Inclusive Growth in Europe

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Bertil Ohlininstitutet is a Swedish think tank, founded in 1993 with the purpose to initiate research and debate in critical areas of public policy in the tradition of liberal thinking. The institute is namned after Bertil Ohlin, who was leader of the Liberal party of Sweden (Folkpartiet) between 1944 and 1967. By building networks of scholars, participants in the public debate and persons from private and public working life the institute – as a think tank – contributes to broadening the basis for liberal opinion formation and renewal of liberal thinking.

Magma is a Finnish think tank that was founded in 2008. It supports liberal values and is independent of party politics. Since the beginning Magma has focused on issues such as integration, minorities, media, and structural and economic change. Magma's activities are based on the fact that Finland has two official languages, Finnish and Swedish, and on the understanding that multilingualism and ethnic diversity are important features of Finland and of Europe.

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Preface

When the financial crisis hit Europe growth stagnated and inequality rose. As in previous times of economic downturn it became painfully obvious how dependent our societies are on employment and opportunities for occupational advancement. Few things tear at the fabric of society like when large portions of the workforce find themselves sliding from – not towards – a job.

The making of one's own means empower individuals, and also enables individuals to come together and create meaningful social contacts through their workplaces. As we have seen throughout European history, it is not the national state themselves that creates a sense of unity that defines a society as such, but the way we interact – both socially and economically.

Few, if any, political issues post a greater liberal dilemma then that of addressing inequality. Liberal values seek to protects individual rights over the collective or state, but also highlight the importance of self-fulfilment and occupational mobility. Equality of opportunity – regardless of birth – is seen as key for liberals rather than equality of current conditions.

But how large a gap can a person be expected to climb in a single lifetime? When is social mobility true – and when does it turn utopic? Liberal economic policy is concerned with balance of allowing individual's freedom to soar, but also providing the means for people that fall being so that they can advance. Whether we like it or not, having a source of employment is key to status, health, and personal self-fulfilment.

In this publication we discuss equality of income as well as equality of opportunity in contemporary Europe. We do so under the heading of *intensive* and *inclusive* economic growth, stressing the importance of economic growth not only as intensive in terms of enhancing productivity and creating more for where there already is, but as inclusive, creating more for those who need it the most. In the wake of the financial crisis of 2007–2009 and the sluggish economic upturn, arguments are heard that free markets are unfair by nature and that greater inequality follows growth as certain as night follows day. After twenty years of *more* movement and *greater* economic integration a wind of protectionism blows through Europe. Echoes from the past call for more regulation and less liberal economic policies – when what we really need is more. To endure the harsher political climate liberal economic policy must seek equate the solution, not constitute the problem. The aim of this volume is allow a step in that direction.

What brought us here?

The seed for this publication was put during a conference held by the European Liberal Forum and the Bertil Ohlin Institute during May 2014 in Falun, Sweden. In the region of Dalarna, where steel and forest still rule, on top of the long closed Falu Coppar mine that for centuries was a cornerstone in the creation of Swedish wealth, 25 researchers, journalists and politicians gathered to examine how the relation between economic growth and social inclusion. As editors, we are grateful to all participants at the conference who helped us frame the outline for this publication. Some of the participants are also contributing as authors.

During the last few years both academics and policymakers have attended to the *conditions* of inclusive growth, as well as the potential *consequences* of growth for economic income inequality and overall economic development. The topic of inclusive growth is important for several reasons. Economic growth is often linked to both economic development (*intensive growth*) but also job creation and inclusion of weaker labour groups (*inclusive growth*). In addition to facilitating overall economic progress, entrepreneurship and innovation in the modern economy has been argued as leading to an increasing economic divisions whereby most firms are becoming smaller in terms of employment size, but are able the increase both revenues and profits.

While a great deal of previous policy work has focused on fostering innovation entrepreneurship – growth through new ideas – in order to promote economic development in terms of higher productivity and output, there is a dearth of work discussing entrepreneurship as a vehicle for *inclusive growth* — namely, in terms of job creation and the inclusion of weaker labour groups. This type of research is imperative for both theoretical and socio-political reasons.

There is no simple relationship between the levels of entrepreneurship and an economy's inclusive growth. For socio-political reasons, policymakers are stressing the importance of mitigating the consequences of stagnant growth and high unemployment in many developed economies, especially as these issues relate to individuals in precarious labour market positions. The complicated relationship between levels of entrepreneurship and an economy's inclusive growth provides a theoretical rationale to specifically look at how job creation can be facilitated through individuals' self-employment and growing business start-ups and how public policies can best support such processes. Promotion of entrepreneurship and inclusive growth is however not as easy as it may sound. As we try to illustrate in this volume, liberal economic policy is not a single thread based on free market policies but a web spanning over several policy areas. Digitalization and globalisation has changed the conditions for economic growth. Making best use of growth is necessarily not more difficult than before, but conditions are changing.

What is economic growth?

The link between entrepreneurship and economic growth can be understood differently depending on what type of growth is discussed. A strong emphasis on intensive growth can lead to increases in GDP, but potentially at the price of social exclusion. Inclusive growth might lead to diminishing returns and long-term losses of competitive strength, but provide a more equal distribution of wealth in terms of job creation and wage increases. Addressing the link between entrepreneurship and economic growth as both *intensive* and *inclusive* provides a more complete and policy relevant discussion and explanation. This volume includes chapters addressing both conceptualisations of growth, including case cross-country comparisons of European countries and case studies of specific nations.

Intensive growth is driven by better ways of using employees and resources. Here, the creation and diffusion of new technologies increases productivity and is theorised to improve income and welfare of an economy. The establishment and growth of new firms in knowledge-intensive industries is important to the EU's capacity to sustain and develop competitiveness. This is summarised by the EU 2020 slogan: "Mission Growth: Europe at the lead of the new industrial revolution". However, exclusively focusing on intensive growth can lead to limited understanding of the outcomes of growth. While a large number of new high-technology firms have been created during the latest decades in Europe, and that these firms fuel industry growth and change, relatively few of such high-technology firms actually exhibit strong growth, which can create long term problems where entrepreneurs feel that their risk-taking is not sufficiently rewarded. Parallel to the 'the rise of the entrepreneurial economy', income inequality in developed economies has increased and unemployment is increasingly stratified. This is often combined with weaker labour market regulation, presumed to facilitate intensive entrepreneurial growth but may work in opposition when considering other measures of growth.

Inclusive growth is driven by the addition of more and better labour, capital and resources to the market. This means raising the general level of education and training in the workforce, promoting inclusion of marginalized employees, and ensuring the potential of social mobility. Here, entrepreneurship may play an important, but different, role than it does for intensive growth. For example, new growing firms in the retail and service sectors often create jobs for workers with a weaker labour market position. Hence, a high level of entrepreneurship in retail and services is crucial for creating jobs for relatively unskilled workers. An unanswered research question in this regard is to what extent the new jobs created in these firms allows for the upgrading of skills and enhanced career mobility, or if 'poor jobs' predominate.

In the first chapter in this volume, Raul Ramos and Vicente Royuela outlines the main trends of income inequality in Europe over the last decade at both the national and the regional levels. Their analysis of regional inequality patterns shows how inequality is particularly increasing at the bottom of the income distribution, giving support to policies that address issues such as education and unemployment among the lower end of the income distribution. However, most of the factors explaining inequality stems not from the recent financial crisis, but from major trends such as globalisation, technological change and spatial accumulation of activity, which cannot be separated from overall economic development. Their detailed study provides a thoughtful background and detailed outline of data useful for understanding policy initiatives supporting inclusive economic growth. As they argue, increasing inequality is primarily a result of European people becoming better off in general, although some are becoming more so than others.

However, as described by Karl Palmås and Olav Fumarola Unsgaard in the 4th chapter, certain groups are systematically underachieving in strained and often highly institutionalised European labour market. Palmås and Fumarola Unsgaard discuss the conditions for the “under-30s” that not only have a harder time entering the labour market, but also are left out of many of the social welfare systems. The widespread existence of systems for unemployment relief and social security enable workers to adapt to changes in demand with substantially lower risk of long-term exclusion. But these systems are built on the notion of the first entrance to the labour market being relatively easy, and the changes in skills required being relatively slow. With European industries becoming ever more technologically advanced and most jobs requiring both experience and advanced training, younger workers may be in greater need than before of support for advancement.

In the 5th chapter Karin Zelano digs into a liberal principle coming under heavy siege at the time of this volumes publication – free movement. Zelano calls for liberal courage in this time of peril. The possibility for every citizen to move freely within is not only an unmistakable part of what creates an economic and social union, but an undeniably strong force of enabling greater growth. For the continent as a whole the free movement contributes to a more inclusive growth, as people move to where the demand for labour is high.

In an economy where industries and markets evolve more rapidly than ever before the obsolescence of knowledge constitutes one of the greatest challenges. Chapter 3 in this volume, by Anna Felländer, outlines Europe's ground-shaking transition to a digitally based economy. She discusses how technological progress leads to many jobs changing ot disappearing, mainly in retail and administration. As many of these disappearing jobs are replaced by new ones, created from innovation or increases in demand of healthcare and other services. As the demand for work will shift from automatised sectors to new sectors and sectors less susceptible to automatisation, Felländer highlights the role of free markets to foster and reap the benefits from innovation (intensive growth) will become crucial to generate the positive spillovers for job creation in new sectors (inclusive growth).

In this time of rapid technological progress, it is in the interest of individuals as well as governments, to keep education and skills up to date. There are ways of addressing younger individuals' lack of experience as well as countering the exclusion of migrants in the labour market. One is the variety of in labour market education and vocational training used to help workers close in on market demand, discussed by Andreas Bergström, Karl Wennberg and Evelina Stadin in chapter 6. Such activities allow older workers to acquire skills needed for new and more advanced positions, therefore making the labour market as a whole more efficient. The concept of each persons' life-long learning can no longer be but a beautiful vision – we need to take steps towards making it reality.

Technological change is believed to facilitate intensive growth, but less is known how it affects inclusive growth. Increasing productivity stemming from the use of new technology is a much-heralded source of economic growth, often described as leading to knowledge spillovers that enhance the productivity of both new and existing firms. Spillover of knowledge from universities to commercial applications is one way; another is the spinoffs and spinouts from larger, technology intensive incumbent. In both cases, new entrepreneurial firms contribute to growth by diffusing new technologies and test their commercial value. As Roger Wessman shows in 2nd chapter in this volume, even stagnant or contracting industrial firms such as

Finish telecom giant Nokia may generate such knowledge spillovers as employees leave or are shed during contractions. Given well-functioning institutions, these former employees often have the requisite technological and commercial knowledge to initiate new and growing firms, such as exemplified in the cases of Finish start-ups Rovio, Supercell and Comptel. Wessman describes the transition of the Finish economy during the financial crisis and the co-occurring stagnation of Nokia, highlighting that a positive economic turnaround requires a fertile environment for entrepreneurship in terms of well-functioning economic and legal institutions, good education, and availability of risk capital.

What can policymakers do?

Coming back to the pan-European analysis presented by Raul Ramos and Vicente Royuela in chapter 1, the evidence suggests that inequality is actually *negatively* related to economic development in Europe. This implies an automatic self-correcting process of inequality in the long run. These results would imply that no correction mechanism would be necessary from a policy perspective; if only European economies will be able to catch up to the pre-crisis level of economic growth. Ramos and Royuela discuss the potential for policies that are compatible with the joint objective of promoting both intensive and inclusive economic growth. Specifically, they argue that facilitating the accumulation of human capital, making educational achievement less dependent on individuals' social circumstances. This would mean reducing labour market dualism and promoting the labour market integration of those with difficulties of entering the labour market such as youths and migrant workers. The chapters by Zelano outlines the great economic potential of strengthening mobility of workers across Europe, and the challenges facing politicians seeking to address the changing social conditions this mean in the short term. Related to the discussion of migrant workers is the condition for youths. The chapter by Palmås and Fumarola Unsgaard who discuss the increasingly precarious situation of young workers. Formal requirements to access the public welfare systems need adapt to these changes in the economy and labour market, where old truths will need to be challenged.

Other policies capable of reducing inequality at the same time as promoting economic growth are policies associated with institutional problems such as labour market regulations and the structure and size of fiscal and social security systems. Both the pan-European empirical analysis by Ramos and Royuela as well as the outline of labour market implication of digitalisation by Bergström, Stadin and Wennberg suggests that the European economic problems of today are very much like the problems of yesterday. Highly regulated labor and product markets and social security system that tends to promote 'insiders' over 'outsiders' are detrimental for the equality of opportunities among Europeans. Long-term policies and reforms needed which can reduce the inequality in access to opportunities, while allowing for inequality arising from returns in terms of effort. Governments needs to investment in training and education and minimise regulations the inhibit the mobility of workers from declining to new sectors, while at the same time seeking to maintain some basic social safety net facilitating the transition from the loss of jobs and sectors to the creation of new emerging sectors.

The economic challenges facing Europe are great. As are the challenges facing European liberalism. As editors of this book, it is our conviction that the discussions of liberal economic policy can no longer be confined to discussing the conditions for economic growth and the problems of social inclusion as separate spheres. We need to remind ourselves that the economic well-being of today has been brought about by the free-market economic reforms promoted in European economies since the 1950s, slowly and painstakingly. With new challenges, economic reform needs to allow more people the access to opportunities for advancement, and also allow for more people being able to reap the benefits of economic programs. This volume contains empirical and conceptual work discussing both of these issues in contemporary Europe. The concept of inclusive growth is still evolving. It is our hope that this volume inspires policy makers, academics and other interesting readers others to take up where we leave. By making better use of the knowledge coming out of the academic discussions on inclusive growth, liberal policymakers can achieve two intimately related goals: Countering the protectionist and market-hostile forces; and allowing greater life chances for half a billion Europeans.

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Inequality in European regions

The evolution of income inequality is becoming a great concern all over the world. In this paper, we will analyse the main trends of income inequality in Europe over the last decade, both at national and regional levels. We will briefly analyse the main factors impacting inequality and finally derive several policy implications.

Introduction

According to economic theory, income inequality is a natural result of individual economic performance. Individual heterogeneity in talent and effort will result in a variety of income results and consequently in a certain level of overall inequality. For the majority of individuals in developed and developing economies alike, inequality is a 'fact of life' that affects their relative labour market position, social status, consumption patterns and health. For policy makers, inequality is both an economic and social issue that is widely discussed but difficult to readily address. Most modern economic theories hold that certain levels of inequality are necessary for economic development, but that inequality can be detrimental if it does not come with mobility, i.e. allowing individuals to move up the income distribution ladder. Schumpeter (1955) referred to social classes as a hotel, always full, but always with different people. He assumed that the ultimate foundation on which the class phenomenon rests consists of individual differences in aptitude, but at the same time that the rate of interchange within and between classes carries the greatest significance for understanding important social questions.

A wide range of circumstances affects economic outcomes without being related to personal talent or effort, resulting in undesired inequality. Economic literature usually points to various institutions providing different incentives for individuals to seek work, barriers to physical and human capital accumulation or heterogeneous effects on the income distribution of economic shocks, such as the financial crisis of 2007.

Conversely, income inequality can be a factor that potentially affects economic growth. On one side, inequality can enhance growth because richer people enjoy higher savings rates, or simply since it results in higher incentives for taking risks. On the other side, income inequality may result in higher taxes, political conflict, lower capital accumulation and a smaller market size of the middle income class, which would result in less economic growth.[1]

Both academics and policy makers are concerned with the evolution of inequality and its negative effect on development. Leading economists such as Krugman (2008), Stiglitz (2009) and Rajan (2010) have emphasised the role of inequality in the growth process and, in particular, the increase in inequality both as a cause and a consequence of the Great Recession that began in 2007. Policy agendas such as the EU2020 Strategy aim at achieving inclusive economic growth, which will benefit the largest number of people possible. Moreover, other international institutions are greatly concerned with inequality issues: for instance, the OECD is involved in the Inclusive Growth Initiative (De Mello and Dutz, 2012); while since 2011 the Human Development Report of the United Nations has been working on the *inequality-adjusted* Human Development Index.

1. As there is a vast literature analysing these effects, we refer the reader to Ehrhart (2009), Galor (2009), Neves and Silva (2014) and Castells-Quintana and Royuela (2014b) for a comprehensive overview of the theoretical and empirical evidence on the relationship between inequality and economic growth.

In this chapter, we will review the evolution of income inequality in Europe since the early nineties up to the Great Recession, both at national and regional levels. Then we will analyse the main factors affecting income inequality in Europe at a regional level. We will conclude with the main findings and provide several policy conclusions.

Analysis of the recent evolution of inequality in the EU

We will now analyse the evolution of inequality in income distribution for European countries and regions since the early nineties up to the Great Recession. The first part of this period was characterised by the convergence process of a major part of the EU before the adoption of the euro, while the latter years of this period witnessed the impact of the global downturn, together with the bursting of the housing bubble and the need for a major fiscal adjustment in several EU countries. This section will focus on the short-term evolution of income inequality in Europe both from a national and regional perspective.

Database and variable definition

In order to analyse inequality trends, we will use information from the European Community Household Panel (ECHP) and the European Union Survey on Income and Living Conditions (EU-SILC). The eight available waves (1994–2001) of the ECHP survey contain data on individuals and households for 15 European countries. The information is homogeneous across these countries, as the questionnaires are similar and the procedures for collecting the information were coordinated by Eurostat. The EU-SILC provides information on a wider sample of European countries (28 EU Member States, plus Iceland, Norway and Switzerland) starting from 2004. Currently, seven waves are available for the period from 2004 to 2012. Data for the 2004 wave is only available for a few countries and the 2012 wave does not provide information for Belgium or Ireland. Data for 2005 and 2006 is also incomplete for some EU Member States. Both surveys provide detailed information on annual income.

In order to compare income inequality and its evolution across certain countries, we have calculated inequality measures based on the concept of "equivalised" household disposable income according to Eurostat. The definition of household annual disposable income includes income from wages and salaries, self-employment income, realised property income, cash transfers from the general government less taxes and social security contributions paid by each household. So, equivalised disposable income is the total income of a household, after tax and other deductions, which is available for spending or saving, divided by the number of household members converted into equalised adults. Household members are equalised or made equivalent by weighting each person according to age using the modified OECD equivalence scale, as suggested by Eurostat. This scale gives a weight to all members of the household (and then adds these up to arrive at the equivalised household size): 1.0 to the first adult; 0.5 to the second and each subsequent person aged 14 and over; and 0.3 to each child under the age of 14.

In order to analyse income inequality using ECHP and EU-SILC microdata, we have calculated four different measures of inequality. In particular, we have calculated the *Gini coefficient* – perhaps the most widely used measure of inequality – as well as the complementary measures of the *decile ratio*: the *P9010* (the ratio between the ninth and the first decile), the *P5010* (the ratio between the fifth and the first decile) and the *P9050* (the ratio between the ninth and the fifth decile). All these calculations have been corrected by taking into account the fact that each individual in the sample represents a different number of people in the total population.

