and opinions expressed in this working paper are those of the author alone and do not necessarily reflect the official policy or position of any organization he is connected to. This is a working paper, and hence it represents research in progress.

<sup>ii</sup> *COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS A NEW SKILLS AGENDA FOR EUROPE Working together to strengthen human capital, employability and competitiveness*, COM/2016/0381, European Commission, available online at <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52016DC0381> Last visited on 31 October 2018.



- 
- <sup>iii</sup> *The European Pillar of Social Rights in 20 principles*, European Commission, available online at [https://ec.europa.eu/commission/priorities/deeper-and-fairer-economic-and-monetary-union/european-pillar-social-rights/european-pillar-social-rights-20-principles\\_en](https://ec.europa.eu/commission/priorities/deeper-and-fairer-economic-and-monetary-union/european-pillar-social-rights/european-pillar-social-rights-20-principles_en) Last visited on 31 October 2018.
- <sup>iviv</sup> *Council Recommendation of 19 December 2016 on Upskilling Pathways: New Opportunities for Adults*, OJ C 484, 24.12.2016, p. 1–6, available online at [https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C\\_.2016.484.01.0001.01.ENG&toc=OJ:C:2016:484:TOC](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_.2016.484.01.0001.01.ENG&toc=OJ:C:2016:484:TOC) Last visited on 31 October 2018.
- <sup>v</sup> Quality assurance principles at European level for general education are subject to ongoing discussions in the context of ET2020.
- <sup>vi</sup> *EU Youth Strategy, Cooperation with Member States*, available online at [https://ec.europa.eu/youth/policy/implementation/member-state-cooperation\\_en](https://ec.europa.eu/youth/policy/implementation/member-state-cooperation_en) Last visited on 31 October 2018.
- <sup>vii</sup> *A renewed EU Youth Strategy proposed by the European Commission for 2019-2027*, European Commission, available online at [https://ec.europa.eu/youth/news/eu-youth-strategy-adopted\\_en](https://ec.europa.eu/youth/news/eu-youth-strategy-adopted_en) Last visited on 31 October 2018.
- <sup>viii</sup> *Erasmus+, What is Erasmus+?*, European Commission, available online at [http://ec.europa.eu/programmes/erasmus-plus/about\\_en](http://ec.europa.eu/programmes/erasmus-plus/about_en) Last visited on 31 October 2018.
- <sup>ix</sup> *ERASMUS+ The EU programme for education, training, youth and sport (2014-2020)*, European Commission, available online at <https://ec.europa.eu/programmes/erasmus-plus/sites/erasmusplus2/files/gen-erasmusplus-factsheet-en-version11-2017-hd.pdf> Last visited on 31 October 2018.
- <sup>x</sup> *ERASMUS+ 2016 IN NUMBER Romania Factsheet*, European Commission, available online at [https://ec.europa.eu/programmes/erasmus-plus/sites/erasmusplus2/files/erasmus-plus-factsheet-2016-ro\\_en.pdf](https://ec.europa.eu/programmes/erasmus-plus/sites/erasmusplus2/files/erasmus-plus-factsheet-2016-ro_en.pdf) Last visited on 31 October 2018.
- <sup>xi</sup> *EU budget: Commission proposes to double funding for Erasmus*, 30 May 2018, available online at [http://europa.eu/rapid/press-release\\_IP-18-3948\\_en.htm](http://europa.eu/rapid/press-release_IP-18-3948_en.htm) Last visited on 31 October 2018.
- <sup>xii</sup> *European Solidarity Corps – Our Mission and Principles*, European Commission, available online at [https://europa.eu/youth/solidarity/mission\\_en](https://europa.eu/youth/solidarity/mission_en) Last visited on 31 October 2018.
- <sup>xiii</sup> *Regulation (EU) 2018/1475 of the European Parliament and of the Council of 2 October 2018 laying down the legal framework of the European Solidarity Corps and amending Regulation (EU) No 1288/2013, Regulation (EU) No 1293/2013 and Decision No 1313/2013/EU*, available online at [https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L\\_.2018.250.01.0001.01.ENG&toc=OJ:L:2018:250:TOC](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2018.250.01.0001.01.ENG&toc=OJ:L:2018:250:TOC) Last visited on 31 October 2018.
- <sup>xiv</sup> *European Corps Solidarity Guide*, European Commission, 2018, available online at <https://ec.europa.eu/youth/sites/youth/files/library/documents/2018-european-solidarity-corps-guide.pdf> Last visited on 31 October 2018.

