

CHAPTER 7: THE FUTURE OF WORK – GOOD JOBS FOR ALL¹

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Summary:

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1. Introduction

Work and employment are core activities for individuals and society. Participation in the labour market determines a wide range of life chances that are mediated through earned income. Employment also confers differential social status through the occupational hierarchical arrangements of society. Moreover, paid work contributes to the realization of important human needs of performance, agency, skill development and personal control, of reward, recognition and related self-esteem, and of participating in wider social networks providing support and a sense of belonging. Under favourable conditions these experiences contribute to working people's health and wellbeing, strengthening their sense of social identity and their motivation towards striving for purpose in life. Yet, exclusion from paid work and poor quality employment are powerful threats to human health and wellbeing. These opportunities and threats are unequally distributed across the globe, between and within societies, leaving poor people, those with less education, skills and capabilities in more disadvantaged conditions.

The world of work is constantly changing. Demographic shifts, technological innovations, institutional reforms and global economic integration affect the way people work. Both the demand and the supply of labor are fundamentally different from earlier times. Over the last decades, the global labor force has increased, and it has become more diverse in terms of age, gender and ethnicity. Technological innovations have a major impact on occupations and industries, changing the ways economies in different world regions, in both developed and developing countries, work along with new division of labor that are facilitated by global economic integration.

Taking a global perspective we can also see growing diversity in terms of job types ranging along the whole continuum from permanent formal employment to different forms of non-standard work, in particular part-time work, fixed-term contracts and temporary agency

work, to on-call work, different forms of self-employment and the large segment of informality. Increasing flexibility and diversity can (also) be observed with respect to working time and mobile working patterns. While today's labor markets can probably create more jobs than in earlier decades, the issues of hazardous working conditions, unemployment, inactivity, long-term unemployment, worklessness, exclusion and discrimination are far from being solved.

Against this backdrop, policy choices at the global, national, regional or sectoral level are essential, taking into account the different context conditions. Core policy areas such as education and training at different stages in life, collective bargaining and wage setting, and also the role of labor market regulation, social protection and active labor market policies need to be addressed, trying to strike a new balance between flexibility and security in order to stimulate the creation of more good jobs for all.

In our understanding and with respect to the sphere of employment, social progress means a fair chance of inclusion and productive activity as well as good or better jobs for all, taking into account the potentials and restrictions of global employment dynamics and national paths of institutional adaptation and economic development.

In many respects, this chapter refers to global initiatives such as the employment aspects in Goal 8 of the UN's 2030 Sustainable Development Goals (SDG) and the related ILO Decent Work agenda, pointing at the goal of decent work for all, aiming at full and productive employment for all women and men, ensuring equal pay for work of equal value and an improved labor market access for young people and the disabled, furthermore creating safe and secure work environments, social protection as well as ensuring proper labor rights and social dialogue., issues that are also addressed by this chapter.

Based on a comprehensive assessment of the existing evidence, our chapter suggests some policy principle and concrete policy options that might further those objectives, not

ignoring some tensions that might exist between flexibility and security in the different labor markets. The ultimate direction of reforms in line with an idea of social progress lies in institutional arrangements that facilitate the reconciliation of flexibility and productivity with access to decent jobs and social protection. We argue that distinct productive policy options are available that can be implemented more globally in order to achieve these goals simultaneously. Furthermore, we can also see from a comparative perspective that institutions, i.e. public policy decisions, make a difference with respect to the functioning of labour markets and the quality of jobs that can be created.

2. New technology and globalization⁴

2.1 Introduction

Main drivers influencing the future of work are technology, globalization and demography. While demographic issues are addressed further below, this section concerns the impact of new technology and globalization on labor markets and what, if anything, can be done to ensure that the potential benefits are widely and equitably shared.

New technology allows people to accomplish some task in a new way or to do something that was previously impossible. Globalization, broadly defined, means that interactions between people become easier. Both types of developments offer opportunities for progress. Across the broad sweep of history, new technology and increasing interactions between ever larger numbers of people have been important drivers of what is commonly thought of as progress.

New technology and globalization offer potential progress but cannot guarantee its emergence. After all, technical advances can yield new, more powerful weapons to destroy others more effectively. Moreover, new technology can benefit some groups at the expense

⁴ This section was drafted by Alan Manning and Phil Scranton.

of others. More intensive interactions produced by globalization can be used by some to harm others, even as they offer opportunities for people to help one other. Channeling new technology and globalization into policies for progress is important.

As technology and globalization are the products of human action, they do not have the inevitability that is sometimes claimed for them. Innovation does not fall from the sky, but results from conscious attempts to push back the frontier of human knowledge. People in industry, universities and government prioritize research areas, although progress cannot be guaranteed. The role of human action in globalization is even clearer. Globalization partly derives from new technology that reduces communication costs, but it also results from lower barriers to interaction whether reductions in tariffs through trade agreements or China's political decision to become integrated into the world economy. Different historical periods have been associated with falling or rising barriers to interaction – despite a recent trend towards more interaction, there is now a backlash in many parts of the world. So both new technology and globalization represent choices which affect the scope and nature of social progress.

Some analysts claim that new technology and globalization constrain the policies that firms and nations can pursue and thus potentially limit social progress. For example, some believe increased competition leaves no choice but to cut social welfare provisions and taxes. It is important to engage these arguments.

In this section we aim to address the following questions:

- How is technical progress and globalization affecting labour markets throughout the world. In what regards are they fostering or hindering progress?
- How can the forces driving innovation and globalization be influenced so that the possibilities for progress that they offer are turned into realities?

- How do innovation and globalization affect the policies that can be used to pursue social progress?

2.2 The impact of new technology on labor markets

New technology always reduces demand for some types of labor and increases demand for other types. Most current discussion is about the impact of ICT, but machines have been displacing human labor for a very long time. There have typically been winners and losers from this process.

Those disadvantaged have typically been workers with specific skills where those jobs can now be more cheaply done by machines. They are often very visible as their skills may be made worthless and the affected workers may be reduced to destitution. Hence, there have been periodic predictions and serious concerns that new technology leads not just to adverse impacts for some groups of workers but to a large-scale decline in the demand for labor, e.g. the ‘automation anxiety’ of the 1960s and the renewed ‘automation anxiety’ of today.

Who seem to be those advantaged and harmed by contemporary new technology? Changes in the structure of employment point to job polarization, rapid growth in the employment share of high-wage occupations (e.g. managers and professionals), more modest but still positive growth in the share of low-wage positions (e.g. shop workers and care assistants) and declines in the share of jobs in the middle of the distribution (e.g. clerical and manufacturing jobs). The most compelling explanation for these trends is the routinization hypothesis (Autor, Levy and Murnane, 2003): machines and algorithms come to replace people on tasks for which a program of manageable length can be written to perform the work well. Skilled craftsmanship in manufacturing often involves precise but repetitive work which it is entirely possible to design a machine to do. Similarly, being a bank clerk used to require the ability to do arithmetic fast and accurately (these were not low-skilled jobs) but computers can do this faster and without error. The demand for both types of jobs

has been falling. But it is not – as yet – easy to design a computer that will manage people, telling them what to do and motivating them. So in management people still have a comparative advantage over machines. And, a job like cleaning (that we think of as being unskilled because doing it requires no special aptitude) is currently quite beyond the capability of computers. Humans do tasks like cleaning without any seeming effort but the amount of information processing involved is actually huge.

What about the impact of new technology on the overall demand for labor? Past concerns about the ‘end of work’ have been proved wrong – the average worker has gained from new technology, not suffered from it – real wages have risen and unemployment rates show no clear long-term trend. Why have so many commentators got things so wrong? One explanation is that the workers who benefit from new technology are often diffuse and invisible. New technology results in prices for affected goods falling; thus consumers can buy what they did before and have money left over to spend on other things. As they buy more haircuts, for example, the employment of hairdressers will rise and, absurd though it sounds, such newly employed hairdressers owe their jobs to new technology in some distant part of the economy. Many past and present accounts of technology’s impact completely overlook these indirect effects, but they have been the most important.

However, there is no guarantee that the current impact of new technology will echo past patterns; and there are a wide variety of views without the evidence being clear-cut. There are those who argue that we are living through a ‘second machine age’ based on developments in ICT (Brynjolfsson and McAfee, 2014), yielding very rapid technical progress leading to a fall in the demand for labor; while others argue that progress has slowed to a crawl (Gordon, 2016).

All this discussion has been about the impact of new technology at the frontier. But it is important to recognize that in many countries, technological change centers on the new application of ‘old’ technology (Edgerton, 2006), now being adopted because the diffusion of knowledge is far from perfect or because economic incentives have changed. And those changing incentives are often because of globalization.

2.3 The impact of globalization on labor markets

The most dramatic factors behind globalization in recent decades have been China’s shift from inward- to outward-looking practices, partly mirrored by India and other developing countries, aided by reductions in man-made trade barriers. Developing countries main advantage over developed countries is access to cheaper labor, so they tend to specialize in labor-intensive production. The export-oriented, often autocratic, path of industrial development followed by Japan in the 1950s, South Korea from the 1960s, and, more recently China, requires them to upskill as the economy grows and incomes rise. Sectors like apparel are forever moving shop as comparative labor costs alter. So, globalization, like technology, involves constant change.

Such constant change also leads to winners and losers. In the developed world, evidence has accumulated that industrial sectors where competition with China has been fiercest have seen the largest reductions in employment (Autor, Dorn and Hanson, 2016). Indeed, most advanced economies have their version of America’s Rust Belt. Those damaged are often very visible and increasingly vocal, arguing that the changes result from unfair competition with China. But, consumers’ selection of Chinese manufactured goods is largely because they are cheaper. And those who benefit from these lower prices have more money to spend on other goods and services, thus stimulating employment elsewhere. The workers who produce such goods and services are the gainers from globalization, though they are often hard to identify.