The geographic breakdown used in this chapter is defined according to the NUTS-1 regional classification, which is Eurostat's definition of 'similarly sized' geographic units for the harmonisation of EU regional statistics. This choice was dictated by practical considerations on data availability and by comparability across the ECHP and the EU-SILC.

Recent evolution of income inequality in European countries and regions

Table 1 shows the value of the Gini index for annual equivalised household income for European countries over four particular reference years: 1996, 2000, 2007 and 2011[2]. It also shows changes in the Gini index from 1996 to 2000, from 2000 to 2007 and from 2007 to 2011. For the first two years, 15 countries are analysed while for the two latter periods, the sample has been expanded to 30 countries due to differences in the geographical coverage from the ECHP to the EU-SILC.

If we look at the first column in table 1, we can see that according to the values of the Gini index we can group these fifteen countries into three categories: the first group would be composed of Denmark, Sweden and Finland, namely the countries with the smallest degree of inequality (Gini index below 0.25); Luxembourg, Austria, the Netherlands, Germany, Belgium and France would form a second group (Gini index between 0.25 and 0.30); and finally, Italy, the United Kingdom, Ireland, Spain, Greece and Portugal have the highest levels of inequality (Gini index above 0.30). If we move across the columns to more recent years, we can see two relevant features: firstly, the relative position of each European nation has not changed too much (the Netherlands and Denmark exchanged positions and so did France and Ireland) and, secondly, even though the evolution of inequality has been rather heterogeneous among these countries, the predominant trend has been to decrease. As we can see in figure 1, between 1996 and 2000, inequality decreased in 9 of the 15 countries, in 10 of the 15 between 2000 and 2007 and, lastly, in 8 of the 15 between 2007 and 2011.

If we now focus on the period 2007-2011 and the 30 countries analysed, average inequality levels among new EU members and other European countries in 2007 were quite similar to the levels observed in old EU members with a Gini index average of nearly 0.29. Slovenia, Slovakia and Norway have low levels of inequality; the Czech Republic, Hungary, Iceland, Malta and Cyprus are part of the intermediate inequality group; and, lastly, Estonia, Switzerland, Poland, Lithuania, Bulgaria, Romania and Latvia have higher levels of inequality. Croatia would also be part of this group if we considered the 2011 data. Figure 2 shows the changes in the Gini index from 2007 to 2011 in the countries analysed. Inequality has increased in nearly half of this sample. The country with a higher absolute

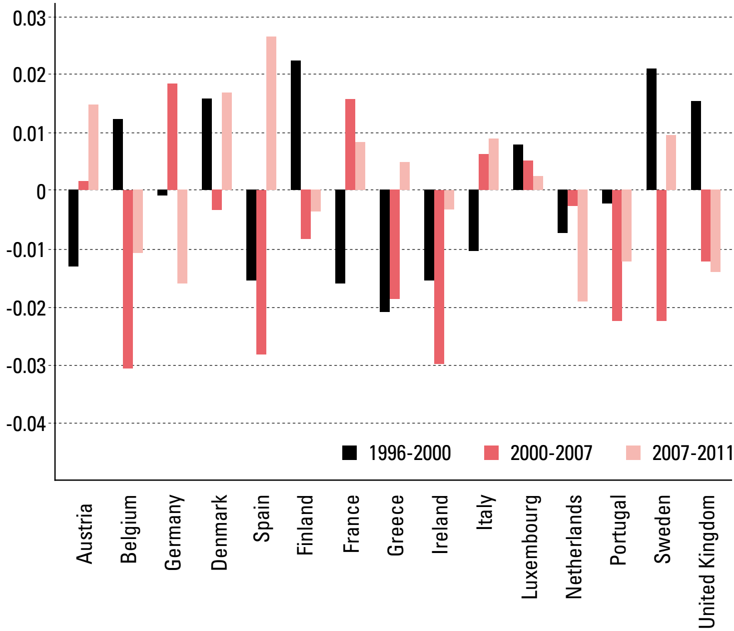
2. From the ECHP 1997 and 2001 waves and the EU-SILC 2008 and 2012 waves, respectively.

Table 1. Gini index and changes in Gini index in European countries

	Reference year	Gini index 1996	2000	2007	2011*	Changes in Gini index 1996–2000	2000–2007	2007–2011
AT	Austria	0.273	0.259	0.261	0.276	-0.013	0.002	0.015
BE*	Belgium	0.290	0.302	0.272	0.261	0.012	-0.031	-0.011
DE	Germany	0.280	0.279	0.298	0.282	-0.001	0.019	-0.016
DK	Denmark	0.231	0.247	0.244	0.261	0.016	-0.003	0.017
ES	Spain	0.353	0.338	0.310	0.336	-0.015	-0.028	0.027
FI	Finland	0.248	0.270	0.262	0.258	0.023	-0.008	-0.004
FR	France	0.296	0.280	0.296	0.304	-0.016	0.016	0.008
GR	Greece	0.366	0.345	0.326	0.331	-0.021	-0.019	0.005
IE*	Ireland	0.345	0.329	0.299	0.296	-0.015	-0.030	-0.003
IT	Italy	0.309	0.299	0.305	0.314	-0.010	0.006	0.009
LU	Luxembourg	0.261	0.269	0.274	0.277	0.008	0.005	0.003
NL	Netherlands	0.279	0.271	0.269	0.250	-0.007	-0.003	-0.019
PT	Portugal	0.382	0.380	0.358	0.345	-0.002	-0.022	-0.012
SE	Sweden	0.236	0.257	0.235	0.244	0.021	-0.022	0.010
UK	United Kingdom	0.331	0.347	0.335	0.321	0.016	-0.012	-0.014
BG	Bulgaria			0.359	0.334			-0.025
CH	Switzerland			0.311	0.286			-0.025
CY	Cyprus			0.289	0.310			0.021
CZ	Czech Republic			0.247	0.249			0.002
EE	Estonia			0.308	0.321			0.013
HR	Croatia				0.303			
HU	Hungary			0.251	0.269			0.018
IS	Iceland			0.272	0.238			-0.034
LT	Lithuania			0.336	0.317			-0.019
LV	Latvia			0.373	0.354			-0.019
MT	Malta			0.277	0.271			-0.006
NO	Norway			0.242	0.223			-0.019
PL	Poland			0.319	0.309			-0.010
RO	Romania			0.360	0.332			-0.028
SI	Slovenia			0.234	0.238			0.004
SK	Slovakia			0.236	0.253			0.017

Note: these are our own calculations from ECHP and EU-SILC microdata. As the 2011 data for Belgium and Ireland is not currently available, we have used the value of the Gini Index for 2010 as a reference year.

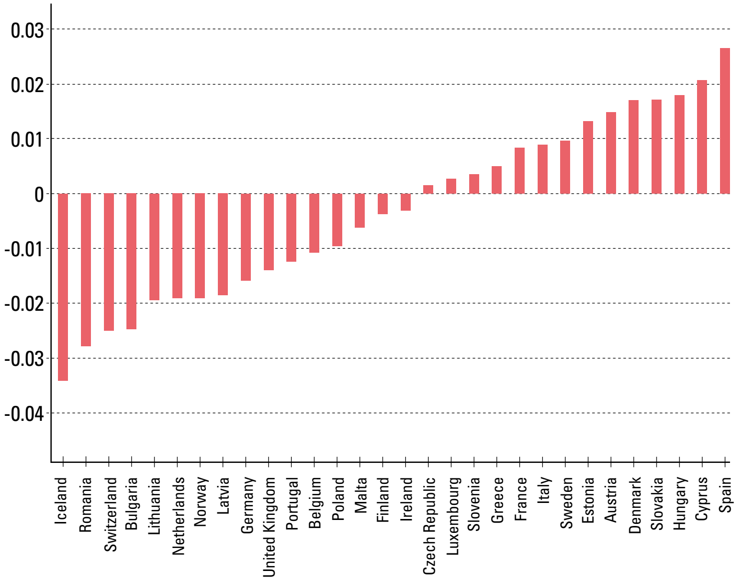
Figure 1. Changes in gini index in selected eu countries
(echp & eu-silc common sample)



change in the index is Spain, followed by Cyprus, Hungary, Slovakia, Denmark, Austria and Estonia. In all these countries, the Gini index has increased by over 1 point between 2007 and 2011. The countries where the index has shown a more pronounced decline are Iceland, Romania, the Czech Republic and Bulgaria. It is worth mentioning that there has been some variance in the evolution of inequality in the EU countries more profoundly affected by the sovereign debt crisis: while in Spain inequality has substantially increased, in Greece it has just slightly increased and in Portugal and Ireland inequality has actually decreased between 2007 and 2011.

We have used the NUTS-1 regional level in our analysis to calculate the inequality measurements. We have information on 39 NUTS-1 regions in both the ECHP and the EU-SILC datasets. These regions belong to the same countries shown in the top panel of table

Figure 2. Changes in Gini index from 2007-2011 in European countries



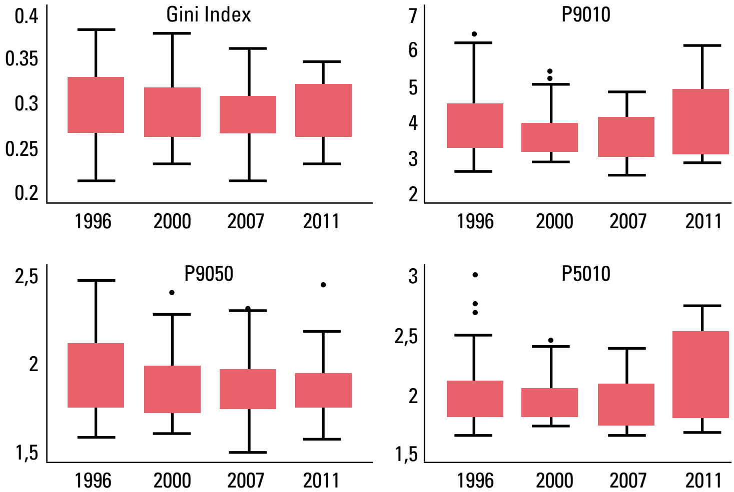
Note: these are our own calculations from EU-SILC microdata. As the 2011 data for Belgium and Ireland is not currently available we have used the value of the Gini Index for 2010 as reference year.

1, with the only exceptions being Germany and the United Kingdom. No regional data has been provided for Germany in the EU-SILC for 2007 and 2011. For the United Kingdom, changes to the definition of regions have prevented us from calculating any comparable inequality indicators.

As we have reported in other recent papers, inequality trends observed at a regional level are similar to those observed at a national level (Ramos and Royuela, 2014). In most regions, inequality decreased between 1996 and 2007, but from 2007 to 2010, inequality actually increased in 29 out of the 39 regions available in both the ECHP and the EU-SILC.

In our regional analysis, we find that the differences in intraregi-

Graph 3. Box Plot of Inequality Measures in Selected European Regions (ECHP & EU-SILC Common Sample)



Note: These are our own calculations from ECHP and EU-SILC microdata. As the 2011 data for Belgian and Irish regions is not currently available, we have used the value of the Gini Index for 2010 as a reference year

onal inequality measured by the Gini index for disposable income are higher than when comparing countries. In other words, in most European States, there are both relatively wealthy and relatively poor regions. For instance, in 1996, the range of the national Gini index stood at 15 points, while when looking at the regions it is 17 points. A similar result is observed when looking at the common sample of the regions and countries in the ECHP and the EU-SILC: in 2011, the range of the Gini index was 10 points for the countries but 14 points for the regions.

Figure 3 shows the box plots of the four inequality measures analysed (Gini, P9010, P5010 and P9050) for the NUTS-1 regions available in both the ECHP and the EU-SILC. From these figures, we can see that the main results already described for the Gini index also hold true for the other three measures. However, there is one result that is worth highlighting: from 2007 to 2011, regional differences have clearly increased when looking at inequality on the left side of the distribution (lower income levels) but not so much on the right side of the distribution (higher income levels). This result could be related to the differential effect of the Great Recession in European regions, meaning that increased inequality in European regions is primarily a result of more people becoming poorer, rather than becoming richer as they did in the past.

Factors affecting income inequality

Economic literature points to a list of factors relating to the existence of income inequality. Barro (2000) points out that the main theoretical approach to assessing the determinants of inequality involves the idea of the Kuznets (1955) curve, further developed by Robinson (1976). In this model, when a rural and agriculturally based country moves to industrialisation and urbanisation, it sees an increase in both income and inequality per capita. Thus, the initially dominant effect is the increase in a small rich group of people in industrial and urbanised areas. As the agriculture sector decreases and the industrial and urban sector increases, poor people initially see an increase in their income, which results in a decrease in aggregate inequality. The shifting relationship between development and inequality is known as the Kuznets inverted-U curve.

More recent models such as Greenwood and Jovanovic (1990) include sectorial changes from basic to more sophisticated task services, such as financial services. These theoretical models suggest that introducing technological innovations will also follow the inverted-U pattern, initially increasing inequality due to the high income of a few people who receive extra benefits from the new technology. Subsequently, as more people transfer to the sector enjoying the new technology, inequality is expected to decrease while expanding overall per capita income. Consequently, the level of inequality will relate to the period when modern production techniques are introduced to the economy; while in the long-term, economic development (and other socioeconomic and political aspects) should reduce income inequality (Marrero and Rodríguez, 2014).

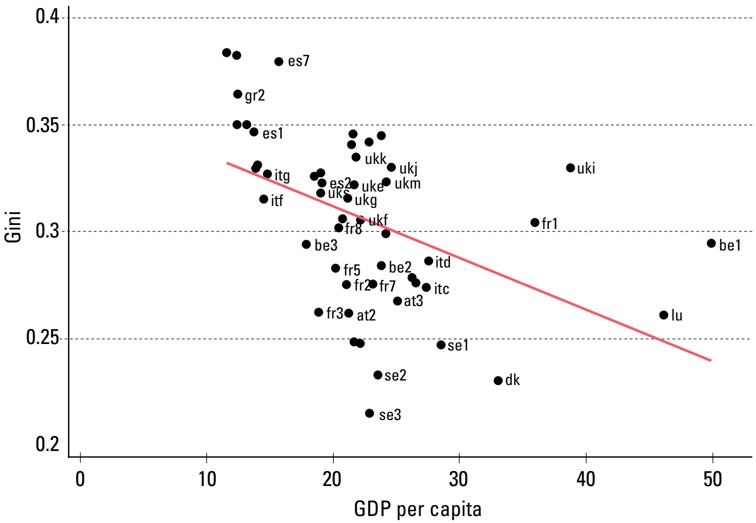
In empirical analysis, a typical way to test the existence of the Kuznets curve is to use the linear and quadratic form of the GDP log. Moreover, a list of control variables has to be considered. Barro (2000) includes the education level of the population, continental dummies and several institutional variables, such as ethnicity, language, religion, democracy and an indicator of openness, which can be linked to the idea of globalisation.

The Heckscher-Ohlin and Stolper-Samuelson theorems provide further theoretical support for these models: increasing openness shifts labour demand from unskilled to skilled workers in developed economies, as they are specialised in the production of skill-intensive products and fulfil their comparative advantage. In contrast, the effect for less developed areas is ambiguous. Such development has been seen in many European nations over the last 50 years, especially those opening their borders to allow the free mobility of goods and labour. Recently, Jaumotte et al (2008) and Afonso et al (2013) have shown evidence that technological progress and globalisation tend to increase the return to skills and subsequently inequality, with the contribution of technology being much more important.

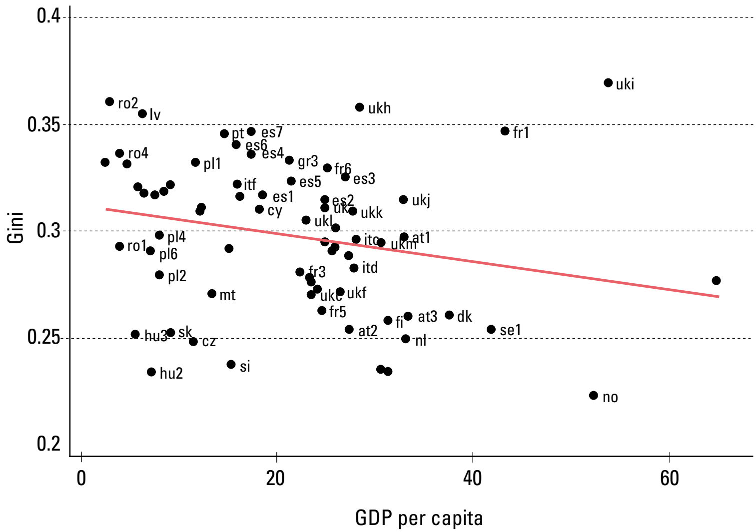
Most of the work analysing inequality has been conducted at a national level and very few papers are devoted to the regional level, usually as a result of finding reliable data. We believe that the use of regional data is particularly important, as individuals can be greater affected by local conditions than by national issues. Relevant papers analysing the relationship between inequality and economic development include Partridge (2005) for the US, Rodríguez-Pose and Tselios (2008) for Europe and recently Royuela et al (2014) for the OECD.

Figures 4a and 4b summarise the relationship between the Gini Index and GDP per capita over several years. Clearly, the more developed countries display, on average, lower inequality levels, as predicted by the Kuznets model in the long-term. The relationship may be non-linear, but on first view it is hard to see any inverted-U shape relationship between development and inequality. It is reasonable to think that Europe is already a developed region in the world and that consequently we only see the negative slope of the inverted-U pattern of the Kuznets curve.

Graph 4a. Relationship between inequality and economic development in 1996



Graph 4b. Relationship between inequality and economic development in 2001



In order to inspect the main factors behind the recent evolution of income inequality in European regions, an empirical approach has been followed in Ramos and Royuela (2014), in which an inequality measure has been regressed against a list of factors. There, we include the linear and quadratic forms of the GDP per capita log, plus a list of controls linked to the usual procedures in empirical literature. This estimation strategy first considers inequality levels for European regions separately for several years. Finally, we have also performed an empirical analysis by considering the panel structure of the database. Next, we will summarise the main findings of this analysis.

Our findings confirm the previous observations from Figure 4 that the Gini index is negatively associated with economic development, while we cannot see any form of inverted-U shaped curve in any of the years analysed. On the contrary, in 1996 and in 2000 we observe higher inequality in more developed regions, which can be linked to the idea of development through innovation associated to increasing inequalities. Indeed, the fixed effects estimates report that inequality grew more in the regions with higher GDP per capita growth rates.

When interpreting Figures 4a and 4b, along with the underlying regression models that produce these graphs, we note industry sector specialisations as an important explanatory factor for the observed patterns in income inequality:

- Higher inequality is associated with higher weight in the agricultural sector for new EU Member States (EU-SILC sample).
- The construction sector is positively linked with inequality only in the period prior to the Great Recession (2007), which can be linked to the increase of small rich groups of people in countries with significant housing bubbles.
- The weight in services associated with commerce, transport communications and tourism, which could be linked to the globalisation of services, is positively related to income inequality in both 1996 and in 2011.