---

<sup>xv</sup> *EU budget: Commission proposes €1.26 billion to reinforce the European Solidarity Corps*, European Commission, 11 June 2018, available online at [http://europa.eu/rapid/press-release\\_IP-18-4035\\_en.htm](http://europa.eu/rapid/press-release_IP-18-4035_en.htm) Last visited on 31 October 2018.

<sup>xvi</sup> *Enter! Access to Social Rights for Young People*, Council of Europe, available online at <https://www.coe.int/en/web/enter/about-enter> Last visited on 31 October 2018.

<sup>xvii</sup> *ACCESS OF YOUNG PEOPLE FROM DISADVANTAGED NEIGHBOURHOODS TO SOCIAL RIGHTS*, Recommendation CM/Rec(2015)3, Council of Europe, available online at <https://rm.coe.int/CoERMPublicCommonSearchServices/DisplayDCTMContent?documentId=090000168066671e> Last visited on 31 October 2018.

<sup>xviii</sup> *The Youth Guarantee*, European Commission, 2018, available online at <http://ec.europa.eu/social/main.jsp?catId=1161&langId=en&intPageId=3350> Last visited on 31 October 2018.

<sup>xix</sup> *COUNCIL RECOMMENDATION of 22 April 2013 on establishing a Youth Guarantee*, 2013/C 120/01, Council of the European Union, available online at [https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32013H0426\(01\)&from=EN](https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32013H0426(01)&from=EN) Last visited on 31 October 2018.

<sup>xx</sup> *YOUTH GUARANTEE & YOUTH EMPLOYMENT INITIATIVE*, European Commission, 2018, available online at <http://ec.europa.eu/social/BlobServlet?docId=16239&langId=en> Last visited on 31 October 2018.

<sup>xxi</sup> *Youth Guarantee country by country Romania May 2018*, European Commission, available online at <http://ec.europa.eu/social/BlobServlet?docId=13658&langId=en> Last visited on 31 October 2018.

<sup>xxii</sup> *What do we mean by “youth”?*, UNESCO, available online at <http://www.unesco.org/new/en/social-and-human-sciences/themes/youth/youth-definition/> Last visited on 31 October 2018.

<sup>xxiii</sup> *Age of majority*, European Union Agency for Fundamental Rights, available online at <http://fra.europa.eu/en/publication/2017/mapping-minimum-age-requirements/age-majority> Last visited on 31 October 2018.

<sup>xxiv</sup> United Nations, *Trends in International Migrant Stock: The 2017 Revision* (United Nations database, POP/DB/MIG/Stock/Rev.2017), available online at <http://www.un.org/en/development/desa/population/migration/data/estimates2/estimates17.shtml> Last visited on 31 October 2018.

<sup>xxv</sup> In accordance with the National Institute of Statistics are the persons that emigrate abroad for a period of at least 12 months.

<sup>xxvi</sup> Dumitru Sandu, *The Migration Process of the Romanian Youth: A European Comparative Approach*, 2017, available online at [https://www.researchgate.net/publication/321012821\\_The\\_Migration\\_Process\\_of\\_the\\_Romanian\\_Youth\\_A\\_European\\_Comparative\\_Approach](https://www.researchgate.net/publication/321012821_The_Migration_Process_of_the_Romanian_Youth_A_European_Comparative_Approach) Last visited on 31 October 2018.



---

<sup>xxvii</sup> Victoria Stoiciu (coordinator), *Tineri în România, griji, aspirații, atitudini și stil de viață [Youth in Romania, concerns, aspirations, attitudes and life style]*, Friedrich Ebert Stiftung, 2014, available online in Romanian language at

[http://www.fes.ro/media/2014\\_news/Raport-FES-Tineri\\_in\\_Romania.pdf](http://www.fes.ro/media/2014_news/Raport-FES-Tineri_in_Romania.pdf) Last visited on 31 October 2018.