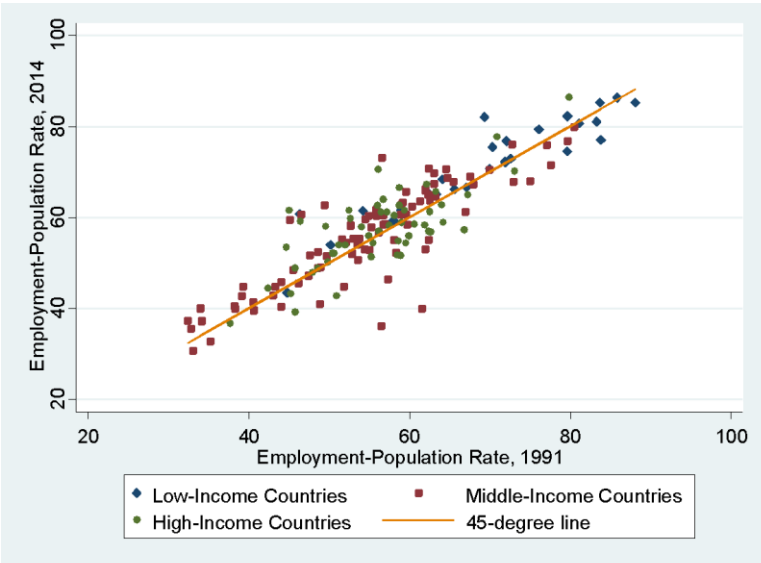
In the developing world, globalization is often a mixed blessing. Globalization has surely created millions of jobs in the Global South, though innovation and technological change have mostly been involved indirectly. Advances in jet propulsion, aircraft design, and international communications underlie the expansion of tourism globally, but the vast majority of jobs created at Southern destinations are low- or no-tech positions – cleaning and personal services in lodgings, local food supply/preparation, or visitors transport. Rapid, reliable air links are the foundation for reverse flows as well, with millions of (chiefly) women relocating long distances for low-paid service jobs (especially from Southeast Asia to the Middle East) which fund family-supporting remittances through electronic fund transfers. (Bahramitash, 2005; Odama, 2004) As well, sex tourism has swelled the number of sex workers across the Global South from Costa Rica to Kenya to Cambodia. (Hoefinger, 2014) Another innovation, containerization, when paired with the economic advantages of export processing zones, generates large-scale employment in assembly, packing, and shipping, drawing workforces from rural districts whose traditional farm and craft livelihoods are crumbling. (George, 2012). Heath and Robarak (2015) argue that clothing factories in Bangladesh have increased women’s education, delayed marriage and reduced fertility, all positive outcomes. But, at the same time, deadly factory collapses and the continued exploitation of children cannot be ignored. Such outcomes illustrate a combination of opportunity and hazard, the unevenness of which some have termed “the asymmetries of globalization” (Yotopoulos, 2007).

2.4 An overview of the impact of new technology and globalization on labor markets

Little clear evidence of the ‘end of work’ surfaces in official statistics as yet. Figure 1 plots the employment-population rate for those aged 15-74 in 2014 against that in 1991, using World Bank Data. These figures may not capture all forms of employment, and are also

influenced by changing demographic patterns, educational enrolments for younger workers and retirement for older workers. Very large variation in employment-population ratios exists across countries, but there is no clear trend over time. This is the case for all stages of economic development.

Figure 1: Employment-Population Rates in 2014 and 1991



Source:

But what about the quality of jobs on offer? One way to consider this is to look at the occupational structure of employment. Table 1 presents estimates of the decadal changes in the shares of employment in 1-digit occupations, for the world as a whole and low-, middle- and high-income countries.

Table 1: Estimated Decadal Changes in Employment Shares of Major Occupation Groups, 1998-2014

	ISCO Major Groups	All Countries	Low-Income Countries	Middle-Income Countries	High-Income Countries
1	Managers	0.3	-1.9	0.1	0.5
2	Professionals	2.6	-0.1	3.2	2.1
3	Technicians and Associate Professionals	1.2	5.3	-2.0	2.1
4	Clerical Support Workers	-1.3	-8.7	0.5	-1.8
5	Services and Sales Workers	1.9	6.7	4.1	1.3
6	Skilled Agricultural, Forestry and Fishery Workers	-0.6	-0.6	-1.7	-0.2
7	Craft and Related Trades Workers	-3.3	-5.5	-3.7	-3.2
8	Plant and Machine Operators and Assemblers	-0.8	-2.1	0.0	-1.0
9	Elementary Occupations	0.1	7.0	-0.4	0.2

Note: these are estimated changes in percentage points from an unbalanced panel for 1998-2014 in which the weights are designed to add to total employment in the world and to correct for the probability of data on the occupational structure being observed.

For the world as a whole, decline in shares of clerical workers and skilled workers in agriculture and manufacturing is evident. But professionals, associate professionals and service/sales workers have rising shares. These trends are not exactly the same in countries at different levels of development but all have a fall in craft workers, while most have a drop in

clerical workers and a rise in service/sales workers. There is some element of polarization here but the overall trend seems to be towards better jobs.

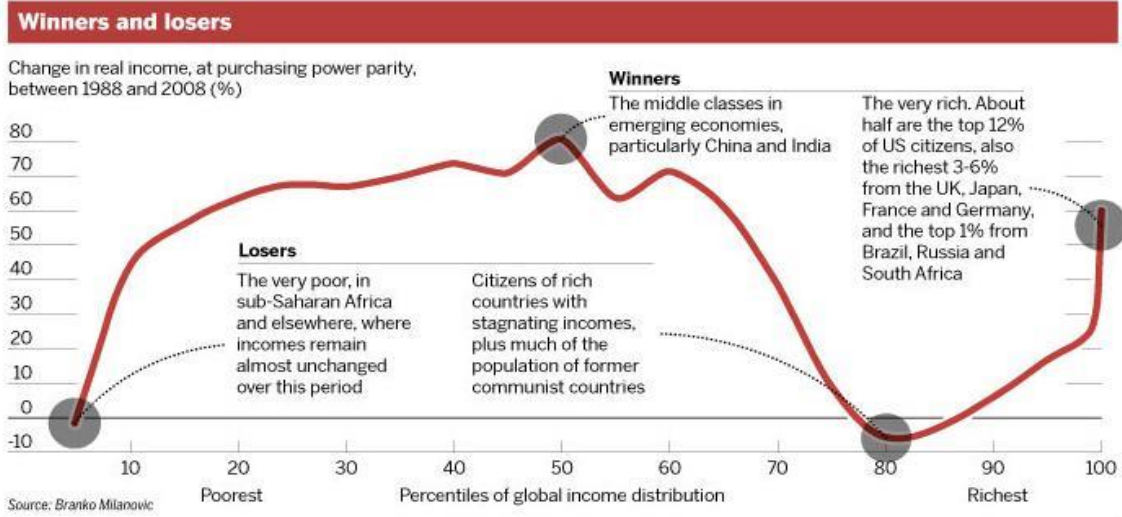
However, statistics on the stable fraction of people working and their types of work may not do justice to a growing sense of insecurity felt by many workers. Changes produced by new technology and globalization have consequences for individuals. But progress is not just measured in employment rates; incomes are also important. New technology and globalization may have large effects on the distribution of earnings. There are a number of aspects to these concerns.

First, is it plausible that new technology and globalization primarily benefit the owners of capital relative to labor – that machines are increasingly competitive with labor, and that globalization is more to the advantage of footloose capital and increased financialisation than to labor, which remains less mobile? Some studies argue for a fall in labor's share in income in most countries at all stages of development (Karabarbounis and Neiman, 2014). Others argue that the impact is much less dramatic once one takes one includes things like health insurance costs and pension contributions in total labor costs (Pessoa and van Reenen, 2013).

Next, consider the distribution of income among workers. This has many aspects – the evolution of wage inequality within countries, both at the bottom and the top of the wage distribution, alongside the evolution of between-country inequality. The overall consensus (Bourguignon, 2015, Milanovic, 2016) is that the recent period has seen rising inequality within many countries, with especially large gains for the top 1% (Piketty, 2014). Still, this may have accompanied the largest fall in inequality between countries since the Industrial Revolution, so that the impact of new technology and globalization cannot be accurately summarized as 'rising (or falling) inequality'. Milanovic estimates how people at different points in the world income distribution fared, ca. 1988-2008 [See Figure 2]. He finds a 65% increase in real incomes for the top 1% but – perhaps surprisingly - those at the world median

did even better, primarily because of rapid real income growth in China and other large developing countries. In contrast those groups that have fared worst are at the 80th percentile of the world income distribution, a position that corresponds to the average citizen in the richest countries. Average workers in the richest countries have experienced stagnation or even decline in real living standards. McKinsey (2016) estimates that 65-70% of households in advanced economies have had flat or falling incomes, 2005-2014, vs. only 2% in 1993-2005. Whether this derives from globalization, new technology, or the financial crisis remains subject to debate; but these trends pose serious challenges for the richest and most politically-stable countries.

Figure 2: Gainers and Losers Globally, 1988-2008



Source: Milanovic, 2016

2.5 Innovation and globalization for social progress

Because innovation and globalization result from decisions, choices have to be made about creating forms and practices that are most conducive to social progress. Market-based economies will not automatically deliver efficient innovations or even the right types of innovation. As knowledge is a public good, expecting self-interested individuals to produce it will not deliver efficiency.

Large actors like states play a big role in influencing decisions, thus influence is possible. For example, although many think innovation largely flows from self-interested companies and individuals, Mazzucato (2013) shows that states have been vital in pursuing high-risk investments. Resources also can be directed towards activities deemed important for social progress – for example, Atkinson (2015) argues for more research about new, efficient ways to deliver care services, but this remains quite a challenge in states with weakly-developed welfare institutions.

There are dangers that countries may retreat into “beggar thy neighbor” policies, injuring others while attempting to protect their citizens. The rise in tariffs during the 1930s only served to intensify the Great Depression, with world trade falling more than total output. Cooperation at the global level is needed to prevent a repeat. Yet many worry that new free trade deals are unduly influenced by special interest groups capable of mobilizing large-scale lobbying. In this case, extending globalization extracts rents for powerful interest groups rather than benefiting the world as a whole. As there always are likely to be both gainers and losers within countries, a need continues for policies that deliver widely-shared economic growth.

2.6 Innovation and globalization as constraints on policies for progress

If change produces losers, then policies might well compensate those affected. Of course preventing change through preventing job loss or protectionist trade policies can be attractive. However, there is a cost – as change is slowed, there may be fewer losers but also fewer gainers. As change may not be so easy to deflect, it’s better to implement policies that compensate losers.