- Higher weights in financial and business services are associated with increasing income inequality throughout the first periods of analysis, suggesting that an increase in these sectors' share of the economy leads to higher income inequality.
- The factor associated with technological innovation is positively associated with income inequality, not only in terms of its levels but also when considering the time dimension: increasing technological innovation is associated with increasing income inequality in European countries.

In our analysis, we also find that population density is positively associated with inequality. This is a somewhat conflicting but important result, as urbanisation is usually linked to development, one could expect less inequality in more developed regions. Nevertheless, Castells-Quintana and Royuela (2014a) show how inequality associated with agglomeration economies can be a growing factor, particularly when it is observed at its initial stages of development with low starting inequality levels.

Finally, our analysis and the underlying regression models hint that certain societal institutions also play an important role in determining inequality levels, in particular the family structure in each European country.[3] As we might expect, unemployment is positively associated with inequality during the Great Recession, but interestingly it is not statistically significant in the remaining periods.

Overall, our analysis reveals that income inequality is negatively associated with European countries' level of economic development (negatively associated with GDP and positively associated with higher shares in agriculture), and that it is positively associated with sectors open to global competition (agriculture, commerce, transportation and tourism), while it is higher in regions with higher value added services and highly educated workers and/or employed in science and technology, and conditioned by a list of institutions.

3. We use two variables associated with the concept of Family Structure. Both are the result of a principal component analysis developed by Berthoud and Iacovou (2004), who use up to six variables associated with the concept. All variables and the subsequent statistical analysis are developed at a national level.

Hence, rising inequality to some extent is a result of other economic forces increasing the overall wealth of European economies. It is outside the scope of our analysis to investigate the impact of changes in social safety nets on income inequality, although this would be a very interesting aspect to be considered for future research. Up until now, only a few papers have studied the impact of public policies during the crisis on inequality. For instance, Ball et al (2011) showed that on average fiscal consolidation episodes did greater damage to lower-income groups and that wages declined more than profits. Bontout and Lokajickova (2013) found that the downward trend in social expenditure accelerated in 2012. Matsaganis and Leventi (2014) studied how austerity has affected the capacity of welfare states to protect those affected by the Great Recession. They find that austerity policies may have adversely affected what was once called the 'social wage', suggesting that in most of Southern Europe poverty actually increased, and the policies implemented accounted for a major part of that increase. However, this situation could have been worse without the role played by family networks, as highlighted by Lyberaki and Tinio (2014) for the Greek case.

Concluding remarks and policy issues

Income inequality may be the result of market forces but it is also an outcome of institutional failures. Besides, its effects can be harmful for economic growth and development. International organisations such as the European Union or the OECD are concerned with inequality issues and try to design policies which are both efficient and inclusive.

In this paper, we have described the evolution of income inequality. By using the microdata available from the European Community Household Panel (ECHP) and the European Union Survey on Income and Living Conditions (EU-SILC), we have calculated several inequality measures for European countries and NUTS-1 regions in Europe from 1993 to 2011.

We find that the picture of the evolution of income inequality is far from homogeneous, both across countries and over time. In comparison with inequality levels all over the world, the European inequality measured by the Gini index is reasonably low at around

0.3. We have found a group of countries with low levels of inequality, such as Norway, Iceland, Slovenia, Sweden and the Netherlands (all of which were below 0.25 in 2010). At the other extreme, we find Spain, Romania, Portugal, Latvia and Bulgaria (all above 0.33 in 2010). Between 1996 and 2000, the Gini index decreased in 9 of the 15 countries analysed in the SILC survey. On the contrary, between 2007 and 2011, the Gini index increased in nearly half of the sample. It is worth mentioning that there has been some variance in the evolution of inequality in the EU countries more affected by the sovereign debt crisis, with a substantial increase in Spain, no significant changes in Greece and decreases in Portugal and Ireland.

The regional analysis of inequality is far from extensive in the empirical literature, usually due to data availability issues. Of course, inequality trends observed at a regional level are similar to those observed at a national level, although these trends are now even magnified: if in most regions, inequality has decreased between 1996 and 2007, for the 2007-2010 period inequality has increased in 29 of the 39 regions available in both the ECHP and the EU-SILC.

We have described the main findings of the empirical analysis developed by Ramos and Royuela (2014) in order to find which factors have a greater influence on income inequality. As predicted by the Kuznets theoretical approach, inequality decreases with development. In line with this approach, introducing technological innovations will follow the inverted-U pattern, initially rising inequality. According to our estimates, we find that a sectoral composition in high value added services or a higher proportion of highly educated people and/or employed in science and technology all have an increasing impact on inequality.

Moreover, we find that regions specialised in sectors potentially open to global competition (commerce, communication, tourism, etc) experience higher inequality levels and increases, in line with the predictions of the Heckscher-Ohlin and Stolper-Samuelson theorems. Hence, rising inequality to some extent is a result of other economic forces increasing the overall wealth of European economies. These global trends may have been exacerbated in countries where fiscal consolidation has played an important role, i.e. some Southern European countries. We also find that regions with a higher population density have higher inequality levels, and both these variables are evolving positively over time as Europe becomes more urbanised. As shown in Castells-Quintana and Royuela (2014a), inequality can be associated with agglomeration economies and the spatial concentration of resources, which in certain circumstances can be a positive factor for economic development.

The policy implications of our results are somewhat conflicting. On the one side, our analysis provides a background for understanding policy initiatives supporting inclusive economic growth. At the same time, most of the factors explaining inequality (globalisation, technological change and spatial agglomeration of activity) cannot be separated from economic development. This is true to the extent that increasing inequality is primarily a result of European people becoming better off in general, although some are becoming more so than others, due to technological change and urbanisation; inequality is therefore not necessarily a policy problem. However, our analysis of regional inequality patterns in Figure 3 also shows how inequality is particularly increasing at the bottom of the income distribution, giving support to policies that address issues such as education and unemployment among the lower end of the income distribution.

One of the more important results of our analysis is that inequality is negatively related to economic development, which would imply an automatic self-correcting process of inequality. These results would imply that no correction mechanism would be necessary from a policy perspective, although it is worth mentioning that our view is only focused on short-term developments. An analysis of long-term trends could provide different results and different conclusions.

Still, we see some room for policies that are compatible with the joint objective of promoting strong and inclusive economic growth. Koske et al (2012) report a list of policies in this regard: facilitating the accumulation of human capital, making educational achievement less dependent on personal and social circumstances, reducing labour market dualism and promoting the labour market integration of immigrants and women. Other policies that are capable of reducing inequality at the same time as promoting economic growth are policies associated with institutional issues. Many of them are associated with labour market regulations and the structure and size of fiscal and social security systems. All in all, they are policies aimed at reducing the inequality in access to opportunities, while allowing for inequality arising from returns in terms of effort.

Acknowledgements

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Appendix. List of considered NUTS 1 regions in ECHP and SILC

		NUTS 1 REGION		ECHP		EU-SILC
1	AT1	OSTÖSTERREICH	1	AT1	1	AT1
2	AT2	SÜDÖSTERREICH	2	AT2	2	AT2
3	AT3	WESTÖSTERREICH	3	AT3	3	AT3
4	BE1	RÉGION DE BRUXELLES-CAPITALE/ BRUSSELS HOOFDSTEDELIJK GEWEST	4	BE1	4	BE1
5	BE2	VLAAMS GEWEST	5	BE2	5	BE2
6	BE3	RÉGION WALLONNE	6	BE3	6	BE3
7	BG3	SEVERNA I YUGOIZTOCHNA BULGARIA			7	BG3
8	BG4	YUGOZAPADNA I YUZHNA TSENTRALNA BULGARIA			8	BG4
9	CH0	SWITZERLAND			9	CH0
10	CY0	ΚΥΠΡΟΣ (KÝPROS)			10	CY0
11	CZ0	ČESKÁ REPUBLIKA			11	CZ0
12	DE1	BADEN-WÜRTTEMBERG	7	DE1	12	DE1
13	DE2	BAYERN	8	DE2	13	DE2
14	DE3	BERLIN	9	DE3	14	DEA
15	DE4	BRANDENBURG	10	DE4	15	DECE
16	DE5	BREMEN	11	DE5	16	DENE
17	DE6	HAMBURG	12	DE6	17	DENW
18	DE7	HESSEN	13	DE7		
19	DE8	MECKLENBURG-VORPOMMERN	14	DE8		
20	DE9	NIEDERSACHSEN	15	DE9		
21	DEA	NORDRHEIN-WESTFALEN	16	DEA		
22	DEB	RHEINLAND-PFALZ	17	DEX		
23	DEC	SAARLAND				
24	DED	SACHSEN	18	DED		
25	DEE	SACHSEN-ANHALT	19	DEE		
26	DEF	SCHLESWIG-HOLSTEIN	20	DEF		
27	DEG	THÜRINGEN	21	DEG		
28	DK0	DANMARK	22	DK0	18	DK0
29	EE0	EESTI			19	EE0
30	EL1	VOREIA ELLADA	23	GR1	20	EL1
31	EL2	KENTRIKI ELLADA	24	GR2	21	EL2
32	EL3	ATTIKI	25	GR3	22	EL3
33	EL4	NISIA AIGAIOU, KRITI	26	GR4	23	EL4
34	ES1	NOROESTE	27	ES1	24	ES1
35	ES2	NORESTE	28	ES2	25	ES2

36	ES3	COMUNIDAD DE MADRID	29	ES3	26	ES3
37	ES4	CENTRO (ES)	30	ES4	27	ES4
38	ES5	ESTE	31	ES5	28	ES5
39	ES6	SUR	32	ES6	29	ES6
40	ES7	CANARIAS	33	ES7	30	ES7
41	FI0	FINLAND	34	FI	31	FI
42	FR1	ÎLE DE FRANCE	35	FR1	32	FR1
43	FR2	BASSIN PARISIEN	36	FR2	33	FR2
44	FR3	NORD - PAS-DE-CALAIS	37	FR3	34	FR3
45	FR4	EST	38	FR4	35	FR4
46	FR5	OUEST	39	FR5	36	FR5
47	FR6	SUD-OUEST	40	FR6	37	FR6
48	FR7	CENTRE-EST	41	FR7	38	FR7
49	FR8	MÉDITERRANÉE	42	FR8	39	FR8
50	HR0	CROACIA			40	HR0
51	HU1	KÖZÉP-MAGYARORSZÁG			41	HU1
52	HU2	DUNÁNTÚL			42	HU2
53	HU3	ALFÖLD ÉS ÉSZAK			43	HU3
54	IE0	IRELAND	43	IE0	44	IE0
55	IS0	ICELAND			45	IS0
56	ITC	NORD-OVEST	44	ITC	46	ITC
57	ITF	SUD	45	ITF	47	ITF
58	ITG	ISOLE	46	ITG	48	ITG
59	ITH	NORD-EST	47	ITH_ITD	49	ITH_ITD
60	ITI	CENTRO (IT)	48	ITI_ITE	50	ITI_ITE
61	LT0	LIETUVA			51	LT0
62	LU0	LUXEMBOURG	49	LU0	52	LU0
63	LV0	LATVIJA			53	LV0
64	MT0	MALTA			54	MT0
65	NL0	NETHERLANDS	50	NL	55	NL
66	NO0	NORWAY			56	NO0
67	PL1	REGION CENTRALNY			57	PL1
68	PL2	REGION POŁUDNIOWY			58	PL2
69	PL3	REGION WSCHODNI			59	PL3
70	PL4	REGION PÓŁNOCNO-ZACHODNI			60	PL4
71	PL5	REGION POŁUDNIOWO-ZACHODNI			61	PL5
72	PL6	REGION PÓŁNOCNY			62	PL6
73	PT0	PORTUGAL	51	PT	63	PT
74	RO1	MACROREGIUNEA UNU			64	RO1
75	RO2	MACROREGIUNEA DOI			65	RO2
76	RO3	MACROREGIUNEA TREI			66	RO3
77	RO4	MACROREGIUNEA PATRU			67	RO4
78	SE1	ÖSTRA SVERIGE	52	SE1	68	SE1
79	SE2	SÖDRA SVERIGE	53	SE2	69	SE2
80	SE3	NORRA SVERIGE	54	SE3	70	SE3

81	SI0	SLOVENIJA			71	SI0
82	SK0	SLOVENSKO			72	SK0
83	UKC	NORTH EAST (ENGLAND)	55	UK1	73	UKC
84	UKD	NORTH WEST (ENGLAND)	56	UK8	74	UKD
85	UKE	YORKSHIRE AND THE HUMBER	57	UK2	75	UKE
86	UKF	EAST MIDLANDS (ENGLAND)	58	UK3	76	UKF
87	UKG	WEST MIDLANDS (ENGLAND)	59	UK7	77	UKG
88	UKH	EAST OF ENGLAND	60	UK4	78	UKH
89	UKI	LONDON			79	UKI
90	UKJ	SOUTH EAST (ENGLAND)	61	UK5	80	UKJ
91	UKK	SOUTH WEST (ENGLAND)	62	UK6	81	UKK
92	UKL	WALES	63	UK9	82	UKL
93	UKM	SCOTLAND	64	UKA	83	UKM
94	UKN	NORTHERN IRELAND	65	UKB	84	UKN

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From rubber boots to cell phones — then what?

How the Finnish economy has managed the challenges created by the collapse of Nokia Mobile

The Finnish economy has weathered the huge storm caused by the sharp decline of Nokia mobile phones surprisingly well, avoiding the kind of deep crisis seen in many other Euro countries. This is partly due to prudent fiscal policies before the shock, which left room for expansionary fiscal policies to support the economy. Sustainable positive development rests on the continued success of creating an environment that encourages entrepreneurs to seize opportunities that are unforeseeable in the eyes of any forecaster or central authority.

With the rise of Nokia mobile phones, Finland became an example of an economy which increasingly relied on the success of a single company. At its peak the telecom equipment sector built up around Nokia accounted for 20% of Finnish exported goods and 6% of the gross value added to the Finnish economy.

Such a big reliance on a single company obviously makes a country very vulnerable. An unfavourable turn for that particular company has a negative impact not only on the company's employees but also on the economy as a whole. Domestic sectors suffer from the weaker spending power of their employees, and tax revenues decline creating a risk of a crisis in public finances.

Therefore the fall of Nokia mobile from its position as the dominant global producer of mobile phones provides an interesting case study, where we can see the risks postulated by an excessive reliance on a single industry become reality.

Surprisingly, however, the Finnish economy has held up remarkably well, in particular given that the Nokia shock coincided with the deepest global recession in 70 years and the subsequent euro crisis. Unemployment has barely risen and private consumption is higher than before the collapse. Finland has not joined the ranks of debt-troubled Euro countries but rather remains one of the two countries in the Euro area with an AAA-rating from all the major rating agencies.

Thus this also becomes a case study on which factors can make a country better prepared to handle a collapse of a significant source of export revenue.

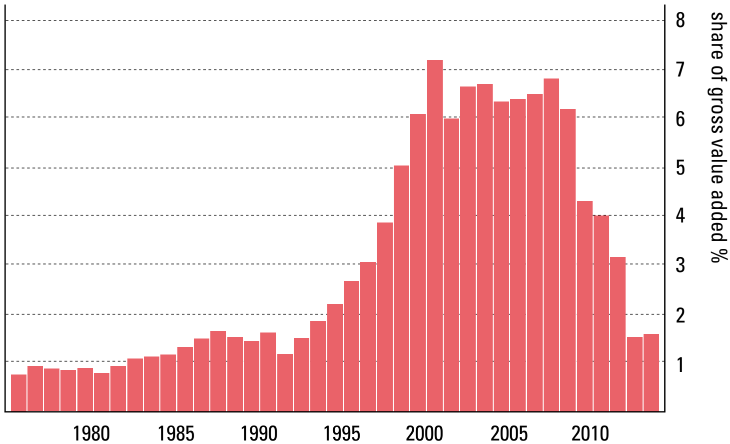
The rise and fall of Nokia mobile

The success story of Nokia started with the proliferation of mobile phones in the 90s, with Nokia quickly taking a leading role. The often repeated phrase that Nokia went from making rubber boots to making mobile phones is an exaggeration. It is true that Nokia was a household name as a manufacturer of rubber boots. However, Nokia was an industrial conglomerate, which before the success of mobile phones also manufactured other goods, such as computers.

While the Finnish electronics industry did not appear out of thin air, the shift was indeed dramatic. From being a mere percentage of the value added to the Finnish economy, in a few years the manufacturing of electronic equipment rose to account for six percent of its total value. While Nokia was the driver behind this growth, a number of subcontractors and contract manufacturers prospered around Nokia.

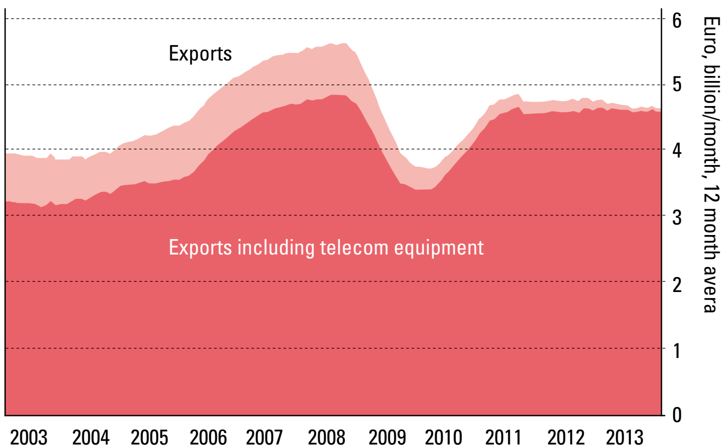
During the first few years of this millennium, the GDP share of the electronics industry held stable. While Nokia continued to grow, production was increasingly relocated to other countries around the world.

Chart 1. Finland electronics industry



Source: Macrobond

Chart 2. Finland: value of export of goods



Source: Macrobond

The downfall began in 2008 after the release of the first iPhones and Android phones that quickly captured most of the smartphone market. The last mobile phone was manufactured in Finland in 2012. The electronics industry was back to a mere one percent of the gross value added to the Finnish economy.

This downfall can also be seen in Finnish exported goods. At its peak the export of telecom and related equipment accounted for almost 20% of Finnish exported goods. With a boom in other export revenue, the export share of telecom declined to 14% before the downturn. The value of Finnish exported goods in the 12 months up to July 2014 was 15% below its 2008 level. Telecom equipment accounted for most of this decline. Other exports were also down largely due to the weak global economy, but only by 2.6%.

Surprising resilience

Given the collapse of a key export sector occurring at the same time as the global economy taking a turn for the worse, one would have expected an extremely dire economic performance with sharply rising unemployment and a severe slump in domestic demand.