<sup>xxviii</sup> *Being Young in Europe today*, Eurostat, 2017, available online at [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Being\\_young\\_in\\_Europe\\_today](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Being_young_in_Europe_today) Last visited on 31 October 2018.

<sup>xxix</sup> *Being Young in Europe today – demographic trends*, Eurostat, 2017, available online at [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Being\\_young\\_in\\_Europe\\_today\\_-\\_demographic\\_trends#Conclusions:\\_what\\_consequences\\_from\\_a\\_declining\\_share\\_of\\_children\\_and\\_young\\_people.3F](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Being_young_in_Europe_today_-_demographic_trends#Conclusions:_what_consequences_from_a_declining_share_of_children_and_young_people.3F) Last visited on 31 October 2018.

<sup>xxx</sup> *Being Young in Europe today – demographic trends*, Eurostat, 2017, available online at [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Being\\_young\\_in\\_Europe\\_today\\_-\\_demographic\\_trends#Conclusions:\\_what\\_consequences\\_from\\_a\\_declining\\_share\\_of\\_children\\_and\\_young\\_people.3F](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Being_young_in_Europe_today_-_demographic_trends#Conclusions:_what_consequences_from_a_declining_share_of_children_and_young_people.3F) Last visited on 31 October 2018.

<sup>xxxi</sup> *Being Young in Europe today – education*, Eurostat, 2017, available online at [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Being\\_young\\_in\\_Europe\\_today\\_-\\_education#Quality\\_of\\_childcare\\_and\\_education](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Being_young_in_Europe_today_-_education#Quality_of_childcare_and_education) Last visited on 31 October 2018.

<sup>xxxii</sup> *Being Young in Europe today – labour market – access and participation*, Eurostat, 2017, available online at [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Being\\_young\\_in\\_Europe\\_today\\_-\\_labour\\_market\\_-\\_access\\_and\\_participation](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Being_young_in_Europe_today_-_labour_market_-_access_and_participation) Last visited on 31 October 2018.

<sup>xxxiii</sup> *Being Young in Europe today – digital world – access and participation*, Eurostat, 2017, available online at [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Being\\_young\\_in\\_Europe\\_today\\_-\\_digital\\_world](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Being_young_in_Europe_today_-_digital_world) Last visited on 31 October 2018.

<sup>xxxiv</sup> *Being Young in Europe today – digital world – access and participation*, Eurostat, 2017, available online at [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Being\\_young\\_in\\_Europe\\_today\\_-\\_digital\\_world](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Being_young_in_Europe_today_-_digital_world) Last visited on 31 October 2018.

<sup>xxxv</sup> *Being Young in Europe today – digital world – access and participation*, Eurostat, 2017, available online at [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Being\\_young\\_in\\_Europe\\_today\\_-\\_digital\\_world](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Being_young_in_Europe_today_-_digital_world) Last visited on 31 October 2018.

<sup>xxxvi</sup> A preliminary version was published in the Romanian language in Mihai SEBE, “Impactul revoluției digitale asupra pieței muncii. Aspecte socio-politice. Consecințe pentru România”[The Impact of the

---

Digital Revolution on the Job Market. Socio-political Issues. Consequences for Romania] in Radu Puchiu, Marius Stoian and Marcel Foca, *Caiet Documentar 3 România digitală [Documentary Paper 3 Digital Romania]*, Club Romania Publishing House, Bucharest, 2018.

<sup>xxxvii</sup> Enrique Fernández-Macías, *Automation, digitalisation and platforms: Implications for work and employment*, Eurofound, Publications Office of the European Union, Luxembourg, 2018, p. 1, available online at <https://www.eurofound.europa.eu/publications/report/2018/automation-digitisation-and-platforms-implications-for-work-and-employment> Last visited on 31 October 2018.

<sup>xxxviii</sup> Enrique Fernández-Macías, *Automation, digitalisation and platforms: Implications for work and employment*, Eurofound, Publications Office of the European Union, Luxembourg, 2018, p. 1, available online at <https://www.eurofound.europa.eu/publications/report/2018/automation-digitisation-and-platforms-implications-for-work-and-employment> Last visited on 31 October 2018.