Although some argue that new technology and globalization obstruct such compensation, this is not the case. Labor market institutions like those embodied in the Danish ‘flexicurity’ model, which aims to make people comfortable with change by

supporting them when their jobs disappear (providing relatively generous welfare benefits and helping them to find new opportunities) are a model unthreatened by innovation or globalization.

And redistribution through taxation remains viable and important. So large has been the increase in the share of income going to the top 1% that taxing them more heavily would only return them to earnings levels they had a few short years ago. It is simply not credible that slightly higher taxes will drastically reduce work effort among high-earners, as has long been claimed. Wealth taxation is needed to break down asset concentrations. This will be all the more important if ‘robotization’ means that capital’s share of income rises. New technology can be an ally: it can be used to record ownership of wealth and to fight tax evasion. International cooperation is equally important.

3 Demographic change as a driving force⁵

Demographic change is a major driving force behind the structural changes of labor supply composition in the world. The world population is around 7.4 billion people in 2016. It is expected to reach around 9.85 billion in 2050. Table 2 below shows the population figures for regions of the world in 2016 and 2050.

Table 2: Population by Regions

Population by Regions (million)

Region	Population mid-2016	Population mid-2050 (millions)
World	7.417	9.868
Africa	1.203	2.527

⁵ This section was mainly drafted by André Portela and Fran McGinnity.

Asia	4.437	5.327
Europe	740	728
Latin America And The Caribbean	637	775
Northern America	360	445
Oceania	40	66

Source:

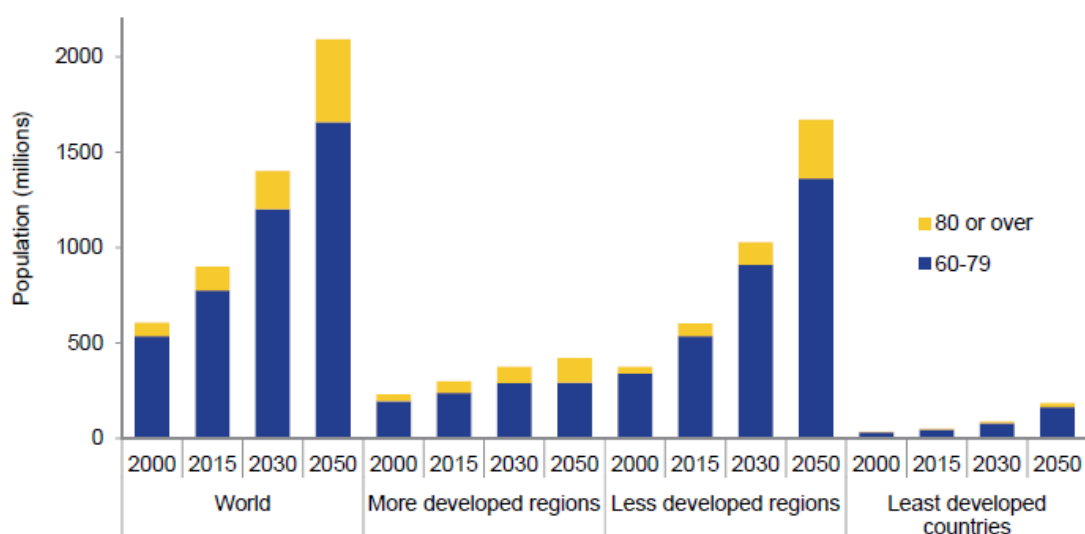
www.worldpopdata.org

Asia and Africa are the most populated regions in the world and are the ones where the population growth is expected to be the most rapid ones. Europe is expected to have a decrease in its population size in the next three decades. Latin America, North America and Oceania will grow but slower.

The world population is not only expected to grow but also to age faster. The Figure 3 below presents the older population forecast for the world and regions.

Figure 3: Population aged 60-79 and 80 over time

Population aged 60-79 years and aged 80 years or over by development group, 2000, 2015, 2030 and 2050



Data source: United Nations (2015). *World Population Prospects: The 2015 Revision*.

Source: United Nations (2015): World Population Prospects: The 2015 Revision

The population 60 years old and above is expected to grow from above 500 million to 2,000 million individuals by 2050. The trend in aging occurs across all regions in the world but it is more rapid in less developed regions. The forces behind this trend are the decline in fertility and the increase in longevity. This trend poses strong pressures on labor markets, provisions for goods and services, particularly health care, and family structures.

This section aims to give a flavor of world variation and change over time connected to demographics in three key elements of labor market diversity: the proportion of older workers; migrants and non-migrants; and participation rates of men and women. They are based on data from the International Labor Organization (ILO) and cover 11 world regions (see OECD 2016 for regional groupings).

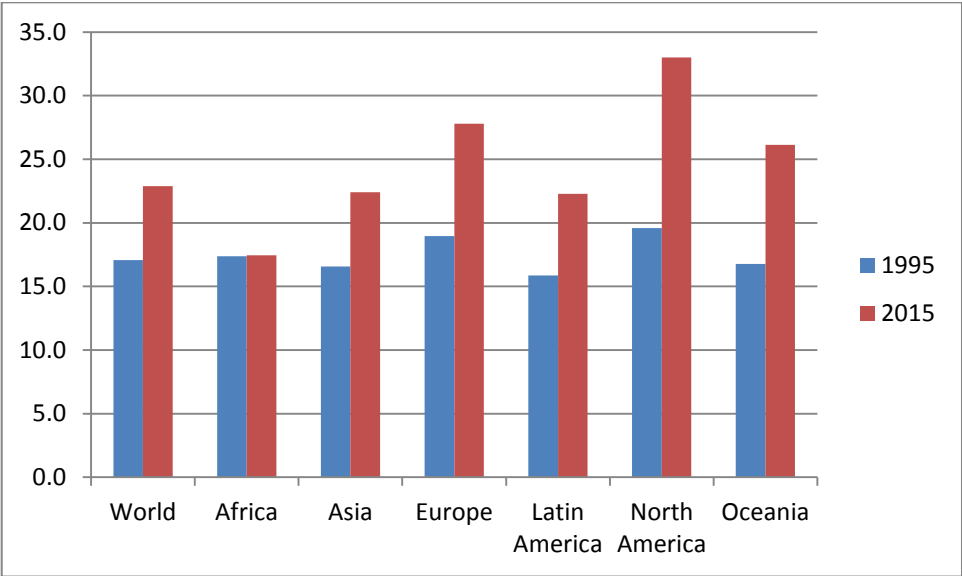
3.1 Older workers

There has been much recent concern about youth unemployment, particularly in Europe (Bell and Blanchflower 2011), and indeed some suggestion that early retirement of older workers might reduce youth unemployment in some European countries (Zimmermann et al. 2013).⁶ In fact there is an increasing trend towards an ageing workforce. Figure 4 presents the proportion of the labor force aged 50 or over by continent in 1995 and 2015, and shows a rise in the proportion of over 50 year olds in almost all regions. The increase between 1995 and 2015 is particularly marked in North America, Latin America and Oceania (see Figure 4). By contrast in Africa the proportion of the labor force aged 50 and more has remained low. A number of factors underlie this general trend towards an older workforce. In some countries, particularly in Europe and the US, the population itself is ageing, so there is a lower

⁶ In fact Zimmermann *et al.* (2013) in their analysis find that there is no competition between younger and older workers in the European countries they examined.

proportion of younger workers. There has also been an increase in education participation among under 25s in many countries, reducing this age group’s labor market participation. It does raise issues about the treatment of older workers in the labor market in terms of age discrimination, and health issues, which are more prevalent among older workers, also come to the fore (see also the subsequent section of this chapter).

Figure 4: Proportion of the labor force aged 50 or over, 1995 and 2015



Source: Own calculations from the ILO dataset EAPEP World Regions 1990-2020.

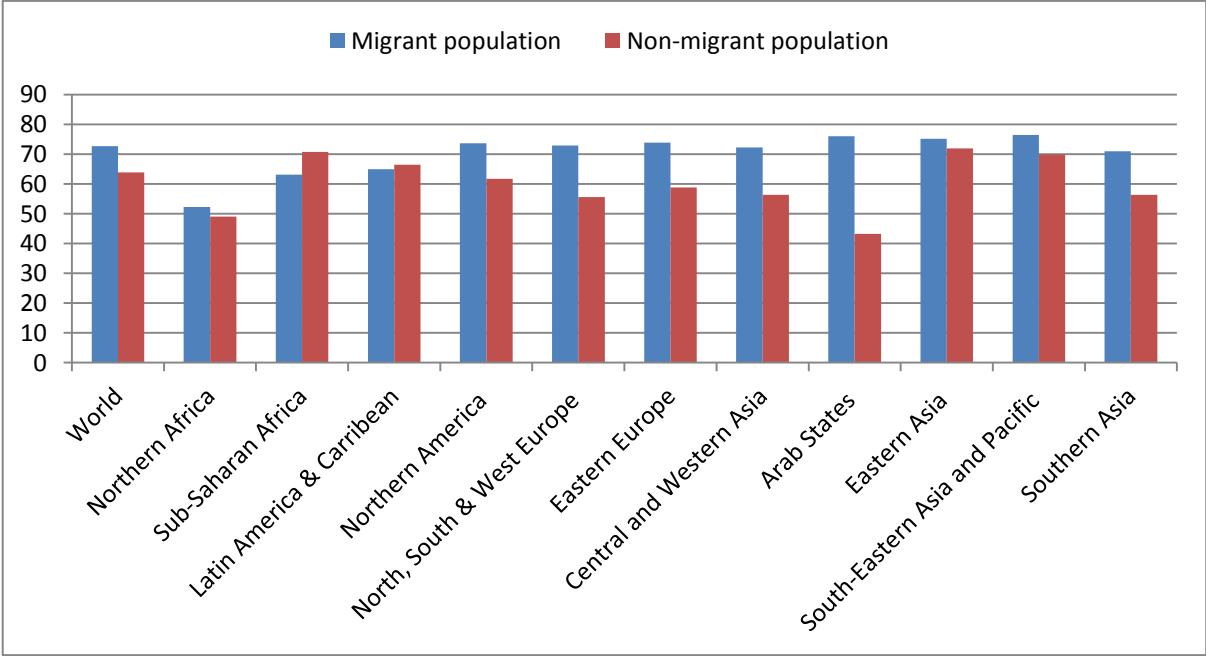
These data cover 191 countries

Additionally, it raises two set of policy questions related to labor demand and supply. First, how technology will respond and evolve so that it is adaptable to an aging workforce? Second, how education and training will change and adapt over the life cycle of an individual that may stay longer in the labor market?