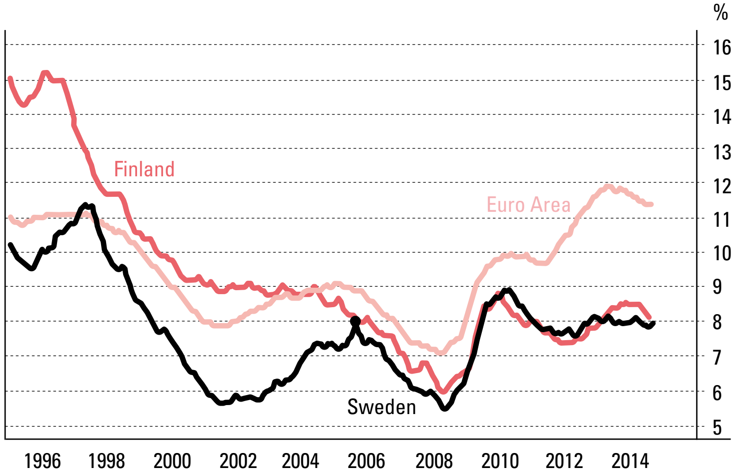
Yet the situation has not been that drastic. Unemployment has certainly risen during this timeframe. However, the rise has been far smaller than in the rest of the Euro area. Of course, the Euro area has had its own severe problems, but among the Euro countries Finland has – in spite of the collapse of telecom exports – in this respect performed better than most. In fact, the development of unemployment is strikingly similar to that of neighbouring Sweden, which has had one of the best performing economies in Europe.

The Finnish situation seems less impressive when looking at employment. This situation can partly be explained by a steeper rise in hidden unemployment.

The development of private consumption shows a similar pattern. Domestic consumption did decline in 2009 but recovered and rose to new highs in the following years, roughly following the situation in Sweden again.

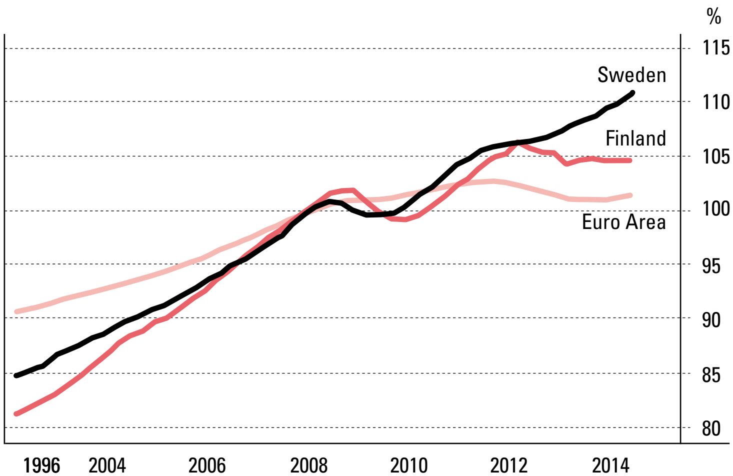
In the past couple of years Finland has indeed diverged from Sweden, with consumption slightly declining in the same way as it has done in the rest of the Euro area.

Chart 3. Unemployment



Source: Macrobond

Chart 4. Private consumption, volume



Source: Macrobond

In the past couple of years, Finland has indeed diverged from Sweden, with consumption declining slightly in the same way as it has in the rest of the Euro area. In the past year, unemployment has also fallen less than in the rest of the Euro area.

This recent weakness occurred once the main decline in the telecom equipment sector was over. Of course, there could still be delayed ripple effects of the decline. This weakness can at least be partly attributed to another shock: the decline in exports to Russia since the sharp fall of the rouble last year. Russia is one of Finland's largest trading partners. It is important for exported goods and as the largest source of tourism. The direct impact of the decline in trade with Russia has slowed over the last year.

Buffered by a solid balance

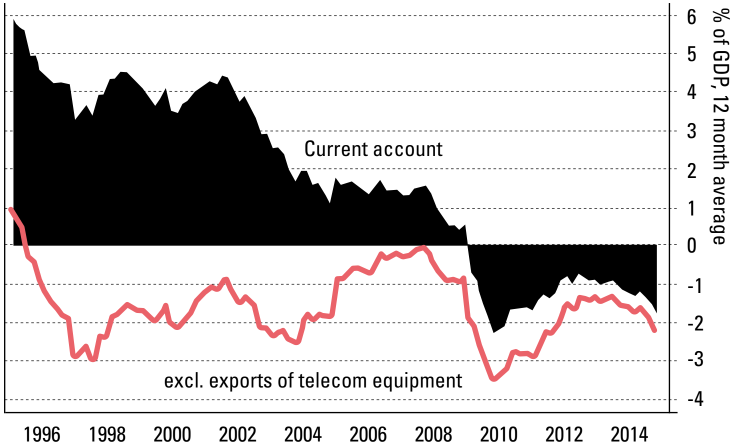
A key reason for the relatively limited impact on consumption and unemployment was that Finland went into the downturn with a fairly solid buffer. The current account had a surplus of over 3% of GDP before the collapse of telecom exports. This has now turned into a deficit of 2% of GDP. Excluding exports of telecom equipment, the current account has remained fairly stable during this period.

Thus one can say that the whole shock has been absorbed by the decline in the current account. Instead of cutting expenditure to balance the loss of revenue, Finland as a nation has turned from a net lender to a net borrower. This thus (from an accounting perspective) explains the relative robust development of Finnish consumption, and therefore also to a large extent its favourable development in the labour market.

The source of this increased borrowing has been caused by growing public sector deficits. After running a constant surplus in the decade before the collapse, the Finnish public sector has shifted into a slight deficit. This turnaround more than accounts for the decline in net lending for the whole economy.

Thus the downswing in the Finnish economy has been dampened by a traditional counter-cyclical fiscal policy. Finland has been able to conduct such a policy without running the risk of falling into a debt crisis, because its initial starting position was so solid. Even after the deterioration, the public sector deficit peaked at 2.8% of

Chart 5. Finnish current account



Source: Macrobond

GDP in 2010. Public sector debt in relation to GDP remains among the lowest in the Euro area, in the wake of the surplus years preceding the economic downswing.

Resilient employment

The relatively benign unemployment figures cannot be explained merely by the lack of second order effects. Even if the decline in revenue did not cause a dip in expenditure because of the countervailing fiscal stimulus, employment in the telecom sector should still have suffered.

The manufacturing of mobile phones was less important as a direct employer than its 5% share of GDP indicates, since the labour intensity was very low. Thus the decline in employment in the manufacture of electronic products accounts for only one percent of the total labour force – a fraction of the decline in value added terms.

This of course reflects the fact that the value of a mobile phone (or electronic products more generally) does not lie in the actual manufacturing process. The value is primarily created at other stages throughout the production process, mainly in product development, software, etc.

The ability of the Finnish economy to create high-skilled jobs seems to have held up well, in spite of the collapse of Nokia Mobile. In June 2014, employment in professional, technical and scientific activities (which should comprise most employment in product development and software) was almost 6% above its 2008 peak.

There are many reasons for this.

To some extent, it is due to the fact that former Nokia product developers are still continuing their work as employees of Microsoft, which purchased Nokia Mobile in 2013. Product development for Microsoft has thus become an industry that exports Finnish services.

Microsoft is not the only mobile phone manufacturer employing former Nokia workers. For example, Chinese Huawei has opened up a product development unit in Finland.

The re-employment of former Nokia employees has also been helped by the Bridge programme set up by Nokia, which aimed to assist them in finding new jobs or starting up their own businesses. Since 2011, at least 400 new companies have been set up under this programme, 90% of which were still active at the beginning of 2014, according to a study conducted at the Aalto School of Economics (Kiuru et al 2014).

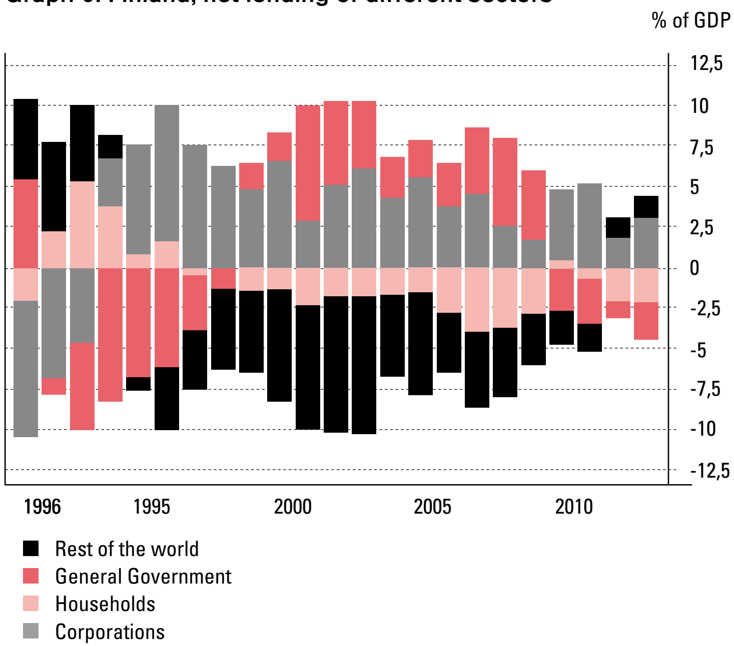
Overall self-employment has risen robustly during the economic downswing. Whether this reflects a desperate attempt to avoid unemployment, or genuine entrepreneurship can of course not be judged primarily from these statistics.

However, the aforementioned study on Nokia employees choosing entrepreneurship indicates that avoiding unemployment is not the main driver for becoming an entrepreneur. Only 13% cited avoiding unemployment as the main reason for choosing the path of entrepreneurship, with almost half stating a previous wish to become entrepreneurs (Kiuru et al 2014 p. 4).

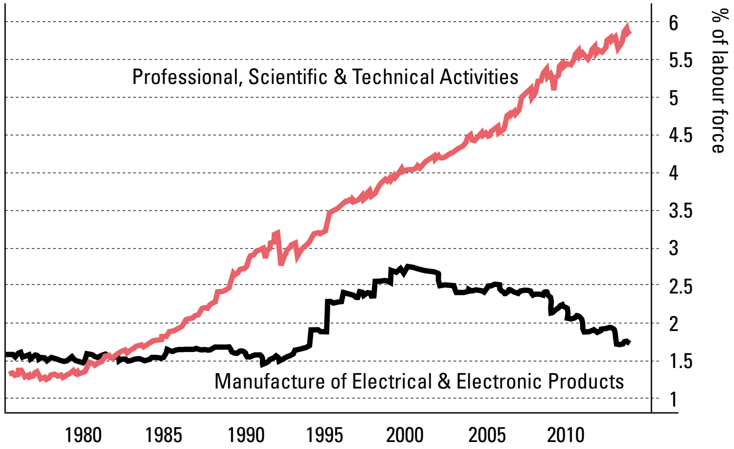
If anything, choosing entrepreneurship as a way of avoiding unemployment is even less attractive for people who did not receive any support from the Bridge programme. The comprehensive Finnish unemployment insurance system also provides little incentive to choosing self-employment as a desperate means to earn a living.

Nokia's success has also helped stimulate the growth of other tech

Graph 6. Finland, net lending of different sectors

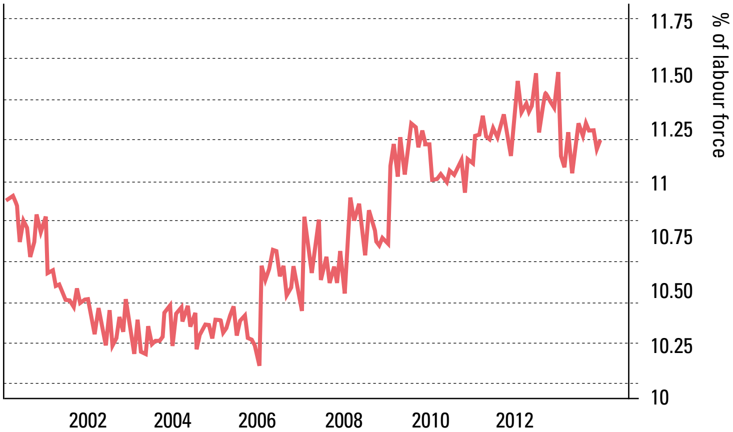


Graph 7. Finland, employment, by type



Source: Macrobond

Graph 8. Finland, self-employment



Source: Macrobond

enterprises, which are more or less closely connected to the telecom sector. Notable successes in the consumer market include Finnish mobile game developers such as Rovio (Angry birds) and Supercell (Clash of clans, etc.). The range of more established Finnish tech companies stretches from software for telecom operators (Comptel) and internet security (F-Secure) to wireless heart rate monitors (Polar electro). To what extent their success can be attributed to Nokia undoubtedly varies.

The Finnish experience thus lends support to the view that the key to keeping employment steady in today's world is a skilled, highly educated labour force. The workers are then attractive to employers, even at Scandinavian wage levels, or they are able to employ themselves and create growth in the economy as entrepreneurs.

What now?

So where is Finnish growth going to come from in the future? What can replace Nokia and help the Finnish economy out of its reliance on deficit-spending to keep unemployment down.

This is of course a question that on a very specific level is impossible to answer. Future success depends on entrepreneurs finding and exploiting niches that have been neglected by other companies. To be able to forecast where future success will come from, you would have to be able to see opportunities that so far no entrepreneur has seen, or at least not seen in a way to be utilised profitably.

No single individual can possibly see any significant part of all the opportunities that can be found somewhere in the economy.

The key is to get potential entrepreneurs motivated to reach for the opportunities they see and create new businesses or expand old businesses.

Post-Nokia Finnish exports are indeed now diversified for an increasing number of companies. In 2005, the ten largest export companies accounted for 42% of Finnish exported goods. This has now declined to 33%.

This is of course neither a surprise nor a necessarily positive development, as it reflects more the decline of Nokia than the rise of smaller companies. Still, it is noteworthy that two thirds of Finnish exported goods come from companies that belong outside the top ten. There is indeed a significant group of companies exporting second tier goods in Finland. Indeed, a third of reported exported goods are even accounted for by companies outside the top 100 largest exporters.

The fraction of exports coming from the top 100 is admittedly larger than in, e.g., Germany. This is hardly surprising though, as the population of Germany is 15 times larger, and the total number of corporations is respectively greater. Looking at the size distribution of export companies the difference is hardly noticeable (Rouvinen & Pajarinen 2014).

These figures do not include service exports which have risen from 21% of Finnish total exports in 2005 to 27% in 2013. Services actually account for a third of the total value added to exports, when you take into account that foreign input accounts for 35% of Finnish exported goods, but only 15% of service exports according to Newby (2013).

With such a large number of export companies pinpointing where future growth is going to come from, it is thus not easy, even when ignoring the potential of companies that do not yet exist.

Here is just a flavour of the range of companies these represent:

- Halton Group with an annual turnover of €174 million produces indoor air quality solutions for offices, laboratories, ships, etc. Its products can be found in nuclear submarines, at the world's largest shopping mall in Dubai and in the Dallas Cowboys stadium in Texas.
- KWH Mirka has grown from making ordinary sand paper to taking polishing to a high tech level. The company produces equipment for polishing used, e.g., by car manufacturers, exported to 90 countries around the world and bringing in export revenue of over €50 million.
- CRF Health helps to conduct clinical trials via a system for electronic clinical outcome assessment. The idea is to gather more efficient and reliable information on the outcome of clinical trials by collecting information over the internet from clinicians and patients using a combination of handheld devices and computers. This rapidly growing company almost exclusively focuses on exports with a 2013 turnover of over €20 million.

This is just an arbitrary, and by no means representative, sample of recently rapidly growing companies in Finland. It is just an indication of the kind of niche companies which can thrive. While these three are all examples of technological excellence, they do not necessarily focus on the sectors that spring to mind when talking about technology industries.

In spite of notable individual successes, there certainly appears to be potential for an improvement in the environment for entrepreneurship. According to the global entrepreneurship and development index, Finland is relatively well-placed in general but is quite weak in its focus on growth and internationalisation and also in the availability of risk capital (CEPP 2012).

Regarding public policy in Finland, there is a notable focus on encouraging investment in entrepreneurship. There is extensive public support for start-up companies, especially in the technology sector. For example, the Finnish government has tried to encourage investment by lowering corporate taxation.

Although it is not enough to merely support entrepreneurship through beneficial taxation rules for enterprises or subsidies for entrepreneurs. This risks merely encouraging moving employment relationships to corporate forms to take advantage, among other things, of lower taxation on entrepreneurial income compared to wage income – or pushing the unemployed to set up enterprises without a sustainable vision to take advantage of subsidies.

For example, the cuts in corporate taxation have tightened the taxation on dividends for private entrepreneurs. While this has made financing investment in already profitable enterprises marginally easier, in net terms the reward for success has not increased at all.

In a similar way, there are obstacles to growth in the rules that lower taxation on dividend income up to a modest amount, as long as the dividends come from unlisted companies. This does not encourage financing enterprises with risk capital from outside investors, as providing an exit for investors through a stock market listing may cause a higher level of taxation on entrepreneurs. Selling out to (possibly foreign industrial) investors thus becomes a relatively more attractive solution.

Conclusion

The relatively limited suffering experienced by the Finnish economy, given the huge adverse shock of the collapse of Nokia Mobile, is no miracle. The key elements reinforce the importance of prudent policies to minimise the impact of shocks.

First of all, fiscal policy in Finland was prudently in surplus during the boom years. This has created the potential to dampen the negative economic impact by a sustained easing of fiscal policy, without triggering a fiscal crisis.

The Finnish experience also highlights the importance of investment in education. To a large extent, the highly educated and skilled labour force was able to find new jobs or start up their own enterprises when Nokia downsized.

Finally, the Finnish experience is a reminder of the importance of creating an environment that encourages entrepreneurs to seize opportunities and grow.

When thinking about encouraging entrepreneurship, it is crucial to distinguish self-employment from real entrepreneurship. Since the challenge is to get potential entrepreneurs to utilise their superior insight and information, the solution cannot be that the authorities try to separate ex-ante true entrepreneurs from “pro forma entrepreneurs”. The key is to guarantee the right incentives by ensuring that ex-post successful entrepreneurs can reap the rewards of their success. On this account, there appears to be substantial room for improvement in Finnish policies.

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Towards the Digital Economy

The financial crisis, and protracted crisis management in its wake, has partially hidden underlying structural shifts that become evident as the economy slowly improves. Increasing urbanisation, individualisation, digitalisation and globalisation are affecting economic driving forces. The knowledge-intensive sector is growing in importance and consequently income gaps are widening. Jobs will be lost due to digitalisation and robotisation. These jobs have to be replaced. The progress of innovation and higher education is therefore crucial.

Digitalisation creates huge productivity gains

By now, most of us understand the productivity gains that can be offered to companies, individuals and society by accelerating digitalisation. We are minimising our energy consumption, reducing the stress on traffic networks, improving risk assessment and maintaining our social networks. Robots have redefined manufacturing and changed the need for labour and capital. Digitalisation has also paved the way for a new »sharing society«, where we conserve our resources and act in a more sustainable manner. Instead of wanting to own goods or services, we are content just having access to them. Digitalisation allows supply and demand to meet without the need for intermediation.

Moreover, low entry barriers and zero marginal costs for production increase the volume of digital services in a way that can be best described as a positive supply shock for software.