<sup>xxxix</sup> Enrique Fernández-Macías, *Automation, digitalisation and platforms: Implications for work and employment*, Eurofound, Publications Office of the European Union, Luxembourg, 2018, pp. 1-3, available online at <https://www.eurofound.europa.eu/publications/report/2018/automation-digitisation-and-platforms-implications-for-work-and-employment> Last visited on 31 October 2018.

<sup>xl</sup> Enrique Fernández-Macías, *Automation, digitalisation and platforms: Implications for work and employment*, Eurofound, Publications Office of the European Union, Luxembourg, 2018, p. 7, available online at <https://www.eurofound.europa.eu/publications/report/2018/automation-digitisation-and-platforms-implications-for-work-and-employment> Last visited on 31 October 2018.

<sup>xli</sup> The presentation regarding the *Digitisation of processes* was based upon and represents an abstract and a reproduction of the material done by Eleonora Peruffo, Ricardo Rodriguez Contreras, Daniel Molinuevo, Lea Schmidlechner *Digitisation of processes. Literature review*, European Foundation for the Improvement of Living and Working Conditions, 2017, available online at <https://www.eurofound.europa.eu/sites/default/files/wpef17038.pdf> Last visited on 31 October 2018.

<sup>xlii</sup> The presentation regarding the *Automation of work* was based upon and represents an abstract and a reproduction of the material done by Eleonora Peruffo, Lea Schmidlechner, Ricardo Rodriguez Contreras, Daniel Molinuevo *Automation of work. Literature review*, European Foundation for the Improvement of Living and Working Conditions, 2017, available online at <https://www.eurofound.europa.eu/sites/default/files/wpef17039.pdf> Last visited on 31 October 2018.

<sup>xliii</sup> The presentation regarding the *Coordination by platforms* was based upon and represents an abstract and a reproduction of the material done by Eleonora Peruffo, Lea Schmidlechner, Ricardo Rodriguez Contreras, Daniel Molinuevo, *Coordination by platforms. Literature review*, European Foundation for the Improvement of Living and Working Conditions, 2017, available online at <https://www.eurofound.europa.eu/sites/default/files/wpef17040.pdf> Last visited on 31 October 2018.

<sup>xliv</sup> *COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS A European agenda for the collaborative economy* available online at <https://eur->

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*lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52016DC0356&from=RO*, COM/2016/0356  
Last visited on 31 October 2018.

<sup>xlv</sup> The presentation regarding the *Europe 2036 scenarios* was based upon and represents an abstract and a reproduction of the material done by Bernhard Dacs *The impact of new technologies on the labour market and the social economy Study* European Parliamentary Research Service, February 2018, available online at [http://www.europarl.europa.eu/thinktank/en/document.html?reference=EPRS\\_STU\(2018\)614539](http://www.europarl.europa.eu/thinktank/en/document.html?reference=EPRS_STU(2018)614539) Last visited on 31 October 2018.

<sup>xlvi</sup> *Raport asupra stabilității financiare [Financial Stability Report]*, No. 1, 2017, National Bank of Romania, available online at <http://www.bnr.ro/Prezentarea-Raportului-asupra-stabilita%C8%9Bii-financiare-nr.-1-din-2017-15893.aspx> Last visited on 31 October 2018.

<sup>xlvii</sup> *Revoluția Competențelor 2.0 [Revolution of Competences 2.0]*, Manpower, 2018, available online at [https://issuu.com/manpowergroup\\_romania/docs/mg\\_wef\\_skillsrevolution\\_2.0\\_paper\\_r](https://issuu.com/manpowergroup_romania/docs/mg_wef_skillsrevolution_2.0_paper_r) Last visited on 31 October 2018.

<sup>xlviii</sup> Bernhard Dacs *The impact of new technologies on the labour market and the social economy Study* – STOA Policy Brief, European Parliamentary Research Service, February 2018, available online at [http://www.europarl.europa.eu/thinktank/en/document.html?reference=EPRS\\_STU\(2018\)614539](http://www.europarl.europa.eu/thinktank/en/document.html?reference=EPRS_STU(2018)614539) Last visited on 31 October 2018.

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