3.2 Migrant workers

Another important trend in the world demographics is the flows of labor force across countries. According to recent ILO estimates, there were around 232 million migrants in the world, of which 150 million were migrant workers (ILO 2015d). Estimating the number of migrants is challenging, particularly when there are large population fluctuations or difficulties carrying out large-scale surveys (ILO 2015d). According to the International Organization for Migration the share of international migrants in the global population has become steady around 3 percent in the last three decades. However, the number of refugees has increased recently and has reached 15.1 million refugees in 2015.

Figure 5: Labor force participation rates by world region for migrant and non-migrant populations, 2013



Source: ILO Global Estimates on Migrant Workers, 2015d, Table 2.8

Labor market prospects are one of the main reasons that people migrate. And indeed, they are the ones that are more likely to participate in the labor market. Figure 5 presents labor market participation rates for migrant and non-migrant populations in world regions. In most regions of the world, migrants' labor market participation is higher than that of non-migrants, partly because of the younger age profile of migrants but also because many migrants migrate in order to work. Of course the proportion of migrant workers in the workforce also varies across countries – from less than three per cent in much of Africa, Latin America and South and East Asia, to around 20 per cent in Northern America, 16 per cent in Northern, Southern and Western Europe and 35 per cent in the Arab states (ILO 2015d). The definition used here is migrants, that is those born abroad, some of whom may be from ethnic minorities, but does not capture second-generation ethnic minorities. Ethnic minorities typically show lower labor market participation in European countries (Heath and Cheung 2007).

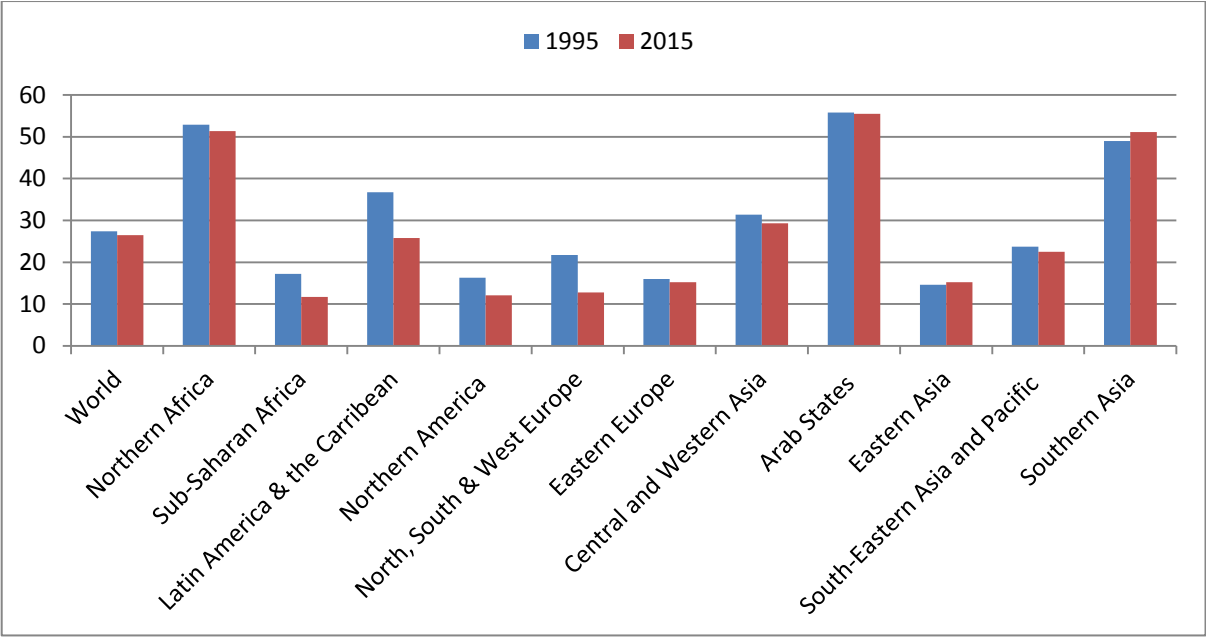
Migration in the age of globalization is likely to increase in the coming decades. How migrants fare in the labor market and how they affect the performance of the markets and well-being of society are important issues to be understood. They are discussed in a subsection below.

3.3 Labor market participation of men and women

Finally, another important structural change in the labor market is the role of women. Women have increased their labor market participation but still they are lower than that of men. Figure 6 presents gender gaps in labor force participation rates by region, 1995 and 2015. In all regions, women's participation is lower than men's, though the gap in participation varies considerably across regions. There are very high gender gaps in Northern Africa, the Arab States and Southern Asia. The reasons for women's lower participation are myriad, and include their role in unpaid labor and childrearing, policies around parental leave, childcare

and working-time flexibility, taxation, gender differences in education in some countries and also cultural norms and attitudes to women’s employment and women’s roles (Jaumotte 2003).

Figure 6: Gender gaps in labor force participation rates by world region, 1995 and 2015



Note: The gender gap is measured as the male participation rate minus the female participation rate. The data cover 178 countries.

Source: *ILO Key Labor Market Indicators, derived from Trends Econometric Models, November 2015*

In North America and Northern, Southern and Western Europe, the gender gaps have fallen somewhat in the past twenty years. In these countries women’s participation rose steadily over the twentieth century, particularly in the United States (Blau et al. 2006). But in

the past 20 years the gap has narrowed because men's participation has fallen in the recession more than women's participation (see Karamessini and Rubery 2014).

In general the gender gap is lowest in higher income countries, though with some notable exceptions: the Arab States, where income is higher but the gap very large, and also in Sub-Saharan Africa, where the gap is among the lowest of the world regions. ILO (2016) attributes this low gap in the Sub-Saharan Africa to the lack of social protection income and persistent poverty, leaving women with no alternative but to work. And of course the nature of employment is important: in sub-Saharan Africa and Southern Asia, most working women are self-employed and a large proportion of them work as contributing family workers (34.9 per cent in sub-Saharan Africa and 31.8 per cent in Southern Asia) (ILO 2016).

Sectoral and occupational segregation - the type of jobs men and women do - contribute considerably to gender gaps in job quality and the gender wage gap (Blau and Kahn 2007; Burchell et al. 2014). Agriculture employs most women in low to middle income countries; in high income countries women are concentrated in health and education, wholesale and retail trade sectors. To the extent that women are disproportionately concentrated in lower quality jobs, this may be additional source of inequality in the workplace.

An important reason for differences in paid work is that women do much more unpaid work, in the form of childcare, eldercare, housework, collecting fuel and water. Globally women spend two and a half times as much as men on unpaid labor (United Nations 2015, from time-use data); in India and Pakistan women spend ten times as much as men on unpaid work (McKinsey Global Institute 2015).

Increasing rates of paid employment by an ageing workforce, migration, and women have led to a growing debate and research interest for labor market diversity. One issue is whether diversity in the labor market is good or bad for economic and social outcomes.

Another important question relates to individual outcomes and how individuals from different groups - women, men, immigrants, natives, ethnic minorities, old, young, those with a disability, or a different sexual orientation - fare in the labor market. Do modern labor markets offer ‘good jobs for all’ - or just for those with the ‘right’ skin color, gender or age? Having access to a paid job is crucial for financial security of the individual and their family. Of course, there will always be differences in access to good jobs due to differences in individual’s skills. Yet some groups experience discrimination: they are treated differently in access to jobs and in their working conditions not because of their productivity, that is ‘what they can do’, but because of their group membership, that is ‘who they are’. To the extent that some groups are discriminated against, this is inimical to social progress. Having individuals assigned jobs below their potential is also economically inefficient (OECD 2008). These issues are discussed in the sub-section 6 below.

4. Changes and prospects on employment relations⁷

4.1 Introduction

Employment relations provide the link between individuals and their employing organizations. They specify the reciprocal expectations and obligations connecting employers and employees and can be either implicit or explicit contractual arrangements that describe how work is organized, governed, evaluated and rewarded. Employment relations differ in their scope, ranging from broadly defined relational exchanges that are often open-ended in duration and provide training and welfare supports for employees, to narrowly defined transactional ones that are more instrumental, entailing little commitment and often for work performed within a fixed time frame (see Kalleberg and Marsden 2015).

⁷ This section was mainly drafted by Arne Kalleberg, Huiyan Fu, including work by Nadya A. Guimaraes and Didier Demazière.

Employment relations differ in more developed, industrialized countries from those in developing countries. Relatively rich countries are characterized by a formal economy in which employment relations are regulated in varying degrees, depending on a country's political and labor market institutions. Developing countries, by contrast, are dominated by an "informal" economy (also referred to as the "black," "grey," "underground" or "shadow" economy) in which enterprises, employment relationships and work are partially or fully outside of government regulation and taxation and are not covered by labor laws or other social protections. While developed countries also have informal economies to some degree, in developing countries the informal economy *is* the economy.

4.2 From standard to nonstandard employment relationships

A useful starting point for assessing changes in employment relations is the SER, which involves relational exchanges between employers and employees. The SER was the employment norm in industrial nations for the middle of the twentieth century and was a central part of the social contract that accompanied the spread of Fordist mass production and the ascendancy of large organizations. Nevertheless, the SER was far from universal and characterized only a minority of employment relations; it was found mainly in larger organizations and was concentrated among white-collar employees (usually men) in managerial occupations and blue-collar workers in certain highly organized industries.