Digitalisation democratises entrepreneurship. Rather than leaning on traditional networks, entrepreneurs can find financing online, then measure demand for their product or service in real time. The entry barriers are low and small actors can compete against the giants. If you succeed, you can do so on a huge scale; it becomes viral – and the winner takes it all.

More and more small and medium sized companies are so-called "born globals". Digitalisation enables them to reach the global market as soon as they are launched. At the same time, companies that do not embrace digital platforms will soon see their competiveness deteriorate.

The exponential nature of the digital development curve is due to the low, almost non-existent, cost of copying and distributing a product, as well as the fact that innovations are being combined in an unimaginable number of ways to create new innovations. We are now harvesting the fruit from seeds sown during the IT era in the 1990s and we are now at the beginning of a sharp incline on this exponential development curve.

The reason behind this second more sustainable stage of technological development is that both technology and consumer behaviour have reached a higher level of maturity. Digitalisation is now penetrating almost every sector in the economy. Companies and organisations therefore need to analyse how their business is affected by digitalisation, in terms of social, mobile and data analysis platforms.

Similarly to other technological paradigm shifts throughout history, for example the electric grid or the steam engine, there is the potential for the productivity curve to shift upwards to a new level in some sectors. Metcalfe's Law states that the value of a network increases with the square number of users in the network. Digitalisation therefore carries a disproportionately large benefit to growth and productivity.

Yet, societal structures and legal frameworks are not adjusting to these new developments. One reason is that taxable income and jobs are decreasing in the short-term. Moreover, the productivity gains are not fully covered by the statistics. Unfortunately, this gives politicians few incentives to adjust political, economic and societal frameworks.

The Conference Board's chief Economist Bart van Ark (2014) argues that a commitment to productivity growth through digitalisation and innovation is the key to regaining long-term sustainable growth in Europe. He stresses the need for the implementation of structural policy measures, such as smarter regulations and more investment in hard and soft infrastructures. Innovation and more room for entrepreneurship are crucial.

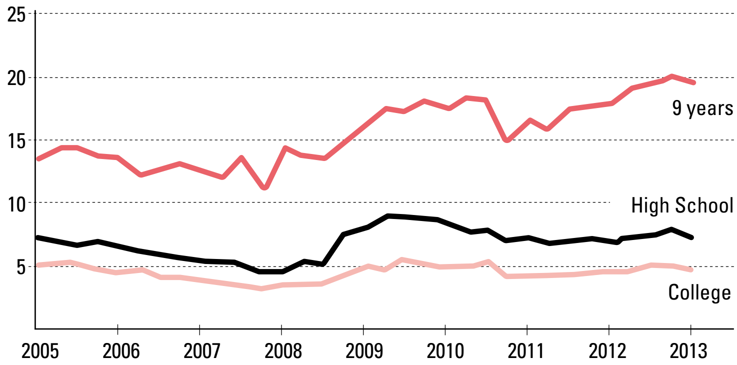
Polarisation of labour markets

In addition to being unbelievably fast, this technological paradigm shift is widening income gaps. The benefits of digitalisation will be increasingly felt by the well-educated and owners of capital. Having previously replaced muscle power, this technological revolution is now replacing the human brain. In their new book, »The second machine age,« economists Brynjolfsson and McAfee (2014) describe the competition between technology and education as one we are losing. In the US, we are witnessing the first generation to be less educated than the previous generation. In Sweden, unemployment among those who have not completed high school is worrying (see Graph 1).

At the same time, the returns on some education have never been higher in certain fields. The reason why income gaps will grow during this technological revolution, according to Brynjolfsson and McAfee (2014), is that technology complements high-skilled workers but serves as a substitute for low-skilled workers. Therefore the gains go to those who own capital and not the wage-earners. Moreover, it fosters so-called superstars, i.e. a select few who get a disproportionate piece of the pie.

Research shows that over the next 10 to 20 years, 47% of all US jobs are at risk of disappearing as digitalisation replaces people (Frey and Osborn 2013), mainly in retail and administration. However, the future of the labour market is not completely dismal. These disappearing jobs will be replaced by new ones created from innovation. The role of innovation will become crucial.

Graph 1. Unemployment by Education, Sweden (% of labour force)



Source: National Institute of Economic Research (2013).
Unemployed aged 15-74

Moreover, every high-skilled job in an internationally competitive sector creates three jobs in the local service sector (Moretti and Thulin 2013) in Sweden. In the US, this figure stands at 5 new jobs (Moretti 2013). Furthermore, in healthcare we will see demand growing as the population ages and in these sectors there is less technological substitution. In some areas, human workers still reign supreme.

Accelerating urbanisation

The importance of cities and emerging regions is growing. We are going through a transition from a multinational world to a multi-urban world (Schlingmann and Nordström 2014), where the knowledge-intensive sector and more individual demand require us to work closely together. Digitalisation is actually speeding up urbanisation. Many of us thought that Skype and e-mail would reduce the demand for physical meetings. Yet, the opposite has occurred. Digitalisation is enabling demand to become more individual. Production needs to be closely integrated with design and production and design need to be close to the final customer, whose needs are constantly changing.

3D printing is meeting this more individual demand and might lead to offshoring and small scale production. All in all, producers and consumers need to be close to each other and cluster together.

We are not only seeing widening income gaps, but also a growing regional divergence. The high productivity gains that follow from the positive effects of economic clusters magnify the differences in productivity between regions and are further accelerating this regional divergence.

The speed of urbanisation in Sweden is the second fastest in the world and the housing shortage here is the greatest threat to growth. In Stockholm, the housing shortage is costing 21 billion kronor in lost GDP growth per year, in Malmo it is 5 billion and in Gothenburg 6 billion. The more knowledge-intense an economy is, the more gains will be generated from economic clusters.

Creativity flourishes in economic clusters, where the density of knowledge is high. The greater importance of innovation, in order to replace the jobs lost due to robotisation and digitalisation, make clusters even more important. A cluster offers a dynamic labour force, venture capital and universities. These are crucial elements for an innovative climate.

Productivity gains from digitalisation are underestimated

Technological progress has two opposing effects on jobs. On the one hand, technology replaces people and jobs are lost. On the other, the productivity gains are so large they attract other companies to these industries and create new jobs. The net effect is uncertain. Regardless of whether we see temporary or permanent technological unemployment, wage pressure will be weak for large groups of people. Moreover, the data does not indicate that productivity gains could create new job opportunities. The researcher Robert J Gordon claims that the modest productivity improvements are a sign of the »end of growth«, i.e. that the gains from the IT era are fading and that demographic developments have a detrimental effect on productivity. There is reason to believe that the opposite is true. Three factors may explain why the productivity gains from digitalisation are being underestimated.

1. *Free digital services* add value to the economy, but are not covered by GDP. Furthermore, they reduce the consumption of traditional physical goods. For example, a free Skype call creates value that is not covered by GDP. At the same time, a traditional phone call is eliminated and GDP declines. The increased consumer value of reading the news for free on an Epad, instead of buying a newspaper, is not shown in GDP, which will not increase since you did not pay for the newspaper.

2. Today, we can decide when to watch TV and what to watch. The same is true of our buying habits. We do not have to shop in the middle of the day when we are at our most productive. *The value of our time and productivity* is not measured in the data either. In 2003, 200 million hours were spent on Facebook. These uncompensated hours create content that others consume free of charge. None of this is included in GDP. Another example is Wikipedia. Moreover, the consumer surplus from the variety of goods and services offered to a consumer is not covered.

3. Similarly to every other technological paradigm shift, there is a *delay* in productivity gains. Educational levels and organisations are not keeping pace. Research shows that the impact of digitalisation on productivity may actually be negative if a company's educational level is low enough. On the other hand, it is higher the better educated its personnel are.

Official GDP statistics were constructed for the purpose of measuring the production of physical goods. The shift in behaviour when it comes to sharing goods and services creates a new form of consumer surplus that is not covered. Moreover, the consumer surplus from the accelerating pace of digitalisation in the service sector is causing the current statistical framework to fall behind.

The societal structure needs to be adjusted

Digitalisation eliminates intermediation, allowing supply and demand to meet directly and thereby create downward price pressure. The *Sharing Economy* is growing, yet the regulatory framework will probably be slow to adjust. For instance, Airbnb is offering housing for rent. Critics claim that there is a lack of a regulatory framework for the traditional hotel sector and that taxable income is being lost. The »community« on the Internet, i.e. the users, is the one assessing the safety and quality of the rooms offered for rent, while there is also an internal rating system. Apparently, this is good enough for the customers. The younger generation seems to place a higher level of trust in the »community«. In the finance industry, virtual currencies and P2P lending are following the same pattern. Furthermore, just imagine what Multi-Open-Online-Courses (MOOCs) could do to the educational system and the reduction of income gaps.

History shows us that consumer driven technology always defeats the powers that want to stick to old political frameworks.

Policy makers need to focus on education and creating a climate that will allow innovation to replace the jobs that are lost and thereby reduce income gaps.

Financing Future Growth

In every technological paradigm shift, innovators and entrepreneurs are crucial for the creation of new jobs. A well-functioning credit market targeting small and medium sized firms is of great importance. Reticent banks due to stricter regulations might hamper credit to start-ups and smaller companies, which are then unable to get financing on the global corporate credit market. Financial innovations, such as P2P lending and crowdfunding, might meet the demand for credit to start-ups. Regulations need to be adjusted to meet a new financial landscape.

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Self-employment and generational inequality

In late 2012, the book *Skitliv* was released in Sweden. Two years on, it seems the publication appeared at a time when the Swedish public debate was ripe for discussing the new working conditions for the young population. One may even go as far as to say that *Skitliv* sparked this debate. The book consisted of journalistic essays, interviews and some more academic texts. The main contribution, however, was the first hand stories about the reality of the »temp«, the »iPros« (Leighton, 2013) or the »precariat« (Standing, 2011). It thus included examples of temporary employment, »sms« stand ins, everlasting internships, misuse of staffing agencies, flexible salaries, no compensation for working overtime or inconvenient hours, »forced« self-employment and so on. Many of these examples where known from before, but then mostly described as something just happening among the blue collar sectors. *Skitliv* gathered stories from across the spectrum. Journalists, clerks, cell phone salesmen, waiters, actors, nurses, engine drivers and janitors. The class differences where of course recognized. But the new thing that emerged was the existence of a generational divide. The fault line of this generational divide stretches further up the ages. Many people talk about their first job with a glimpse in their eyes. »It was a little bit rough, didn't get paid in time and once a TV fell on my foot«. The implicit understanding is that your first job *should* be a challenge, but it will help you to get your (injured) foot in the door. That might have been true during the golden era of economic growth, the welfare state and the years of the equilibrium between employers and employees. Nowadays, in the face of economic crisis and the gloomy growth prospects of a secular stagnation (Summers, 2014), you might be 30, 35 or 40 or even 45 years old before you get a job with similar rights and conditions as the previous generation.

From a traditional labour movement perspective, the emergence of this new "precariat" is driven by high unemployment, weaker trade unions and heavy de-regulation in the labour market. Thus, the generational divide that emerges from the new working conditions might be described as a loss of rights. This holds true for the European "north", but even more so for the European "south" and "east". Irrespective of such variations within the EU, the overall trend in economy is towards a differentiation of the workforce. We live in a post-fordist (Amin, 1994) society with knowledge as the main factor of production. According to Klaus Ronneberger (2006) the workforce is divided into a "core" and a "periphery". The core is the most valuable workforce, and are therefore granted all benefits available, besides their usually high salaries. They are the "symbolic analysts" (Reich, 1991) with highly valued skills. From the viewpoint of the employer the peripheral workers are more or less exchangeable. Supply and demand determines which particular peripheral skills are needed at a particular time. For employers, the worst case scenario is to get stuck with a huge staff with obsolete skills. Thus, they fear tighter labour legislation, and – in particular – open ended, long-term contracts. Initially, this was the case only in the most advanced parts of the economy. However, as the saying goes, good ideas tend to travel. The staffing sector has grown rapidly, and the use of freelancers and other kinds of autonomous workers increase – in industry, commerce, stock, restaurants, health and elderly care and so on. Thus, this context – within which flexibility is seen as a major factor for competitiveness – is a crucial driver for the rise, and the changing nature, of self-employment.

In this text we will discuss how young Europeans are reacting to, and engaging with, this situation. In other words, more specifically the terms of A.O. Hirschman (1970), we are surveying "responses to decline". Exploring three different political contexts – the Swedish, the Italian and the Dutch – we are focusing on how the self-employed have begun to organise themselves. Thus, we endeavour to answer questions like: How does the self-employed younger population experience the situation? How do they makes sense of it? To what extent has their efforts yielded lasting organisational or institutional change? As we shall see, the early years of this process has been bumpy ride, and many hurdles still lie ahead. For instance, the process has highlighted conflicts within the labour movement itself – hence our use of the term "traditional labour movement" above. Such turbulence is shaking the established institutional order, and the current European crisis is speeding up this process by deepening the generational inequality. Indeed, the younger generation is most exposed to the eurocrisis – and the scattered signs of economic recovery tend to stem from a resurgence of the established, older generation. (Boffey, 2014) If we look at the current trends, mainly in the south, this transformation might even be explosive. When welfare benefits are linked to permanent work contracts, this might lead to a Europe divided between generations.

Exit, voice and workerism in Italy

> *"It doesn't matter how hard I try. Getting a decent job is almost impossible. Good conditions or an OK salary is nowhere to be seen. Only two out of my fifteen closest friends have a 'permanent' job. The rest of us are relying on our parents. It might be OK if you are 19 or 20 years old, but I'm now a bit over 30. In the Italian context this means that you can't borrow money to buy a house, no paid holidays or medical insurance. To live an independent life is an illusion."*
>
> ***Giulia**, who has moved from Italy to Sweden*

This is one of the voices in *Skitliv*, featuring in Fumarola Unsgaard's chapter on the »generation 1000 Euro«. Giulia's experience underscores a well-known phenomenon among the young in Italy: The best way of getting a well-paid and qualified job in Italy (or Spain, or Greece, or Portugal) is to move out of the country, towards the wealthier European north. In 2008, before the crisis, Italian youth unemployment was little less than 20%. In September 2014, the figure had risen to 42,9%. The few jobs available for young people are temporary short term positions. According to Labour Minister Giuliano Poletti, only 17–18% of the persons being hired in the past 12 months received fixed contracts, with more than 80 percent on short-term contracts (Piscioneri & Jones, 2014). In contrast, the older generation enjoys steady positions with employment benefits attached to their job and salary. Pensions come into this package, and given the diminishing welfare state, other benefits like insurances, paid holidays and unemployment benefits are tied to the permanent position. On top of this, the younger generation is burdened by increased tuition fees, unaffordable housing and the poor prospects for receiving a bank loan. As hinted above in relation to core and periphery workers, there is split between the temporary and permanent workers. The employment security for the permanent workers in Italy is very good, in some cases even ridiculously beneficial. On the other hand, the employment security for the temporary workers close to non-existent.

As mentioned above, this text explores how the young Europeans deal with the rapid increase of self-employment arrangements in the field of working life. Here, Albert O Hirschman's work on loyalty, exit and voice, is a useful analytical tool. The loyal answer in this context will be business as usual. The young may then place trust in the system, and hope that things will get better in the future: The crisis is temporary and the political system will solve my problems when the economy recovers. However, loyalty in this case does not come across as a viable option: The young are more inclined to see the state of precarity as permanent. Moreover, as suggested above, and the European economy doesn't seem to recover. How, then, do young Italians deal with exit and voice?

In the Italian context, *exit* is executed in a couple of different ways. The first type of exit is one in which one steps back, and relies on the family; living at home, eating at home, and borrowing money. This means that you have adapt to the rules of the household. This is not an independent life for the individual, nor is it a good idea in economic terms. Another solution is to do what Giulia has done – to exit Italy altogether. The destinations that are the most popular are Germany, Switzerland, Britain and France. In 2012 about 79 000 Italians moved out of the country, and the annual increase between 2011 and 2012 was 30%. There are some statistics available and it all points in one direction: It's the young and well educated that moves. Of the 550 000 Italians now living in UK 60% is under 35 years old. Yet another form of exit is to get by doing work "below the radar", in the underground economy. Not just in the black, mainly criminal economy, but more often in the grey sector. Of course this is impossible to measure, but there are some estimations. *Huffington Post* reports that in 2012, the Bank of Italy estimated criminal economy to be 10.9 percent of GDP. Furthermore, the grey economy or shadow economy that is already added to GDP is deemed to be between 16.9 percent and 17.5 percent of the Italian economy. By working in a bar, as a cleaner, beach guard, mover, *au pair* or similar, you are offered a salary far from the eyes of the *Guardia di Finanza*. However, aside from the fact that this is not legal, there are other problems associated with this option, such as the lack of insurance, no pensions and a complete lack of industrial welfare. It may help you to get by, but it will definitely just postpone your exclusion into the future.

Alternatively, there are a number of *voice* strategies applied in Italy. The first and most logical voice option is to be a member in a political party. But in this case, it seems, traditional politics has failed. The unemployment is rising and the jobs created are temporary. The reforms created during the Berlusconi era have increased the duality of the labour market. Certainly, according to organisations such as the ILO, Berlusconi's programmes deregulated temporary contracts while maintaining generous labour rights for workers with permanent contracts. The newly appointed centre-left Prime Minister Matteo Renzi has taken up the challenge to transform the entire system of labour legalization. While he may achieve a lasting change, he is under heavy criticism from the left, as well as from leading trade unions like the CGIL. Their main criticism is that Renzi's solutions will only deal with one part of the problem. It aims at reforming the rights of the "older" generation with more permanent contracts, but does not introduce any new rights for the "younger" generations. Hence, the voice of the younger generation is more likely to be against the traditional political parties from the centre-left and rightwards, with Silvio Berlusconi as the main villain. Some of the left parties like *Rifondazione Communista* and *Sinistra Ecologia Libertà* have the question of precarity at the center of the agenda. However, the most active organisation on this issue is taking place outside of the parliamentary parties.

There is, of course, the option of getting involved in unions. CGIL is Italy's largest trade union, and has traditionally been oriented towards the left. For this trade union, and many other similar large confederations throughout Europe, the question of self-employment has been a real challenge. The reasons are many, complex and in some cases even challenging the "ethos" of what a trade union is (or has traditionally been). First of all, the generational inequality linked to self-employment does not easily fit into the traditional class categories. There may be more similarities between people from different generations than between people from within the same class. Moreover, contemporary workers have moved from the traditional factories to a more outspread, rhizomatic structure. They can't form a traditional collective, simply because they don't meet each other on a regular basis. Furthermore, the issue presents a major challenge to the "union promise" – the collective agreement between the wage earners that they will not sell their trade at a lower price than what has been agreed. Many freelancers are in constant negotiation with their employers about the price of the "work" they are selling. Throughout the research for this text, we have not come across any situation in which freelancers or self-employed have agreed on a "minimum" level of payment. The result is, of course, wage dumping. Last, but not least, is there an anomaly in the entire idea of organising self-employed in a trade union: How do they strike?