The SER was generally typified by the performance of work on a pre-set schedule at the employer's place of business and under the employer's control and direction. It often, but not always, involved full-time employment and a shared expectation of continued employment assuming satisfactory employee performance. SERs were associated with a psychological contract in which employees exchanged their commitment to employers in exchange for earnings and often the possibility of careers within firm internal labor markets having job ladders, with entry restricted to the bottom rungs and upward movements

associated with the progressive development of skills and knowledge. SERs were also the normative foundation in industrial countries of a variety of labor laws and regulations such as protections against unsafe working conditions and the right to bargain collectively, as well as welfare benefits such as social insurance and pensions (Stone and Arthurs 2013). The institutions supporting the SER presumed models of employment relations and the family having a full-time, primary-breadwinner husband, and a wife who cared for children and the home.

Changing political, social, technological and economic conditions in the last quarter of the twentieth century in all industrial countries prompted governments and employers to seek greater flexibility in their employment systems than was available through the SER (Cappelli 1999; Kalleberg 2011). Growing price competition and more fluid capital markets put pressure on firms to maximize profitability and respond to rapidly changing consumer tastes and preferences. Slow economic growth triggered high unemployment and made it difficult for economies to generate enough jobs to assure all workers of full-time wage employment. Rapidly proliferating computer-based technologies and communication and information systems made quick adaptation to changing market opportunities both possible and necessary. Corporations outsourced many of their functions, leading to the “fissuring” of organizations and the proliferation of subcontracting relationships (Weil 2014). The expansion of the service sector made it necessary for some employers to staff their organizations on a 24/7 basis. New legal regimes contributed to the growth in nonstandard work by allowing employers to avoid the mandates and costs associated with labor laws that provide protection for permanent employees. So too did demographic shifts in labor force composition involving growth in worker groups—such as married women and older people—who sometimes prefer the flexibility that nonstandard arrangements offer, though not necessarily the associated insecurity.

Together, these changes made the fixed costs and overhead obligations associated with the SER less viable for employers and led to the rise of a new normative form of employment relations often referred to as *nonstandard employment relations* (Kalleberg 2000); other labels include alternative work arrangements, market-mediated arrangements, nontraditional employment relations, flexible staffing arrangements, atypical employment, precarious employment, disposable work, and contingent work.

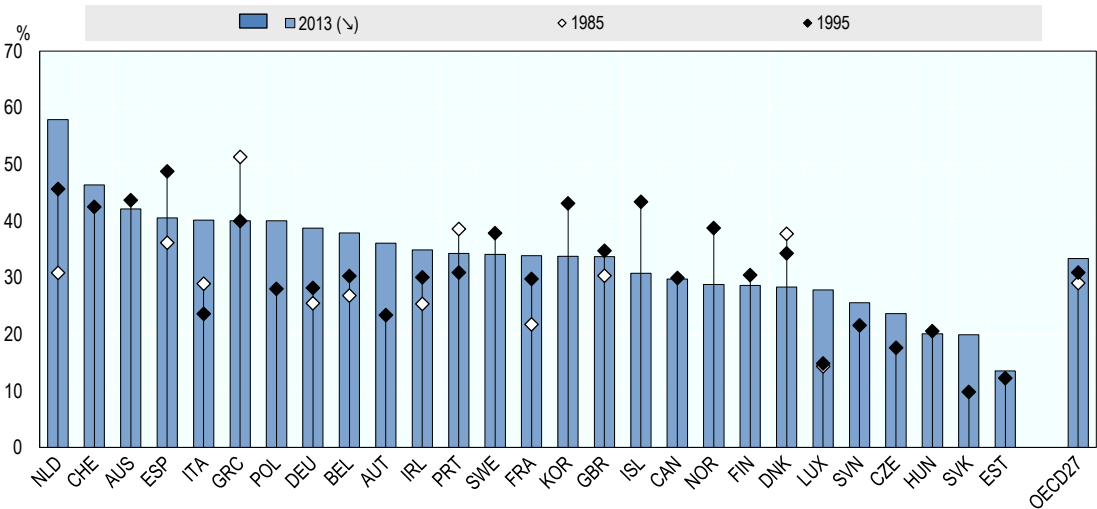
While nonstandard employment relations take several distinct forms, they generally differ from the SER in one or more ways (see also ILO 2016). In particular, they tend to involve more transactional exchanges and provide less employment security than the SER. Some nonstandard work arrangements, including self-employment and independent contracting, collapse the employer-employee distinction. In these situations, workers administer and direct their own activities and are paid by clients for services performed or goods provided. By hiring independent contractors, employers avoid many of the regulations (such as the requirement to pay taxes and benefits of various kinds) associated with the employment and so the issue of misclassifying employees as independent contractors has become a matter of considerable dispute.

Nonstandard employment relations are not new in developed countries. Unstable jobs, temporary work and peripheral labor force attachment, and many employment relations that do not involve full-time work or open-ended employer-employee commitments have dominated industrial societies historically (see Jacoby 1985). For instance, under the “inside contracting” system in nineteenth-century United States manufacturing, management engaged contractors, provided them with machinery and factory space, supplied raw material and capital, and sold products, while the contractors were responsible for organizing production and for hiring, paying, and directing the actual workers. Indeed, the efficiencies associated with SERs and internal labor markets in the post-World War II period are the historical

anomaly, not the use of nonstandard employment relations. Nonetheless, the latest incarnation of nonstandard employment relations does have novel features that distinguish it from earlier ones: for example, contemporary nonstandard employment relations increasingly involve labor market intermediaries; and advances in technology and communication enable employees to be spatially very distant from their employers.

The ILO (2015a) reports that 75% of all workers in countries for which data are available (covering 84% of the global workforce) are employed on temporary or short-term contracts, in informal jobs, are “own account” workers who are technically self-employed but do not have any employees, or have unpaid family jobs. Since 1985, a large proportion of all employment across OECD countries was in nonstandard employment relations (i.e., self-employed, full-time temporaries, part-time temporaries, part-time permanent) (OECD 2015a; see Figure 7). The percent of nonstandard work arrangements across these 27 countries in 2013 varies from a low of 13.5% in Estonia to 57.9% in the Netherlands. In over half the countries, the percent of nonstandard employment was greater in 2013 than in previous years.

Figure 7: Shares of Non- Standard Employment in Total Employment, 1985-2013



Source: OECD, 2015a: Figure 4.6, page 144

The types of nonstandard arrangements are not homogenous: for example, permanent part-time workers have different employment relations and contracts from temporary workers. The characteristics of particular nonstandard arrangements also differ among countries: in the Netherlands, for example, part-time work is regulated and relatively well rewarded, as compared to the more precarious position of part-timers in the U.S. and U.K. Thus, the relative attractiveness of nonstandard work depends on how such employment relations are protected, regulated and rewarded. In some countries, working in temporary or part-time work (or even being unemployed) may constitute an appealing alternative to regular, full-time employment.

4.3 Part-time work

The ILO (2015a) estimates that about 17% of the global workforce work less than 30 hours per week (the generally accepted cut-off for defining part-time work) and that in most countries, the number of part-time jobs has grown faster than full-time jobs since the recent economic crisis. Women are far more likely to work part-time globally than men (24% vs. 12.4%; ILO 2015a). Part-time work has expanded, reaching 16.7% of total employment in 2014 within OECD countries, and 38.5% in the Netherlands or 26.9% in Switzerland.

The quality and nature of part-time work varies considerably among countries (see Fagan et al. 2014). Indeed, there is some debate as to whether all part-time work should be considered nonstandard work at all, because in some countries many less-than-full-time jobs incorporate all other features of the SER (such as part-time work in the Netherlands, for example). In addition, some part-time arrangements represent employer accommodations to employee preferences for reduced hours and more flexible schedules. Many other part-time jobs, however, are highly insecure, lacking enhancements such as benefits, training opportunities, and the expectation of continuity. Part-timers are more likely than full-timers to hold two or more jobs in order to make a living. Countries differ considerably in their

regulation of part-time work, though the ILO (2015a) reports increases in protections regarding equal treatment and equal dismissal rights in both OECD and emerging countries (but not in developing countries) since the early 1990s.

Workers' preferences and needs must also be taken into account when considering the desirability of part-time work. Some women work part-time because their time is constrained by childcare or eldercare responsibilities; other men and women work part-time while they are students, approaching retirement or because of chronic ill-health. Much of the part-time work in developing and transition countries is involuntary part-time, in which workers would prefer full-time work in order to obtain an adequate income. The proportion of involuntary part-time workers is less in developed countries, though these percentages have increased since the recent economic crisis due to the relative scarcity of full-time jobs (Fagan et al. 2014). Involuntary part-time employment accounted for 4.1% of total employment within OECD in 2014, and 21% of total part-time employment.

4.4 Temporary agency work and fixed-term contracts

Temporary work includes both persons hired on a fixed-term temporary basis and workers procured via labor intermediary organizations such as contract companies and temporary help agencies. Fixed-term contracts have become particularly important in countries where employment protections make it difficult for employers to terminate open-ended contracts, such as France, Germany, Italy and Spain.

Temporary agency work (TAW), in particular, illustrates a major shift in employment relations, which is here mediated via a third party rather than being a bilateral relation. TAW is characterized by a distinct triangular employment structure where workers are typically employed and dispatched by private employment agencies while working at the facilities, and under the authority, of user firms on limited-term contracts, normally ranging from one day to a few months. The shift from a bilateral to trilateral arrangement has fundamentally changed

the nature of the employment relationship: the worker's *de jure* employer is an intermediary organization rather than the *de facto* employer that pays for and directs the use of the worker's labor.

Over the past two decades, TAW has not only registered exponential growth but also become a globalizing service industry with considerable geographic expansion and industrial diversification; leading agencies have taken up some functions of human resource management and extended their services to a number of new areas including search and placement, recruitment process outsourcing, outplacement and online recruitment. According to the latest report produced by CIETT (2016), the global trade body of private employment services, in 2014, approximately 71.9 million people gained access to the labor market through a private employment agency and the average growth of agency work between 2013 and 2014 is 3% (Indian figures excluded). The growth and expansion of TAW indicates that the industry has gained considerable political acceptability among all of the social partners — governments, businesses and labor unions — that create new regulatory conditions favorable for employment agencies and businesses. Much has been said about how public policies are geared towards a re-regulation, rather than a de-regulation, of employment relations in the interests of capita. The corollary is that many of the protective coverings that post-war 'embedded liberalism' allowed and occasionally nurtured are stripped away; as Harvey (2005:168) avers, "the individualised and relatively powerless worker then confronts a labor market in which only short-term contracts are offered on a customized basis."

A large body of empirical research shows that agency workers are subject to precarious work and unequal treatment (e.g., Kalleberg 2000). Except for a handful of high-status and affluent knowledge workers, a great many are excluded from — or differentially included in — the same array of pay and benefits that are available to full-time workers in some countries including job security, bonus payments, social security and protection, childcare, sick leave

and paid holiday. To a great extent, the contemporary ‘temp revolution’ reflects a shift towards labor precarity and inequality. Although often characterized by promises of flexibility, individuality and freedom, TAW constitutes an important element of social division, intersecting with other axes of inequality such as gender, age, region, ethnicity and race.

It is noteworthy that TAW’s tangled hiring-using relations are prone to legal ambiguities, making it difficult for the law to tackle exploitation and manipulation on the part of agencies and user firms. The situation is especially grave in emerging TAW markets that generally lack broad regulatory support and effective enforcement measures. For example, in China, in addition to tens of millions of migrants from rural villages who account for the vast majority of agency workers, vocational student interns have also become constrained labor, being subject to double control of teachers and schools, who act as labor-dispatching agencies, and factory managers (Smith and Chan 2015).

Besides temporary agency work, fixed-term contracts are another form of temporary employment. By definition, the continuation of such jobs is less secure and more contingent upon firm, individual and economic condition. While fixed-term contracts can create entry positions for people seeking access to paid work, allowing employers to screen such entrants, in particular after leaving school or graduating or after phases of unemployment or inactivity, in strongly regulated and segmented labor markets with strict dismissal protection for permanent jobs this often leads to longer chains of temporary jobs with low probabilities to move to a permanent job. The situation looks more favorable in more flexible labor markets. Empirical evidence further suggests that vocational training, based on temporary contracts with an employer providing training, helps overcome the barrier between fixed-term and permanent contracts, making a temporary job more of a “stepping stone” than a “dead end” (Eichhorst 2014, ILO 2016).

4.5 Self-employment and the “Gig” economy

The so-called “gig” economy—consisting of self-employed persons such as independent contractors or freelancers who often work on discrete projects that are managed by online platforms that broker work between employers and workers and often customers—has attracted much recent attention. The term originated in the United States to refer to short-term, “on demand” work arrangements between persons or between a person and an organization and has since been used to describe the situation in industrial countries more generally. The rise of the gig economy recalls the small-scale entrepreneurship of the 18th century. The gig economy also takes a number of forms, including transportation platforms such as Uber and Lyft that connect drivers with riders, “crowdsourcing” arrangements in which people group their efforts to achieve particular outcomes, and freelance platforms (such as Upwork.com) that match skilled workers to jobs. Technological advances in communication and information systems have made it easier for organizations to specialize their production, assemble temporary workers quickly for projects, and rely more on outside suppliers. “Gigs” are also becoming more common offline, as in short-term engagements in which persons contract with other persons or organizations for specific activities.

Estimates of the size of the “gig” economy vary widely. In the United States, for example, the estimates range from 600,000 workers (or .4 percent of total U.S. employment) who work with an online intermediary to one-third of the workforce (Harris and Krueger 2015). Statistics on the size of the gig economy in other industrial countries are equally scarce. Part of the reason for the lack of information on this group is the difficulty in distinguishing independent contractors, for example, from employees. Employers receive financial advantages from hiring independent contractors (such as not needing to pay them benefits or assume liability for their actions) and so are often motivated to avoid counting them as employees, thus creating a form of “hidden employment” (e.g., De Stefano 2016) that

circumvents labor laws and other obligations. In the United States, there is a lively and still unsettled legal battle over whether Uber drivers should be considered employees of the company—since Uber exerts considerable control over their actions and remuneration—or as independent contractors. In the United Kingdom, courts recently ruled that Uber drivers are workers and thus covered by some aspects of labor law.

Work in the gig economy is heterogeneous, with considerable differences in the quality of jobs. Certain high-skilled workers can garner higher economic rewards as independent contractors or consultants than they might as employees in SERs, for example. In these instances, nonstandard arrangements allow workers to capitalize on abundant market opportunities and demands for their skills, despite the insecurity and instability associated with any particular “gig.” Workers with fewer marketable skills, on the other hand, do not benefit as much from the flexibility afforded by the gig economy.

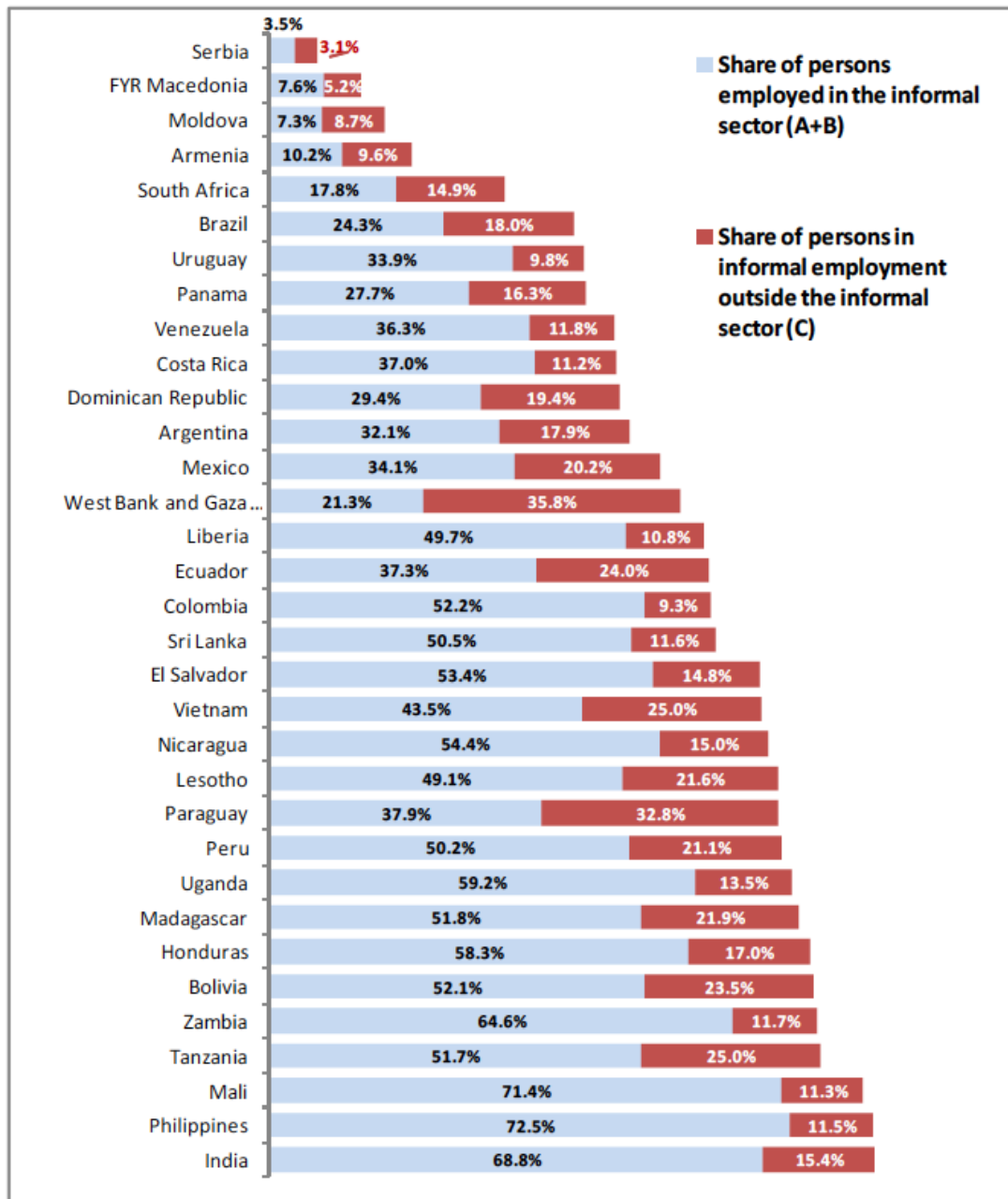
4.6 The informal economy

The informal sector is an enterprise-based concept that refers to organizations that are not regulated, don't register their employees, and have informal bookkeeping practices. By contrast, informal employment denotes jobs that do not provide basic social or legal protections, employment benefits or any compensation for job loss. Informal jobs may be found in both informal enterprises and in informal arrangements in the formal sector (e.g., undocumented workers working in restaurants) (see ILO 2012) and encompasses those who “by law or in practice, are not covered by national legislation, taxation or social protection” (ILO 2013a:4). Hence, the forms of nonstandard work discussed above (such as part-time work or temporary jobs) may be regarded as informal in countries where such nonstandard work arrangements are not regulated or receive social protections. Informal workers comprise both wage employment and “own account” workers. Informal economy work represents an extreme form of precarious work, as it is unregulated and more uncertain and insecure.

The notion of an informal economy emerged in the 1970s as a way of describing unregulated and unprotected work activities in the developing world. It received little scholarly attention for many years, as it was widely believed that processes of modernization would replace informal work activities with formal ones. However, recent trends toward the casualization of work and nonstandard work arrangements have expanded the informal economy: formal industrial and service sector jobs have been accompanied by unstable and insecure employment practices as production moves from large, registered enterprises in the formal sector into smaller units in the informal sector via subcontracting, including relocation to regions where labor or other production costs are cheaper.

The majority of employment is informal in most developing countries, and so is a sizeable proportion of employment in many developed countries. Sixty percent of the global workforce is in the informal sector (Williams 2014). An ILO (2012) study of 47 countries found that six countries (India, Brazil, Mexico, Vietnam, Pakistan and the Philippines) accounted for three-quarters of informal employment in 2011. Informal employment made up at least 2/3 of non-agricultural employment in fifteen other countries. The lowest percentages were found in central and eastern European countries. Figure 8 shows the share of persons employed in the informal economy for selected countries.

Figure 8: Informal employment



Note: The data refer to non-agricultural employment and the latest year available for each country.

Source: ILO, *Statistical Update on Employment in the Informal Economy*, June 2012.