Alongside unions, there are individual initiatives that address the issue of generational inequality and self-employment. In the proximity of CGIL, there is the initiative NIDL (New identity of workers or "The trade union for atypical workers"). It was created 1998 and is a response to the changing working market. It organises the "atypical" worker employed by staffing agencies, but they also tries to help the workers who are forced into self-employment. They work with traditional union methods like collective agreements and has success-fully signed nationwide deals with some companies. NIDL can thus be seen as an add-on to CGIL. It is, in many ways, trade unionism CGIL-style "as usual", but with a couple of new professions added. Another initiative worth mentioning is *Link Coordinamento Universitario* which is a movement focusing on students' issue. They are a part of the pan-European initiative Precarity and Youth, PAY. This network has a vivid and stringent analysis of the current situation in Europe, addressing the generational divide, precarity, the current economic crisis and austerity in the same way. The movement thus mixes "testimonies" with analysis and theoretical thinking.

The most interesting example of organisation in Italy, however, has emerged from the theory and practice related to the *operaismimo*; the workerism movement. Sergio Bologna is one of the theorists related to this movement, and places his analysis squarely within the context of the rise of self-employment. For him, the self-employed freelance worker serves as a productive example and rhetorical device "because that figure, while not representing the majority of workers, is the furthest removed from the way work was performed under Fordism (be it blue- or white-collar work)" (Bologna, 2013: 138–139). The major theoretical contribution that *operaismimo* has brought social theory is their focus and understanding of the shifting relations of production. The contemporary economic system, they argue, has changed considerably since the era of the founders of political economy, Adam Smith and Karl Marx. The conditions of self-employment is defined by the post-fordist informational economy, and the "work" that the freelancer sells is much more of a commodity on the market than during the "fordist" period. When more and more welfare, pension and other form of rights is granted to the individual due to her work the freelancers are left behind.

Bologna's ideas are reflected within the organisation ACTA – *l'associazione dei freelance*. Though he was not a founding member he is currently a board member, and has been influential in the development of the organisation. The association is focused on the rights of the freelancers, and serves to turn them into a political subject. Among the focal points are parental leave, pensions, tax issues, contracts, Social Insurance issues and illness – all of the welfare issues you must deal with by yourself as an independent. The aim of ACTA is to provide information, but also to expand these citizens' rights to freelancers. Thus, the association explicitly links welfare to citizenship, thus removing it from the notion of traditional employment. As such, it has clear references to the republican tradition (Pettit, 1997), and more specifically to the Italian constitution and it's formulation that "Italy is a democratic republic founded on work".

The case of ACTA also suggests that the issue of self-employment in the context of generational inequality presents a potential split within the worker movement. The association has tried to find ways of collaborating with CGIL and NIDL, but it has so far failed. In an interview, Bologna states that those organisations "only defends the interests of pseudo self-employed workers" (Grimm & Ronneberger, 2007). The traditional trade unions are still, Bologna argues, stuck in the traditional mode of organising. This will divide the workers (freelancers and the ones with open ended contracts) into an A and B- team. The traditional worker with open end contract and social rights is still very much the norm of how things should be. Bologna and ACTA would say that the world has changed. Some people are forced into freelance work, others do it voluntarily. Thus, the aim of an association of freelancers is to become visible and with fully recognized social rights. As we shall see, a similar split has been at work in the case of the Netherlands.

The piecemeal reform of the Netherlands

> *"The unions only take notice of their ageing rank and file."*
> *(Founding member of the alternative union AVV)*

In the Netherlands, in contrast to Italy, the organisation of self-employed has already produced effects within the established polity. Thus, the Dutch version of the European social model – the so-called Polder model – has become subject to a relatively peaceful, piecemeal reform. In this process, a newly-formed political subject, organised as a young workers' union, has placed new demands on the established institutions of tripartite co-operation and negotiation. As we shall see, this process entailed two key elements. First, it involved a conflict between different unions, which represented different workers. The conflict, then, was between a newly-formed union, speaking on behalf of young self-employed, and the established unions that represented more mature workers forced into self-employment. In Hirschmanian terms, the young exited the traditional worker organisations, and found a voice through a newly-formed one. Secondly, the formation of this new political subject involved a struggle for the recognition of the prevalence of the new modes of self-employment. Thus, the emergence of a clear and well-recognised definition of this mode of working, and the subsequent rise of means to capture the magnitude of self-employment, has been a crucial factor in this story.

Before delving into the specifics of this story, it is worth looking at the context of this development. First of all, one may note that the Dutch worker reasonably likely to be self-employed. In 2011, 12.9 percent were self-employed. However, the most striking piece of data is the rate of change: As Dekker (2011) observes, the rise in self-employment has, in relative terms, been one of the speediest in Europe. (See also Leighton, 2013: 2) In the European policy debate, this phenomenon can be linked to adoption of "flexicurity" policy solutions, in which a liberalized labour market is coupled with reasonably generous social security. (See below, in section four.) In the context of such debates, the Netherlands has been hailed as a success story during the recent Eurocrisis years. The flexible working arrangements is thought to have eased the burden on companies, thus absorbing the shock of the crisis. However, critics have suggested that the high number of self-employed is masking the true level of unemployment in the country. (Atkins & Steinglass, 2011)

What are the drivers of the rise in self-employment? Research from the SER (*Sociaal-Economische Raad*; the Dutch tripartite Social and Economic Council) suggests that the pull factors include the adoption of a wider diversity of lifestyles and work styles. The SER also cites citizens' appetite for greater economic independence, and the rise of a different approach to work. Moreover, for young workers, self-employment often comes across as a desirable alternative to working for temping agencies. This, of course, suggests that there are push factors as well. Joblessness is one such factor, and so is the fact that work restructuring within transport, construction and care industries has caused workers become self-employed providers of services to their former employers. (EUROCADRES, 2013)

These two push factors operate differently in different age groups: Whereas the younger workers are "pushed" from joblessness into self-employment, the older parts of the workforce are "pushed" from employment to self-employment.

This fundamental generational divide has been at work during process by which the Polder model has been reformed to accommodate the rise in self-employment. In the Netherlands, the lion's share of the unionised workers are members of either the left-wing FNV (*Federatie Nederlandse Vakbeweging*), or the more moderate CNV (*Christelijk Nationaal Vakverbond*). As a response to the above-mentioned industrial restructuring, both of these actors have reframed the scope of their activities. In order to counter the decline in membership that ensues when a worker moves from being an employee to becoming a self-employed working for their former employer, they have increasingly started to cater to this potential membership base. The FNV opened its membership to self-employed as early as 1999, and the new entity – called FNV Zelfstandigen – has enjoyed a 20% annual growth rate since its foundation. In 2007, the CNV followed suit. In conjunction with the establishment of these organisations within the traditional unions, an umbrella organisation for self-employed and freelancers also formed. This organisation, PZO-ZZP (*Platform Zelfstandige Ondernemers-Zelfstandigen Zonder Personeel*), was formed in 2002, and brings together a plethora of professional associations and sector organisations. Thus, the platform for independent entrepreneurs operates as a representative of businesses where self-employment is prevalent.

In context of this constellation, the alternative union AVV (*Alternatief voor Vakbond*) was formed in 2005. The founding members were from the centre and social-democrat left of the political spectrum, and aged between 27 and 38, dovetailing with the fact that the union primarily focused on the plight of young workers. Referring to generational divide alluded to above, the AVV presented a sharp criticism towards FNV's and CNV's sole focus on older workers. Crucial to this critique was a debate on the structuring of the Dutch pensions model, which AVV representatives saw as too generous to the older workers that the traditional unions were catering to. Nevertheless, these unions are the ones that are represented within the Polder model. In the words of Martin Pikaart, one of the founders of AVV:

"The pre-pension agreement has been undemocratically concluded, by the votes of no more than 500 union members, whereas it will be applied to over a million ABP [Dutch pension fund] members. The unions only take notice of their ageing rank and file." (Preesman, 2006) The AVV's protest against the establishment thus implied a critique of what they perceived as heavily centralized power structure within the Polder model – a structure that they felt ignored young workers in order to shore up support from older ones.

Amidst this generational conflict among the unions, the self-employed did attain a strengthened bargaining position within the Polder model. In 2010, two key developments occurred, both in relation to the SER; the highly influential council for tripartite cooperation and negotiation. First, the SER provided an unambiguous definition of what workers are be counted as self-employed – or, more specifically, self-employed without personnel (abbreviated as ZZP; *Zelfstandigen Zonder Personeel*). As Mies Westerveld (160-161) points out, prior to the establishment of this definition, there was no way to account for the magnitude of the shift towards self-employment in the Netherlands. While 2007 estimates had ranged from 150.000 to 500.000 self-employed, the SER definition established that there were in fact 675.000 such workers in 2007. Moreover, it suggested that the number had risen to 750.000 by the end of 2010. These figures implied that the self-employed constituted a major part of the Dutch economy – both as workers and as entrepreneurs. Thus, it was natural for this constituency to be represented in the SER. Indeed, this was the second major development in 2010. The self-employed movement gained two seats as members in the 33-seat council. This move was facilitated by the fact that employee organisations and employer organisations each relinquished one of their respective eleven seats. The labour seat was filled by a FNV Zelfstandigen representative, the private sector seat by a representative from the PZO-ZZP.

Inasmuch as the labour seat was filled by the FNV, this implied that the AVV's youthful exit failed to really shake the Polder establishment. On the other hand, one may argue that the AVV presented a new voice of a new political subject – young workers seeing themselves as disenfranchised ZZPs. As such, it became one voice out of several that argued for a self-employment-friendly reform of the

Dutch socio-economic model. In comparison with Italy, the Netherlands seems to have come to some kind of partial or temporary resolution of these issues. However, the fact that the process involved self-employed being represented as both workers and entrepreneurs, and the fact that it involve an intra-labour union conflict highlights how the rise of self-employment challenges the 20th century European social models. As such, the Netherlands case bears similarities with that of Italy, with its friction between established CGIL and the newcomer ACTA. This latter point is emphasized by Westerveld in his assessment of the "new" self-employed in the Netherlands. The rise of self-employment, he posits, "challenges labour unions to reinvent themselves and to regroup around the interests of all workers, be they permanent or flex, typical or atypical, employed, quasi-employed or self-employed. This task is difficult, as it will require them to look beyond their own interests. What's more, they will need a mandate from their own membership, who can no longer be assumed to stand shoulder to shoulder as a relatively uniform group." (Westerveld, 2012: 171)

Closing remarks: A pan-European solution?

In concluding this text, we will discuss pan-European developments in this field. Before doing so, however, let us briefly return to the issue of self-employment and generational inequality in Sweden. Is the Swedish response to the situation similar to that of the Italian or Dutch? Since the publication of *Skitliv*, the debate has followed an expected trajectory. On the employee side, trade unions, both blue- and white collar, have embraced the arguments. The issues and the formulation of precarious employment arrangements as a problem for the young generation is now a part of their rhetoric. The employers' organisations have, however, not agreed with this description of the labour market situation in Sweden. In any case, precarity on the labour market is now an issue in the Swedish public debate. Though the specific phrase is not so much used, Guy Standing tours the country almost once every six months. No new organisation for self-employed has been emerged. To be fair, though, this may be due to the fact that the Swedish social security system does not discriminate freelancers to the same extent as other social security systems.

Nevertheless, it might just be a matter of time before a freelancer movement emerges in Sweden. If so, this might generate frictions with the established unions, much in line with developments abroad.

What, then, is happening on a European level – what is the development within EU institutions, and is there a nascent pan-European freelancers' movement? From the institutional side, one may follows Westerveld's (2012: 157) approach, and start from the 1999 report for the European Commission, chaired by Alain Supiot. This text, published as *Beyond Employment* (Supiot, 2001), highlighted to the emergence of the "new" group of self-employed. This, the report warned, is a sign that employers use self-employment as a means to evade their obligations. The EC report also suggested that the rise of self-employment created an opt-out from collective agreements on employment benefits, thus undermining the established institutional order. However, though the report generated publicity, it failed to produce any significant change within the union. Moreover, Supiot himself laments that the subsequent EC reports on the issue – the 2006 Green Paper on modernising labour law, and the 2007 communication of flexicurity – reframed the issue that he originally raised. He thus proposes that, instead of "adapting the economy to the needs of human beings", the issue has come to focus on how to "adapt human beings to the needs of markets". (Padis, 2009: 57) He continues: "Although seemingly inspired by a similar approach, combining liberty and security, the European Commission's promotion of a policy of 'flexicurity' in fact followed precisely the opposite path" (59) Supiot is, however, not the only one to criticise the report. Some deride it for approaching the issue purely from the demand side – focusing on how the employer benefits from self-employment solutions – and for tying it too closely to the Lisbon strategy on competitiveness. Others, like employers' organisations, criticised it for not highlighting that workers too can benefit from self-employment. As Westerveld (2012: 164) suggests, these latter reports are interesting from two perspectives. First, they give a sense of the official EC view of the rise in self-employment. Secondly, the widespread criticism of these reports again shows – as we have already seen in in the context of Italy and the Netherlands – how the issue generates a general confusion, in which traditional political fault lines become subject to contestation.

On the grass-roots level, there are some signs of a pan-European movement on this issue. There is, for instance, EFIP (European Forum of Independent Professionals), which functions as an umbrella organisation for associations like above-mentioned ACTA. EFIP was founded in 2010, and organises bi-yearly, transnational meetings, in which the national representatives exchange experiences and information with each other. (Dullroy & Cashman, 2013: 59-60) The organisation also does research (cf. Leighton, 2013) that serves to verify the existence and size of the increasing population of self-employed in Europe. In the words of one voices of this emerging European movement: "A lack of reliable statistics harms the nascent freelancers' movement as its various organisations attempt to mount claims based on their size. With poor knowledge of the size of their own cohort, or even the extent of its boundaries, freelancers are disempowered and robbed of a solid statistical base on which to stand." (Dullroy & Cashman, 2013: 9) Thus, as already seen in the case of the Netherlands, this endeavour to "get a grasp" of this population, using both qualitative and quantitative research, seems to be a vital strategy in the formation of a political subject – be it national or pan-European.

So, to sum up: The young self-employed are a political subject in the making, one that is still trying to find its identity. In anatomical terms, it is still trying to find its limbs, statistically probing the body politic to determine the size of a potential collective that can constitute a "we". In more Machiavellian terms, this collective is exploring the existing power structures, stirring up controversy, provoking the established order, and gradually creating allies as well as enemies. While this chapter can be understood as an intervention that sides with labour-as-we-know-it, opposing capital-as-we-know-it, we believe that the issue of generational inequality and the new self-employment is more interesting than that. Indeed, it is tempting to interpret today's situation from the position held by the late Erik Gustaf Geijer – the godfather of Swedish liberalism. In the early 1940s, before the social unrest and crisis that subsequently broke out in Europe, he predicted that the established "corporations" was about to be shaken to the ground, and that a new set of "associations" would emerge. (Geijer, 1980 {1844}) A keen reader of Alexis de Tocqueville, he saw this impending change as inevitable, and argued that the loss of the old was not to be resisted. We agree: Today's "corporations" – a term that may include big business as well as the traditional modes of union organisation – will inevitably yield to new associations. In this chapter, we have tried to survey what may become the seeds of those associations. After all, as Anders Ehnmark (1990) remarks in relation to de Tocqueville's mode of writing history – one writes about history in order to deny History from following a predetermined path.

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Defending free movement of persons

To the benefit of citizens, growth and employment

The right of EU citizens to move and live in another Member State is a cornerstone of the European project. However, it is an increasingly disputed issue. By the beginning of 2014, debates had escalated to the point where EU Commissioner Reding stated that "Never before has the right to move and reside freely in the European Union been discussed so intensively by politicians and the media as in the past few months."

The fierce opposition seems paradoxical: the free movement of persons is not only an inherent principle of the EU construction; it has also been an economic gain for the destination countries. This criticism has been headed by senior Member States such as Germany, the Netherlands, and the UK. And even though the figures indicate otherwise, fears of welfare abuse and the breakdown of public services are not going away. The majority of mobile EU citizens move into employment or to accompany a family member. The heated debates do not concern these citizens. The resistance circle around the minority of EU citizens see them begging in the streets or knocking on the doors of shelters in the richer Member States.

While the Schengen Area marks the external boundaries of the EU, access to social rights constitutes the internal borders of integration. Free movement is an individual right entrenched in EU citizenship by law, not a buffet that Member States can cherry pick from. When Member States suggest that some mobility is wanted, e.g. of high skilled workers, and some mobility is not, e.g. of socio-economically vulnerable groups, European integration is threatened and growth becomes exclusive.

Restraints on free movement and social protectionism are thus likely to harm the chances of the EU making progress as an economic and political entity. That is why, in the words of Commissioner Reding, "Member States and the EU share the responsibility to make free movement rules work (...) to the benefit of citizens, growth and employment" (Reding, 2014).

The free movement of persons: objectives, results and remaining dilemmas

The vision for the free movement of persons within the EU was first introduced in the Treaty of Rome (1957), which at that time only applied to economic players. Some thirty years later, the Treaty of Maastricht (1992) extended the right to include all EU citizens. Finally, the treaty of Lisbon, which came into force in 2007, confirmed the free movement component of European citizenship.

Overall, the extension and strengthening of free movement is a success story. Following the big bang enlargements in 2004 and 2007, free movement within the EU peaked in 2008. The largest migration flows originated from the "new" Member States, primarily from Romania and Poland, and was generated by demand for labour and better employment opportunities to the West. The majority of mobile EU citizens went to Italy and Spain, Germany and the UK. Over half of all Poles migrating to another EU Member State went to Germany (Eurostat, 2008). While they stabilised after 2008, levels are still higher than before the enlargement. In 2012, 14.1 million EU citizens lived in another EU Member State (EC, 2013). The main motivation for EU citizens to make use of free movement is work-related, followed by family reasons. Eurobarometer opinion polls show that the freedom to move and reside freely is the most cherished freedom among EU citizens, who consider it to be the greatest achievement of the EU (Eurobarometer, 2013).

Mobilising the potential of EU mobility is also attributed a prominent role in EU strategy documents, such as the EU H2020 strategy, which aim to "enable the EU to achieve smart, sustainable and inclusive growth" (EC 2010). The driving idea behind the emphasis on mobility is the optimal allocation of resources within the EU. The free movement of persons is therefore just one piece in the puzzle of how to improve innovation, the exchange of ideas and the calibration of labour supply on domestic labour markets.

The destination Member States, namely the ones that acquired membership status before 2004, have benefited from this increased mobility. National GDP is estimated to have increased by almost 1% in the long term as a result. There are several reasons for this: first of all, the people moving across EU countries have a higher employment rate than nationals, and are as likely to receive social benefits, or less likely to do so (Dustmann et al, 2013; EC 2013; Juravle et al, 2013: Ruist, 2013). By transferring labour and skills to regions and countries where the demand is high, intra-EU mobility makes more efficient use of the existing human capital (COM, 2013). Free movement also adds to labour markets' adjustment capacity. A recent study comparing the US and the EU supports this claim, showing that distortions in the EU labour market during the latest crisis have been partly neutralised by intra-EU migration (Jauer et al, 2014). At an individual level, labour mobility not only means immediate gains from employment, but also dynamic gains via remittances to the country of origin (e.g. Taylor, 1999; Wójcicka, 2012).