The rise of nonstandard work arrangements has produced greater informality in developed countries as the pressures toward flexibility described above have led to removal of

social and legal protections in the formal sector. Williams (2014) classifies the 27 member states of the European Union by the degree of informality of their workforces and finds that countries on the eastern and southern side of the EU-27 have more informal, wage-based employment, while those on the western and Nordic side are less likely to have informal wage employment and more apt to include own-account informal sectors. He suggests that these patterns of informality are related to western and Nordic countries being wealthier, more equal, and exhibiting greater labor market intervention, social protection and social transfers.

An extreme form of informal economy is *child labor*, which refers to work done by young people, especially hazardous work (such as those in many manufacturing, mining and construction as well as agricultural jobs). The ILO (2015b) estimates that in 2012, there were 47.5 million adolescents aged 15 to 17 years working in hazardous jobs, accounting for 40 percent of all those employed in this age group and over a quarter of all those in child labor. The proportion of child laborers is greatest in Africa, followed by Asia and Latin America. Child labor is outside the regulations of the formal economy for those countries that have laws defining legal working ages and protecting young workers who meet these criteria. This is especially a problem in newly developing countries, as the growing opportunities provided for working in manufacturing industries encourage the use of young workers. Girls are particularly vulnerable to child labor given prevailing social norms about marriage and children and are likely to be exposed to the vilest forms of child labor such as sexual trafficking and exploitation and working as domestics in homes. While still pervasive, the ILO reports that there has been a decline in the number of child laborers in recent years.

4.7 Unemployment

Unemployment, according to the ILO's standard definition that is used worldwide in national labor force surveys, refers to the situation whereby people do not have paid jobs but are actively searching for work and are able to start immediately if offered a suitable job. The

number of unemployed worldwide by this definition in 2014 is estimated at 201,300,000 people, a rate of 5.9% (ILO, 2015c). Unemployment levels are highly diverse across the world. It is highest in Europe (10.2% in 2014), North Africa (12.5%) and the Middle East (11%), and lowest in Asia (3.9% to 4.6% depending on sub-regions) and to a lesser extent the emerging economies within the G20 (5%).

This impressive range of variation raises questions about the validity of the ILO concept of unemployment and its measurement for most countries (Bescond et al., 2003). For example, in socialist and centrally planned economies the unemployment was certainly underestimated in the 1980s (less than 1% or even 0.5%). This full employment situation was just an appearance since unemployment was hidden within companies, where a relevant fraction of the labor force remained almost unoccupied, while the productivity was very low (Linotte, 1994). Moreover, the ILO definition has never captured precisely labor market dynamics in less developed countries where a large part of employment has remained informal and unofficial. Here, the low official unemployment rates mainly result from the weight of informal work (OECD, 2015b: 256), which underestimates unemployment because individuals are forced to accept poor quality activities in order to survive: in India, for example, the unemployment rate is much lower than in the OECD (3.6% in 2014) but more than one third of the active population receives extremely low wages (OECD, 2015b: 249). In those cases, it would be more accurate to register people as unemployed who are unable to obtain any paid work or who have a job that pays less than a living wage (MacInnes et al., 2013). Even for developed countries, the ILO concept now appears more insufficient now than it was when the current definition was adopted in 1982, before the diversification of nonstandard forms of employment (Roberts, 2015).

The boundaries among unemployment, paid work and inactivity are increasingly blurred, since employment deprivation can take a variety of forms, that of: officially

recognized unemployment, sometimes with benefits; an aspiration to work more; a combination of job search and more or less informal activities; non-employment characterized by discouragement and giving up the job search; a more or less pronounced withdrawal towards professional inactivity; a resourcefulness marked by the flow of heterogeneous activities; and an exclusion from the sphere of production and economic exchanges. Two typical and polar configurations describe the diversity of employment relations and labor market regimes:

- First, the social configurations characterized by a strong codification of the statuses concerning paid work and non-work: work is a formal wage employment, unemployment is a job deprivation compensated and framed by public policies, inactivity is a set of situations potentially supported by social protection. In this case, despite the heterogeneity of welfare regimes, societies at least aim to protect the unemployed against social marginalization and poverty (Ganssmann, 2000).
- Second, the social configuration characterized by a weak regulation of statuses encompassing all situations, in and out the labor market: work is informal and unofficial, unemployment means a lack of paid work and is weakly differentiated, and inactivity means the absence of social protection in some countries. In such contexts the individuals have the responsibility to mobilize their available social resources to deal with the lack of work and to avoid the more exacerbated forms of exclusion (Demazière et al., 2013).

Unemployment is generally associated with a high risk of poverty and social exclusion (because of lack or exhaustion of unemployment benefits). According to Eurostat, the risk of poverty in the EU was 16.6% for adults (15 or older) in 2013 and 46.6% for those in unemployment. In addition, almost a quarter of these are exposed to risks of poverty and

social exclusion (ILO, 2015c: 36). Long-term unemployment (a period of twelve months or more) is especially problematic in Europe. It has increased in recent years: in 2014, this represented 50% of unemployment in the European Union against 38.5% five years earlier (ILO, 2015). Within the OECD this level reaches 35.2%. Long-term unemployment often leads to exclusion and marginalization (Gallie, 2004). Indeed, when the duration of unemployment lengthens, job search weakens, becomes more faltering and more erratic. This discouragement process may result in a complete renunciation of job search.

The risks of unemployment, long-term unemployment, economic precariousness, and social exclusion are very unevenly distributed among the population. Despite variations between countries, these groups tend to be women, immigrants and their descendants, and individuals with the lowest levels of skills and education. Younger workers, but also older workers to a somewhat lesser extent, tend to be in a worse position than the prime-age group. This shows that both ends of working life are particularly vulnerable to unemployment in all its forms. While women's unemployment rates (and long-term unemployment shares) are now at equivalent levels with men's, gender hierarchy continues to persist within the labor market. Women occupy significantly more precarious positions: involuntary part-time (6.1% of active women against 2.5% of active men in 2014 in OECD), lower wages, and slower professional careers (Maruani, 2013).

5. More flexible workplaces and working time?⁸

Since the late 1970s working-time has been restructured, particularly in developed economies, where more diverse working-time arrangements have emerged (Messenger 2004). This restructuring was driven largely by employers' operational requirements for more flexible work practices and extended operating hours in an increasingly connected global economy. Technological developments, including the spread of the internet have been used to propagate

⁸ Section drafted by Colette Fagan.

an increased reliance on remote working, instantaneous communication and handover across different time zones, and so forth, which have eroded previous boundaries to the working day. Some employers have reformed work schedules to accommodate workers' preferences for certain forms of flexibility, such as flexitime or some types of part-time work as part of workforce recruitment and retention strategies. This included adjusting to the working-time availability of women with young children who constituted a growing proportion of the labor force in some economies.

The outcome has been a stall in the negotiated reduction of full-time hours, an expansion of part-time employment, work schedules which are more diverse and often less predictable and some improvements in reconciliation measures in some countries. Workforce inequalities in working-time conditions persist that are associated with the segmented structure of labor markets. The gender division of household labor is one fundamental axis which produces inequalities in women and men's working-time conditions. Gender differences intersect with other characteristics which affect employment opportunities and working time conditions. In particular, workers with higher levels of human capital (education, training, experience) and social capital (networks) are the most likely to gain the better paid, more secure jobs with decent working time arrangements.

5.1 The gender division of household work and employment

Women do the majority of the unpaid household work across the world, including the time involved in looking after children, elderly parents and other relatives (European Commission 2016, OECD 2016; Miranda 2011; ILO 2016). This unpaid work constrains women's availability for employment. It is one of the reasons why the labor force participation rate for women is lower than that for men in all regions of the world, even if the gender gaps have narrowed over the last decade in some regions. By 2015 the gender gap in participation rates was most pronounced in Northern Africa, Southern Asia and the Arab

States and narrowest in Eastern Asia, Europe, North America and Sub-Saharan Africa (section 3.3).

The time demands of unpaid work and are particularly onerous for women in low-income households which rely on women's labor for subsistence farming and fetching fuel and water in regions with poor physical infrastructure. This is prevalent in many parts of Africa, Asia, the Arab States, Latin America and the Caribbean. As a consequence many women are channeled into informal, part-time or other forms of non-standard employment (section 4) in order to obtain paid working hours which can be combined with the demands of their household work. While some informal sector employment involves long working hours, the incidence of short hours working is higher for informal than formal employment for women in all regions of the world except Africa; and a similar pattern applies for men (ILO 2017, forthcoming).

As a result, even if women work shorter hours in employment, once unpaid work time is added in the total working time of employed women is much longer than that of employed men. This applies even in European countries with the smallest gender inequalities in time spent on unpaid work, which typically are those where government policy has established high standards of labor rights and gender equality, exemplified by the Nordic countries (Eurofound 2013b, European Commission 2016).

5.2 Working-time quality and the impact on work-life balance

The volume of hours worked, when they are scheduled and the workers' control over their working-time arrangements impact on the quality of life or 'work-life balance', which refers to the quality of the fit between employment, unpaid family work and personal life.

Long working hours have a pronounced negative impact on men and women's self-assessment of the quality of their working-time and their 'work-life balance', and on health outcomes (Tucker and Folkard 2012, Fagan et al. 2012; 2014). When the work is physically

arduous, or involves working at speed to meet tight deadlines this compounds the fatigue caused by long working hours.

Regular schedules during daytime weekday hours generally make it easier for workers to plan and coordinate their employment and private lives. So do work practices which give workers some autonomy, by which we mean discretion and control, to decide when and where they do their work. Such autonomy reduces the negative effects of long hours but it does not eradicate them (Fagan and Burchell 2002, Burchell et al 2007).

Employed men and women are more likely to report a good work-life balance if they do not work long full-time hours and if they work daytime, weekday and predictable schedules (Fagan et al. 2012; Eurofound 2012, Nijp et al 2012, Ingre et al 2012). Part-timers are more likely than full-timers to report that they have a good work-life balance but they are less likely to consider they have good career prospects (Eurofound 2012). Men and women employed full-time and caring for children or other relatives are less likely to report a good work-life balance than full-timers without these additional demands on their time. When parents have variable and unpredictable schedules there is a negative impact on their child(s) educational development (e.g. Economic Policy Institute 2015).