One directive to rule them all

The core piece of legislation relating to free movement is Directive 2004/38, which establishes the right of every Union citizen »to move and reside freely within Member States«. After three months of unconditional rights, EU citizens have the right to stay as long as they do not »become a burden on the social services of the host Member State during their stay«, e.g. the person in question has health insurance, sufficient funds to be self-supporting, is employed or engaged in economic activity or is a family member of an economically active EU citizen (EC, 2004).

This Directive and Member States' interpretations of it are increasingly causing many headaches. Even though nearly 90% of formal transposition issues have been resolved by the individual Member States, reports continuously speak of obstacles to its correct application in practical terms (EC, 2013). The regulation and governance of free movement has also become an increasingly big issue for national debates. And the hottest potato around is access to social benefits.

There are many examples of this issue's salience. One such example would be the British party UKIP who, consciously and meticulously focusing on restricting free movement to the UK, obtained a landslide victory in the 2014 European Parliament elections (EurActive.com, 2014). Another would be the decision by four ministers of the interior, representing influential Member States, to address the responsible Commissioner Reding to demand stricter regulations (Mikl-Leitner et al, 2013). Considering the compelling evidence of the benefits of free movement listed above, the rising resistance is rather confusing. A basic premise for a constructive debate is to understand the nature of free movement flows and to specify what exactly has spurred such heated reactions in national contexts.

Free movement is a more heterogeneous phenomenon than guiding EU documents and legislation seem to suggest. Although one set of rules apply, the needs, the motives and profile of mobile EU citizens vary. In other words, there is no such thing as a typical "free mover". Instead, people move for various reasons within the same legal framework. Sert et al illustrate this multi-faceted nature in a mapping exercise from 2014. Studying migration from Central and Eastern Europe (CEE), they identify twelve larger groups of free movers, categorised according to their position on a two-dimensional scale of temporality and socioeconomic status. A straightforward conclusion is that there is no simple correlation between duration of stay and socioeconomic position. While IT specialists on a 2 month contract may share the same brevity of stay as homeless persons circulating every 2-3 months between cities, they certainly score differently on the socioeconomic scale. Conversely, there are both high earning and destitute EU citizens that end up settling in their new country (Zelano et al, 2014). Other categories would be, for example, posted workers, students and seasonal workers.

The last 20 years have seen repeated attempts to extract any categories of free movers that are perceived to be a threat to common values. For the most part, the values defended are economic, but debates also touch on the cultural dimension. An example of the tendency to sidestep the concept of EU citizenship in times of hardship is the exception from free movement negotiated by the Spanish government in 2011. Against a background of economic recession and a big inflow of Romanian citizens to Spain, the Commission allowed Spain to restrict their access to the national market. The exception was agreed after establishing that Romanian nationals living in Spain were strongly affected by unemployment (EC, 2011). Although seemingly rational in the heat of the moment, such exceptions are detrimental to the cohesion and progression of the EU as an entity. The second a Member State or political party discriminates against other EU citizens, by expressing that certain mobility is wanted (e.g. high skilled workers) and other mobility is not (e.g. vulnerable job seekers), an inclusive economic process is made impossible.

Posted workers and trade union attitudes in flux

IIn the wake of the enlargements, there was widespread concern about the impact of free movement on national labour market standards and bargaining models. Social dumping was the word of the day, represented by the precedent cases of Viking Line[1] and Laval[2] in the Court of Justice of the European Union (ECJ). Both cases concerned the issue of posted workers lowering working conditions by not signing collective agreements. The free movement prerogative confirmed in the ECJ rulings disgruntled trade unions and raised warning cries about the erosion of national corporatism.

The fears of social dumping generated by increased movement of services are still present on the European scene. The recently elected

1. *Viking Line* refers to: C-438/05 The International Transport Workers' Federation and The Finnish Seamen's Union v Viking Line ABP and OÜ Viking Line Eesti [11/12/2007]

2. *Laval* refers to: C-341/05 Laval un Partneri Ltd v Svenska Byggnadsarbetareförbundet, Svenska Byggnadsarbetareförbundets avd. 1, Byggettan, Svenska Elektrikerförbundet [18/12/2007]

President of the European Commission, Jean-Claude Juncker, stressed the need to prevent social dumping in his speech on the priorities for his upcoming term. While saying that "free movement of workers has always been one of the key pillars of the internal market", Juncker continued by promising a "targeted review of this Directive to ensure that social dumping has no place in the European Union. In our Union, the same work at the same place should be remunerated in the same manner" (Juncker, 2014).

However, the situation today is different than it was a decade ago – trade union attitudes to posted workers seem to be in flux. Danish trade unions are still among the more aggressive opponents to the free movement of workers and services. Hostile attitudes have produced negative stereotypes of free movement labour. One example would be where "Eastern European workers are often viewed as contenders who are mainly in it for their own personal winning and who do not contribute to Danish society" (Lund Thomsen et al, 2013:257). But there are also cases of trade unions inventing inspiring coping strategies to comply with the changing context. Sweden, home of the famous Laval case and often evoked as the symbol of sound corporatism, is not an exception. The city of Gothenburg, governed by the Social Democrats for the last 20 years and a port of proud union traditions, provides an inspiring example.

The regional trade union for construction workers, Byggnads Väst, is making efforts to adjust their work methods without neither renouncing their ideals nor capacity. They have hired an interpreter to communicate with posted workers from Central and Eastern Member States and offer evening courses in trade union history in Polish. To counter xenophobic attitudes and prejudice among regular members, they have expanded the course programme to everyone. Moreover, Byggnads Väst has facilitated enrolment by making it possible to join Byggnads as soon as you have an employment contract in the region. If you do not pay the fees for 3 months, you are automatically excluded (Gröndahl, 2014 [interview]). Thus, membership becomes flexible and available for all workers in the region, regardless of country of birth or length of stay. This is one concrete way to undermine the established dichotomy between mobile workers and domestic workers, and instead consolidate the two.

While it is still a strong concern among defenders of national corporatism, the issue of posted workers no longer makes the headlines of free movement debates. Instead, critics seem to have turned their eye to the issue of EU citizens lacking formal employment and housing, which is becoming a prominent concern in public areas of Northern and Western parts of the Union.

A new centre of debates: "The free movement of destitution"

EU citizens living in another Member State, without formal employment or sufficient funds to survive economically, are considered »non-active EU migrants«. This group accounts for between 0.7% and 1.0% of the overall EU population. Over two-thirds of this group live in an economically active household. The remaining third includes marginalised and destitute mobile EU citizens, who are at the centre of debates (Juravle et al, 2013). It is difficult to estimate the exact number of destitute and marginalised mobile EU citizens, as the category is in constant flux. For example, 64% of economically non-active job seekers had a job the previous year (Juravle et al, 2013). While it may be fluctuating, the available data shows that mobile homeless and unemployed EU citizens, represent a very small proportion of the total population in each Member State.

Although marginal in numbers, poor and mobile EU citizens have become the focus of growing resistance to free movement in many 'old' Member States. This section's title borrows a quote from an editorial in a Swedish liberal daily newspaper, Göteborgs-Posten. The opening lines capture the essence of much current criticism, stating that "to the four freedoms of the EU, e.g. the free movement of goods, services, capital and persons, a fifth may be added – the free movement of poverty and unemployment" (Göteborgs-Posten, 2009).

In order to understand and counteract protests and resistance to free movement, the tension between national welfare systems and European social rights must be addressed. Social benefits are perceived as benefits funded by national revenues and primarily by serving national citizens. At the same time, the extension of free movement has been accompanied by a parallel social integration (Ferrara, 2005).

The perceived dilemma between the benefits and the costs of free movement migration is particularly felt at the local level. At this level, individuals articulate the needs and demands on social services. Basic issues such as housing, schools or employment agencies are commonly handled by local administrations and not by the EU or national governments. In other words, the cities and local communities of the EU are the frontline of free movement regulations. Some cities have come a long way in their efforts to accommodate the consequences of free movement. These forerunner cities and Member States should serve as common benchmarks and inspiration for the rest. Hamburg and Glasgow provide two examples of how cities can move with the tide and adjust to the changing EU context.

Hamburg: Refusing to cherry pick

"We are delighted to welcome anyone who wants to contribute to this city's growth with their qualifications and their dedication – and it is our job to help new citizens feel at home." (Hamburg Welcome Centre, 2014) This quote is found on the web portal of the *Hamburg Welcome Centre* – a one-stop information and service point dedicated to making Hamburg an accessible city for non-German workers. The centre provides new residents with general information on accommodation, employment, childcare, driving licences, language courses and the German health care system.

Similarly to other cities in the old EU, Hamburg has seen a large increase in the number of homeless since 2007. This increase has put pressure on emergency housing and local welfare services (Schmid et al, 2013). But interestingly enough, while homeless and begging among EU citizens does burden the city administration, it has not stopped the city from adopting an overall generous approach to newcomers and thereby increasing intra-EU mobility. Although far from suggesting a welcome centre as the one solution to social and economic marginalisation, other cities could indeed learn from the accommodating approach adopted in Hamburg.

Glasgow: A new home for Roma EU citizens

The presence of poor and marginalised EU citizens undoubtedly puts pressure on receiving societies. And although »Member States can freely decide which benefits they want to set up, under which conditions they are going to pay, how much and for how long« (Reding, 2013), most local or regional administrations are under some kind of budgetary pressure. The EU therefore has reason to subsidise the development of strategies and tools to integrate new citizens in a sustainable way. The European Social Fund (ESF), for example, offers a mechanism to mediate between citizens' needs and local capacity during a transitional period of this nature. In very general terms, the ESF is an instrument available to Member States, regions and municipalities interested in co-financing employment-related projects. The City of Glasgow is using the ESF co-funding opportunities to welcome a particularly vulnerable group: Roma EU citizens from the CEE. Since 2004, Glasgow has become the home of a growing Roma community of EU citizens from Central, Southern and Eastern Europe. Currently, about 3,500 predominantly Romanian and Slovakian Roma are living in the city. With the objective of offering the tools to live an independent life, a series of measures have been put in place involving language education, an increased presence of interpreters in public services, efforts to decrease prejudice within public administration, and increased nursery provision in targeted areas. The reforms are implemented in cooperation with most public sectors of Glasgow. Furthermore, the project focuses on common cultural activities and interaction between all inhabitants of Glasgow (Glasgow City Council et al, 2012; 2014).

ESF projects should not be used as a long-term response to the social needs of a mobile EU. However, these funds constitute an accessible tool for cities facing increasing pressure on local services as a consequence of EU citizens moving there. Gradually the local communities will hopefully learn to benefit from the inflow, rather than turning a blind eye and hoping a "non-governance" attitude will have a deterring effect.

Towards an inclusive European integration

The EU has set a definitive objective of promoting inclusive growth, while urging Member States to guarantee all citizens equal access to the economy. Presenting the strategy for growth *Europe 2020*, the European Commission explicitly stated that »bringing vulnerable groups into the heart of our societies and labour markets is central to sustainable and inclusive growth« (EC, 2010b). As the chapters above have shown, it seems easier said than done.

A frequent argument in the debates about who should pay for the EU citizens begging in the streets, or sleeping in parks, blames the countries of origin for not taking care of their own citizens, and forcing them to move. This argument echoes through the aforementioned letter by Ministers from Germany, the UK, Austria and the Netherlands, calling "(...) upon the Member States of origin to permanently improve the local living conditions of those concerned" (Mikl-Leitner et al, 2013). The Swedish Göteborgs-Posten shares the same line of thought, stating that: "it must never be accepted that Member States choose to solve their social problems by exporting them" (Göteborgs-Posten, 2009).

Yes, the distribution of responsibilities between the EU, destination countries and countries of origin needs to be resolved. But free movement within the EU also involves a fourth party, too often forgotten in the blame game of public debates: the individual. The argument that conditions in countries of origin must be resolved, so that individuals do not "have to move", ignores that migration is about autonomous individuals making a choice.

People do not choose where they are born. However, they can choose to move. Often, they move to be less poor and increase their life chances. The free movement of persons makes this possible; the cherry picking tendency of destination Member States prevents it. Individual Member States that discriminate against their populations restrict the individual life choices of citizens. The EU should incessantly work to strengthen the fulfilment of Human Rights and Copenhagen criteria in these countries.

The freedom of movement paradigm allows citizens to vote with their feet and move, and compensate for the shortcomings of their governments. Free movement does not excuse national governments for failing to guarantee the safety of their citizens. But it offers an exit plan for citizens who are suffering. Restricting free movement is preventing EU citizens from changing their lives by moving to a place where they think their life could be better. Telling countries of origin to reform and assume responsibility as an alternative to free movement, is asking fellow EU citizens to remain in destitution for the sake of better-ordered communities.

There are lessons to learn from the past. In the early 2000s, similar debates evolved around another category of mobile EU citizens: posted workers. This particular group of employees was portrayed as a threat to national labour markets and welfare systems. Ten years later, there are many encouraging examples of stakeholders adopting a constructive attitude to these new patterns of labour mobility. A similar change is possible in the case of the most marginalised citizens. However, destination Member States need to adapt to the situation and, with support from the EU, develop mechanisms and institutions to facilitate a successful settlement for poorer and less prepared citizens. At the same time, the EU must encourage, and if needed pressure, all Member States to respect human rights and EU legislation.

The free movement of persons is both an economic instrument and an individual right. It is a fundamental component of the inner market, generating net gains for the parties involved. But that is not all it is. It is also an individual right. This distinguishes the free movement of persons from that of e.g. capital. As a consequence, restricting free movement is not only restricting growth; it is also restricting the life choices of individuals. As long as policy makers, the media and the EU public reduce the free movement of persons to an economic mechanism, the notion of inclusive growth will remain empty rhetoric. It is necessary to recognise the individual dimension as well. Only then will all EU citizens, even the most vulnerable ones, have a chance to enjoy the benefits of European growth and integration.

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How policies can handle workplace digitisation

While the brave new world of digital technology is delivering intensive growth to certain companies and individuals, the question remains whether this growth will 'trickle down' or 'spill over' to other sectors of the economy rapidly enough to avoid the massive social disruptions seen in earlier historical periods of economic shifts? In this chapter, we will discuss the potential labour market consequences of automation based on digital technology.

The rise of mobile communications, robotics, the internet of things and computer programs that provide services are transforming production, consumption and the labour market. As consumers most individuals benefit from these changes, but as employees many have a hard time catching up. Jobs that are easy to outsource or can be automated by computers or robots are rapidly disappearing from mature economies. The combination of global markets and products that can be manufactured at practically zero marginal cost (e.g. software) means that the 'superstars' effect first described by Rosen (1981) has become even more conspicuous. A small fraction of the labour market – for example consultants and engineers – is exhibiting increasingly rapid wage development. The 'superstar' effect is also evident among companies, where today's digital start-ups are able to grow rapidly in users and sales and reach billions in market capitalisation in just a few years – yet still often creating few jobs. One example is Instagram, which quickly reached over 130 million customers. Yet only 15 people worked at the company when it was sold to Facebook for over USD1 billion (Brynjolfsson and McAfee, 2014: 126). Here we will discuss the potential labour market consequences of automation based on digital technology. We call this type of automation 'digitisation'. We will discuss potential policy responses in the form of active labour market programmes, potential changes in labour taxation, and how education and training are conducted and funded. We will conclude with some reflections on the future.

> *"You can make an internet company with 10 people and it can have billions of users. It doesn't take much capital and it makes a lot of money – a really, really lot of money – so it's natural for everyone to focus on those kinds of things."*
>
> ***Larry Page**, Google CEO*

Concern over jobs disappearing is nothing new. The labour market has been tough in Europe for the last decade and for even longer in some countries. It was always previously the case that when old jobs disappeared due to automation or foreign competition, they were replaced by new ones. The standard response from economists is that increased productivity leads to profits and lower prices, and therefore to a demand for more new types of products (Brynjolfsson and Hitt, 2000; Caroli and Van Reenen, 2001). The jobs that disappear lead to new jobs somewhere else in the labour market; what society needs to do is to ease this process by not supporting stagnant sectors, instead supporting workers' training and transition to other parts of the labour market. What, if anything, is different this time around? Tasks that cannot be easily automated are those that require more creativity, social skills and human-to-human interaction (Levy and Murnane, 2005). This leads to two interesting predictions for the future: (1) the wage rate for jobs that require more creativity, social skills and human-to-human interaction will go up; and (2) most types of jobs will rely more and more on computers to facilitate overviews of processes and tasks, or to provide decision-support, while individuals working in these jobs will rely more on creativity, social skills and human-to-human interaction to complement any tasks not handled as productively by computers.

A recent widely discussed paper by Frey and Osborne (2013) used US data on 700 types of occupations to forecast which types of jobs are most and least likely to be replaced by technology over the next two decades. They divided the tasks involved in these jobs into two dimensions: cognitive vs. manual and non-routine vs. routine. Drawing upon earlier work on the offshoring of jobs to low-wage countries, Frey and Osborne identified three aspects of a job that would make it less likely for a computer to replicate the tasks of that job: firstly, 'perception and manipulation' in unpredictable tasks such as handling emergencies, performing medical treatment, etc; secondly, 'creative intelligence' such as cooking, drawing or any other task involving creative values that rely on novel combinations of inspiration; thirdly, 'social intelligence', or the real-time recognition of human emotion. However, Frey and Osborne's paper has been criticised for not taking into account changes in labour or capital prices, and for not considering political and social resistance to digitisation, or the work-leisure trade-off for workers who could use computers to free up time available for other tasks. This criticism notwithstanding, the core insight that some types of jobs are disappearing more rapidly than others and that the core tasks of jobs are likely to change is widely accepted. In particular, low-wage jobs requiring little or no training, as well as some high-wage jobs that can be standardized, are more likely to be replaced.

At this stage, we believe these dire forecasts for the future are too early to be readily understood or dealt with by policy makers. The high unemployment we see in Europe today is not primarily the result of digitisation. It is the result of the same old reasons: global competition, rigid wage structures and labour markets, over-regulated product markets, generally complicated conditions for starting and running businesses, misguided public support, etc. So while researchers and long-term political planners are and should be thinking about future labour markets and how they will be affected by digitisation, today's problems are more like yesterday's than tomorrow's.

Political suggestions to counter permanent structural unemployment

Several authors in the debate on automation and the labour market take into account basic income, negative income tax and other schemes providing everyone with a minimum standard of living. It needs to be highlighted that such a radical reform is somewhat premature: unemployment levels are still high after the financial and Euro crises and we do not know what levels we will see in a few years. Unemployment levels in the US are now rapidly decreasing to pre-crisis levels. Secondly, 'providing everyone with a minimum standard of living' does not really provide a solution to the permanent exclusion problem. Not starving is not the same as being included.

Therefore, we think the main challenge for governments in creating truly inclusive growth in the new economic landscape is the fight against structural unemployment. There are not really any new theories in the debate. We need education and training equipped with a different labour market, containing a greater focus on creativity, flexibility, social skills and general knowledge (where computers are not competitive, so far). A nice twist is that the very automation causing unemployment might revolutionise the education and training needed to alleviate the problem (Levy and Murnane, 2005).

Active labour market programmes

One frequently heralded solution to the disappearance of jobs from digitisation is to considerably expand the set of active labour market programmes (ALMPs), for people who cannot find a job. ALMPs for unemployed workers and welfare recipients generally include programmes such as job search assistance, labour market training, wage subsidies, and direct job creation in the public sector. These are generally seen as important elements of European countries' efforts to combat unemployment. For EU Member States, ALMPs constitute a central part of the European Employment Strategy, which defines employment as a key objective of a joint economic policy in the European Union. While such active programmes have been in use for many years in most countries, there is a growing awareness of the need to develop scientifically-justified measures for the effectiveness of different ALMPs and that these measures are more rigorously developed and employed in the United States than in Europe, where evaluation spending is scarce compared to programme spending (Kluve, 2010). Some exceptions do exist: Carling and Richardson (2004) evaluated eight different Swedish ALMPs, one of which was for start-up subsidies. Their study showed that the most successful schemes were the ones which, similarly to start-up subsidies, offer on-the-job-training and work-life experience. Rodriguez-Planas and Benus (2006) investigated the impacts of four labour market programmes in Romania: training and retraining, employment and relocation services, small business assistance to facilitate business start-ups for displaced entrepreneurs, and public employment. Their analysis revealed that the first three programmes had positive effects on the labour market outcomes for participants. In contrast, temporary public employment was found to be detrimental for participants' employment prospects. Consequently, one should be careful not to draw too general conclusions about the efficiency and effectiveness of ALMPs. The relative success of a specific self-employment programme is probably context specific and depends on several interacting factors (e.g., applicant screening, eligibility criteria, the type and amount of subsidies or transfers made, the extent to which training/quality of training is provided, and the current unemployment rate).

While we see governments' expansion of active labour market programmes (ALMPs) for people who cannot find a job as an increasingly important task for policy makers to grapple with and for researchers to evaluate, this is not an encompassing solution for the disappearance of jobs from digitisation. The same applies for basic income: it is too early for any radical reforms until we get a clearer view of which parts of European unemployment are cyclical, which parts are structural, and which parts of the structural problem can be attributed to digitisation.

Subsidies and tax exemptions

One possible way is to stimulate a low-wage market through extremely low taxes on low incomes, or other solutions. Germany has experimented with this in terms of 'the Hartz initiative'. This initiative is based on the concept of 'marginal employment' or 'minor employment', i.e. providing a source of income at or above the subsistence level for workers currently out of the labour force. Minor employment is defined by German social security as 'a low absolute level of earnings' and can be seen as short-term salaried employment that can be combined with social security support in order to provide a foothold on the labour market for workers currently on the outside, but avoiding the problem of high reservation wages for those currently receiving social security benefits. In popular jargon and among the media, these types of jobs have been called 'mini-jobs' or '400-euro jobs'.

The Hartz initiative was first put into effect in 2003, and included support for further vocational education from the German Federal Labour Agency, subsistence payments by the Federal Labour Agency, and job administration provided by public 'Staff Services agencies' – known as 'Personal-Service-Agenturen' in German or simply 'PSAs'. This was later expanded for new types of employment exempt from social security tax (Mini-jobs, 400 Euros per month), or for gradually rising social security tax (Midi-jobs, 400–800 Euros per month). The Hartz initiative also included a grant for people outside the labour market seeking to move into self-employment, known as the 'Ich-AG' (Me, Inc.). These different initiatives were expanded in 2004 when the German State amalgamated the former unemployment benefits for the long-term unemployed ('Arbeitslosenhilfe') with welfare benefits ('Sozialhilfe'), which approximately resulted in a lower level of the previous social assistance.

To receive payments, claimants must sign a contract subject to public law which states that they are obligated to improve their job situation, and that this may involve accepting any kind of legal job. Whether or not claimants are eligible for these benefits (known as 'Arbeitslosengeld II') depends on their savings, life insurance and the income of their spouse or partner. If these assets are below a threshold level, a claimant can receive money from the State to perform a job allocated by the PSA. The State covers health insurance for the unemployed, and pays into their pension scheme. Since it is possible to receive Arbeitslosengeld II benefits and to have a job at the same time, Arbeitslosengeld II can be regarded as a minimum wage floor for employees without assets. In the German media and according to certain assessments, the initiative has been received with some praise but mainly criticism.

The Hartz reforms in 2003–2005 have been among the most controversial labour market reforms in Germany, frequently criticised by both the media and the public as ‘the end of the welfare state’. At the same time, the unemployment rate in Germany has been drastically reduced. After the initiative was implemented, the German unemployment rate fell from almost 11% in 2005 to 5.5% by the end of 2012. There is still much debate on whether this reduction can be attributed to the Hartz reforms or to another factor.

For example, Hertweck and Sigrist (2012) show that since the implementation of the reforms in the mid-2000s, the importance of the outflow from unemployment (job finding) has been steadily increasing, indicating that labour matching efficiency has improved substantially in the years since the initiative was launched. Another study by Krebs and Scheffel (2013) argues that the Hartz IV reform, i.e. a reduced level and duration of benefits has lowered the non-cyclical component of the unemployment rate in Germany by 1.4 percentage points. Their analysis also finds that the three previous reforms Hartz I-III, e.g. Mini-jobs, Midi-jobs, and reduced taxes for firms hiring older workers and the restructuring of the Federal Employment Agency, have decreased the non-cyclical unemployment rate by 1.5 percentage points. In conclusion, these authors claim that all the Hartz reforms have reduced the unemployment rate by almost per cent in Germany, which is quite a substantial effect.

However, Krebs and Scheffel also state that these reforms have created winners and losers, which could explain the vast unpopularity of these reforms in Germany. While a median employed household benefitted from the Hartz IV reform through an overall reduced tax burden, the Hartz IV reform also resulted in a significant cut in unemployment benefits that largely affected the long-term unemployed. To some extent, this negative effect also resulted in increased resistance among the short-term unemployed who are considered at risk of becoming long-term unemployed. The lessons drawn from the German experience are that even well-implemented reforms are likely to meet resistance when most people are risk-averse and gains and losses are unevenly distributed on the labour market. Krebs and

Scheffel also emphasise that such reforms are most likely to work for countries with relatively generous unemployment insurance systems.

A more critical study by Launov and Wälde (2013) argues that only a 0.07% reduction in the unemployment rate can be attributed to the Hartz IV reform, i.e. a reduction in benefit levels and a shorter duration of entitlement. They argue that Hartz IV has little effect on high and medium wages, since the threat is still low of ending up with lower unemployment benefits once unemployment insurance expires. They also argue that the reform's effect on the benefit level for low-wage and low-skilled earners is too small to make a real change for these individuals. Instead, in their model the increase in total factor productivity accounts for 80% of the decrease in unemployment during the model period. The Hartz I-III reforms are not examined in this study.

While the German initiative provides some sort of inspiration for how to solve the permanent exclusion of certain parts of the labour force, it is hard to adopt any such system without increasing progressivity in the tax system. It is simply too expensive to let tax exemptions cover the whole labour market, and the income span where they are phased out will have a higher progressive tax. Highly progressive taxation often leads to distortion effects, such as people dropping out of the labour market or cutting down on their working hours, which may lead to overall loss in productivity (Ljungqvist and Sargent, 1995; Røed and Strøm, 2002). Furthermore, in today's highly specialised labour market, some people may very well have negative productivity, and if that is the case, their work needs to be subsidised rather than taxed at all (Cowen, 2013: 27-30).

Lower or no minimum wages

In economic theory, a minimum wage is expected to have a limited effect on total employment given that a relatively low proportion of employed workers have a salary near minimum wage. Earlier research focused on groups with weaker ties to the labour market, particularly young people and women (Neumark and Wascher, 2008). Previous studies strongly support the notion that the existence of or increase in a minimum wage rate tends to decrease employment overall, especially for youths. In a recent report, Spector (2014) emphasises that higher starting salaries tend to inhibit the lifetime career opportunities for those not yet established on the labour market. She notes that if minimum wages are lowered, employment for young people increases both for the low-wage sector and the high-wage sector. Spector emphasises that this result indicates that there is an inverted U-shaped relationship between minimum wages and employment. When the minimum wage is low it tends to lie below the workers' expected productivity. In such cases, an increase in minimum wages can boost employment by strengthening the labour supply. As the minimum wage increases, fewer and fewer workers have a productivity that matches the minimum wage.

Addressing the specific case of Sweden, where minimum wages are negotiated between labour unions and enterprise federations, Spector suggests that Sweden lies significantly beyond the point where higher minimum wages will result in increased employment. Studies on the Swedish labour market confirm that following an increase in the minimum wage companies tend to replace workers who have a low productivity with new people with a higher productivity. Furthermore, an older generation is often replaced by a younger one. Egebark and Kaunitz (2014) show that when payroll taxes (Swe: 'arbetsgivaravgifter') for young people were reduced in Sweden, it increased the employment among young people but did not affect wage rates. Spector concludes that given the uneven distribution of unemployment, this could be an indication that there is a wage floor in Sweden that excludes certain groups from the labour market. Long-term studies suggest that high minimum wages complicate labour market entry and have an impact on employment and wages later in life as well.

Negative income tax

One popular idea to counter the unemployment created by digitisation is to provide a guaranteed income or a negative income tax. A citizen salary, which is significant but still too low for individual subsistence, is currently in place in, among other places, Alaska (derived from oil exports). Norway and other countries with significant natural resources could easily introduce similar provisions, and theoretically any state or region could introduce a negative income tax or guaranteed income. However, the effects of this have not been extensively studied.

Various experiments have been conducted with negative income tax (NIT) in the United States. Burtless and Hausman (1978) evaluated the effects of an NIT experiment in Gary, Indiana: the Gary Income Maintenance Experiment conducted between 1971 and 1974. This experiment was based on a labour-supply model that estimated a structural model of labour for adult males in low-income neighbourhoods in Gary, Indiana. Participants were randomly assigned to one of four NIT plans or to a control group. In two of the plans, wage and non-wage income was subject to a 40% tax rate; in the remaining two, income was taxed at a 60% rate. Two of the Gary NIT plans offered basic income support, scaled according to family size, which was slightly above the poverty level. The other two plans offered basic support, also scaled to family size, which was one quarter lower. The results show that poor health and high age reduced the expected labour supply in the group on the NIT plan, i.e. that older workers and workers that were often ill reduced their labour force participation. Conversely, workers with larger families increased their labour supply when the NIT was introduced. Burtless and Hausman concluded that individuals seem to take an increased amount of time in between jobs if they have an income guarantee, and argued that the most important factor in designing an NIT is taking into account how individuals will respond to the level of income guarantee and to the marginal tax rate. Their findings indicate the lack of a perceptible effect on labour supply for variations in the NIT tax rate. Overall, the effect of the NIT in Gary on general employment and earnings was quite weak. Similar studies were later conducted in New Jersey and Pennsylvania 1968-1972, in Iowa and North Carolina 1969-1973 and in Seattle and Denver 1971-1982, with similarly weak effects. The economist L.F.M. Groot (2004) emphasises that some lessons can be learned from the American experiment. However, he points out that the context was quite different in the United States during the 1960s and 1970s compared to Europe today, and notes that the results must not be overinterpreted.

A guaranteed income is a radical reform for at least three reasons. Firstly, it requires significant adjustments to current social and economic systems, especially in European economies. Secondly, it will require a lot of funding to work in practice. Thirdly, a negative income tax may have unproductive consequences on the incentive to work among individuals currently positioned in the middle and at the top of income distribution. Certainly, many people with high incomes may think negative income taxes to be an unacceptable political suggestion.

As indicated earlier, we can also question the extent to which a guaranteed income could solve potential exclusion problems in the digital economy. Work provides much more than an income; it provides a feeling of inclusion and purpose, social contacts, status and identity. Some might be happy to do voluntary work and spend more time with friends and family, but probably not everyone. Even if no one would starve, income differences would be huge. The social implications of such a radical reform would be hard to predict.

Therefore, we hardly see negative income tax as the first option to counter the transition to a digital economy. It may be worthwhile to continue this debate and to follow any upcoming trials.

Educational advancement

In a series of articles, Andrei Shleifer and his colleagues investigated productivity and growth across countries, regions and sectors of the modern world. Their general stylised findings show that to an increasing extent, it is primarily societies' investment in human capital, and secondly the ability to foster entrepreneurship, that drives productivity and consequently growth (Gennaioli et al, 2013). A natural conclusion to combat the labour market disruptions of skill-biased technological changes would therefore be for governments to invest more in education and training. However, one problem would be that many education systems in the developed world are under severe stress from different stakeholder requirements, institutional changes, underfunding or inefficient organisation, etc.

Another possibility could be to educate people in new ways, with more focus on creativity and less on rote learning, for example by using massive open online courses (so-called MOOCs). This part of the technology-driven change in the education system is part of a movement where education is moving towards the development of a greater recognition of practical knowledge, including informal learning channels where self-learning, peer-learning, coaching and tutorship seem to become more prevalent. To some extent, this represents a return to the renowned Oxford/Cambridge tutorship system, but with greater flexibility and higher resource efficiency.

This development has occurred hand in hand with technological development and the increasing use of media where concepts such as 'e-learning', 'blended learning' and 'flipped classroom' models (the use of online teaching for lectures and instructions instead of seminars) are offered as ways to use technology to *enhance* education, not merely to automate it. A proponent of this view is Iosifescu (2014), who advocates a transformational education system that departs from the traditional type of incremental education where individuals move up gradually as they age and pass certain educational goals, towards a system which is participatory-driven and more flexibly adapted to individuals' needs. It is too early to see how technology may affect the education system (for better or worse), although we can see tendencies in the US towards a labour market providing more opportunities for individuals to become more involved in the educational process with increased cooperation between individuals, employers and the education system. Ideally, this type of development could help improve the match between individuals and jobs (see e.g. the Apollo Lightspeeds Balloon project, a labour platform providing free training for individuals already established on the job market [Cappelli, 2014]).

It remains to be seen whether new innovative types of education may contribute to enhancing 'non-cognitive abilities', such as self-motivation, persistence and creativity, which are the skills seen as most important on the future labour market (Heckman and Krueger, 2005). One hope is that automation can make excellent education accessible to many more people in the future (Levy and Murnane, 2004: 99-148). This could free up resources needed to spend on enhancing non-cognitive abilities, such as good kindergartens. As Frey and Osborne (2013) emphasised in their paper on the disappearance of jobs, certain features related to non-cognitive skills, such as creative intelligence and social intelligence, make it less likely that a computer would be able to replicate the tasks of that job. The future of education may therefore lie in the combination of technology and human-to-human interaction in problem solving. As Brynjolfsson and Hitt (2014) illustrate, while today's chess computers are advanced enough to beat any human chess expert, a team of individual chess experts working together with chess computer programs has a higher playing ability than any computer program or individual expert alone. So for the computer literate part of the workforce, digitisation comes with a potential for increased productivity and earnings. On the other hand, for the non-computer literature part of the workforce, individuals may be increasingly confined to non-repetitive service jobs such as janitors, waiters and cleaners, or they will require training and education.

Conclusions

The exponential development of mobile communications, robotics, the internet of things and computer programs is increasingly transforming production, consumption and the labour market. Many people today feel they are living in a brave new world providing endless opportunities for new types of interaction with people through digital tools, new ways of working and new forms of leisure. Warning signs have been raised that the rapid spread of digitisation will also affect labour markets in new unseen ways. How serious should we take such warning signs? From the industrial revolution in the 18th century and onwards, it has always previously been the case that jobs have disappeared due to automation or foreign competition, but new types of jobs have replaced these old jobs. This type of shift does not have to be an eternal truth. As computers and robots take over even the most advanced tasks, the demand for human labour will be more and more geared towards tasks that require advanced dexterity, leadership, social skills and creativity. Will there be room on the labour market for workers who do not have these skills? Without government investment in training and education, and a social safety net facilitating the transition from the loss of jobs and sectors to the creation of new emerging sectors, we may see significant social and economic inequality in the years to come.

In this chapter, we have outlined the potential labour market consequences of automation based on digital technology – digitisation. We discussed the potential roles of active labour market programmes, potential changes in labour taxation, and how education and training are conducted and funded. As we have shown, there are no easy solutions or 'quick fixes' to the challenges of any modern labour markets affected by digitisation. In many cases, attempts to radically change income taxation, such as regulated minimum wages, may provide negative rather than positive outcomes, since individuals with lower productivity than a computer will be permanently excluded from the labour market. Subsidised wages or less taxation on lower income levels have received more positive support in the economic literature, but there is little support for the benefits of negative income taxes.

A potentially more productive way for governments to support the future labour market may be to shift taxes from income to other bases. In the short to medium time horizon, it is probably too early for policy makers to start addressing these problems. Instead, the problems of today are more similar to the problems of yesterday or the last few decades. How can we facilitate the creation of new businesses when old companies are collapsing, or create new jobs as old ones disappear? If the US economy was able to generate one Google and one Wal-Mart a year, or the European Economy was able to generate one Vodafone and one Zara a year, any jobs disappearing would soon be replaced by new types of jobs. So perhaps it is more imperative to look at the regulations and incentives that hamper the creation of new and growing businesses than to focus solely on the labour market.

Looking further ahead – perhaps by the year 2050 – we may see intelligent and agile machines that can outcompete almost any human for any job. What will we do then?

Maybe our intelligent computers will be able to help us find a solution. We do not know, and it is probably too early for economists, policy makers and others to worry about this issue. If we want to have a future of leisure and material abundance, the potential for human development must be better than in any other period throughout history (Norberg, 2014). With less time needed for subsistence labour, more people would be able to spend more time on socialising, travelling, education, exploring new experiences and enjoying culture. With more and more of the information, education and entertainment offered on the Internet becoming freely available, along with necessity goods plummeting in price across many countries, there are positive as well as negative visions for the future that digitisation will bring.

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Inclusive Growth in Europe

Few, if any, political issues post a greater liberal dilemma then that of addressing inequality. Liberal values seek to protect individual rights over the collective or state, but also highlight the importance of self-fulfilment and occupational mobility. Equality of opportunity – regardless of birth – is seen as key for liberals rather than equality of current conditions.

But how large a gap can a person be expected to climb in a single life-time? When is social mobility true – and when is it just an elusive utopia?

These are some of the questions put to liberal thinkers in this publication from European Liberal Forum, the Bertil Ohlin Institute and Magma.

Participating writers are **Andreas Bergström, Anna Felländer, Olav Fumarola Unsgaard, Karl Palmås, Raul Ramos, Vicente Royuela, Evelina Stadin, Roger Wessman** and **Karin Zelano.** Editors are **Karl Wennberg** and **Gabriel Ehrling**, both from the Bertil Ohlin Institute.

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