European, North American and Australian surveys reveal that a large proportion of full-time and part-time employed workers report a mismatch between their actual and preferred working hours (Fagan 2004). In general those who work long full-time hours in jobs with high or medium level earnings are the most likely to prefer shorter working hours in exchange for a pay cut, and those working short part-time hours are the most likely to want to increase their hours (Fagan et al 2014).

5.3 Full-time and part-time employment hours

Full-time hours declined during the twentieth century, particularly in the developed economies of North America, Australia and Europe (Bosch et al. 1993, Messenger 2004) and

in some developing economies (Lee et al. 2007). This was produced through the introduction of regulatory limits in some countries and sectors through a combination of international agreements (ILO Conventions, EU Directives), national legislation and collective agreements between employers and trade unions. However, long full-time working hours remain widespread, particularly in developing economies but also some affluent economies such as Japan, the USA and the UK (Figure 9).

Part-time employment has increased in many countries from the 1970s onwards (Fagan et al 2014). Figure 10 shows that one fifth or more of the employed are part-time in most of the countries shown from across the world. In most countries the majority of part-timers are women, usually combining employment with the time demands of family and household work which falls disproportionately to women (section 5.1). Some men and women also work part-time voluntarily because they are in education, approaching retirement or have chronic ill-health. Involuntary part-time – the percentage of part-timers who are underemployed because that have been unable to obtain full-time employment – is common when there is a high unemployment rate. Thus in the aftermath of the 2008 recession the rate of involuntary part-time work increased in developed economies, for example by 2014 in the EU27 40% of male part-time employment and 26% of female part-time employment was involuntary. In developing economies much of the casual part-time employment in the informal economy is involuntary under-employment because those involved have been unable to obtain full-time work (either as an employee or in self-employment). Furthermore, the gender division of family care responsibilities produces another form of underemployment in countries where women are constrained to work part-time because this is the only feasible option in the context of limited childcare and eldercare services.

Most part-time employment is a category of nonstandard employment. However, it is important to differentiate between the quality of marginal and integrated forms of part-time

employment (O'Reilly and Fagan 1998). Integrated part-time employment refers to those part-time jobs where the principles of the standard employment relationship have been extended through the implementation of equal treatment, and where part-time employment is available at a wide range of occupational levels, and the primary distinction is that the job involves reduced hours.

Figure 9: The proportion of the full-time employed who work long hours for countries across the world, 2014

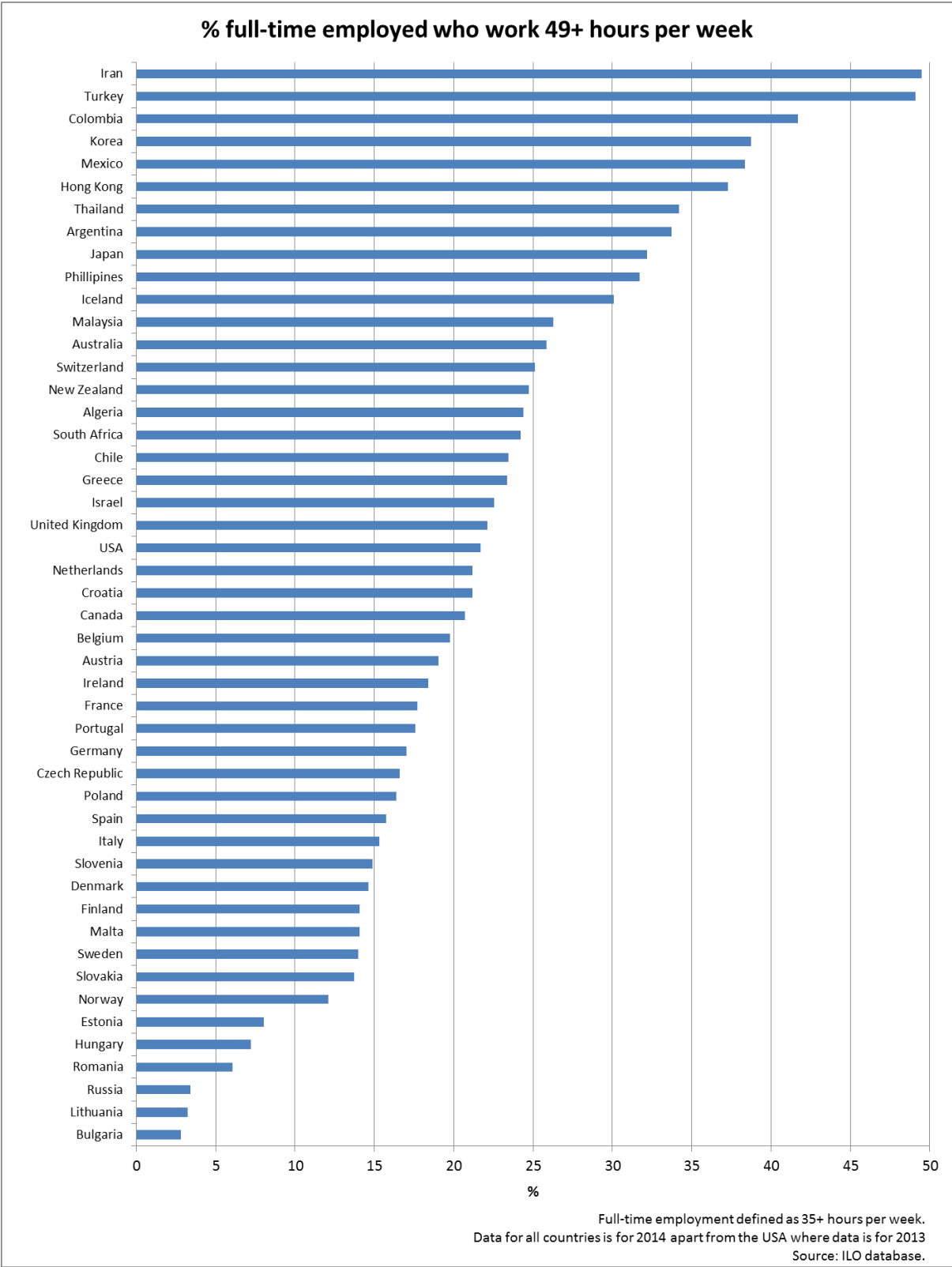
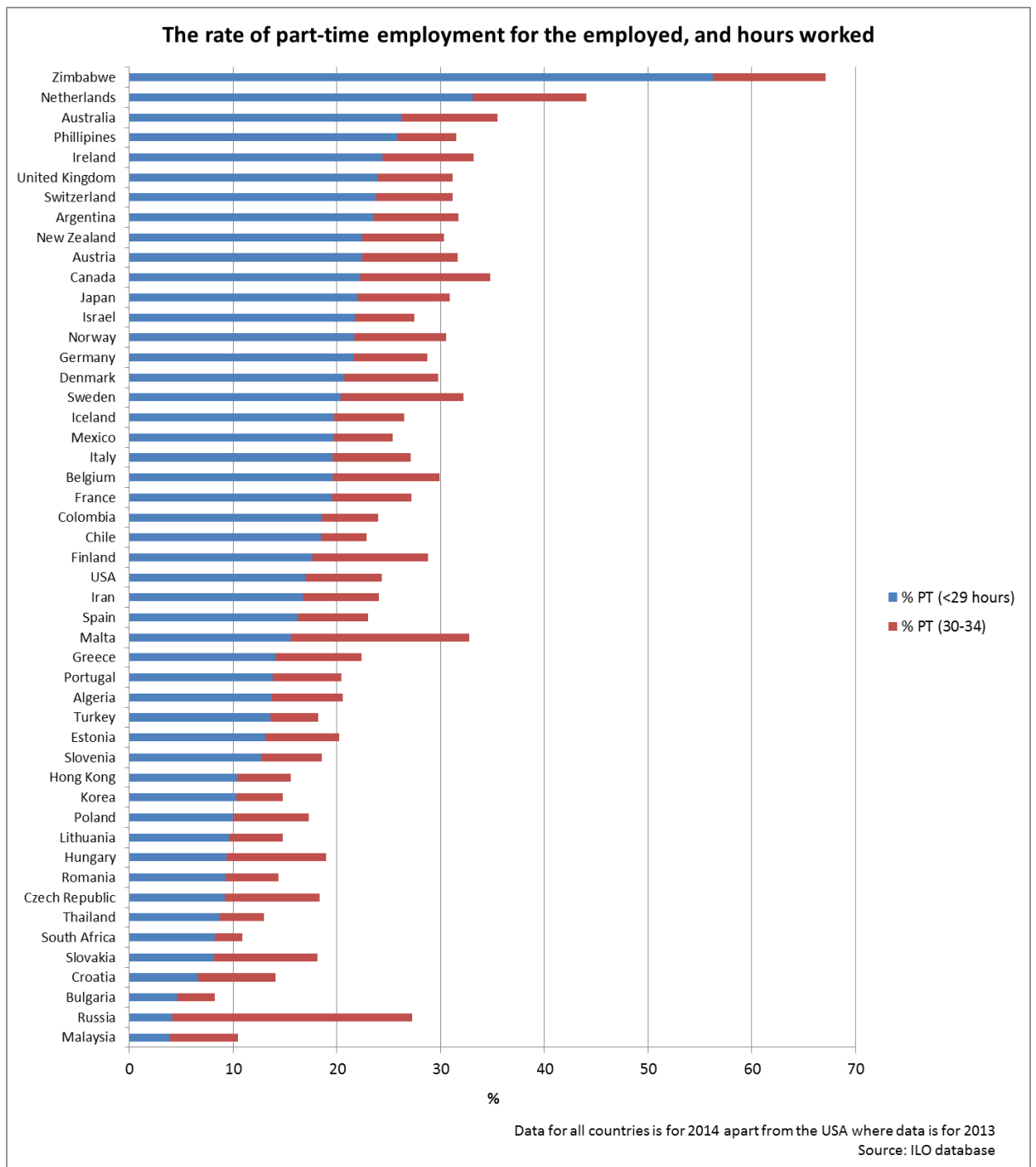


Figure 10: The rate of part-time employment for the employed for countries across the world, 2014



Across the world many workplaces operate on the basis of long full-time working hours. If part-time employment exists it involves short, fragmented or irregular schedules in a narrow set of low status and low paid jobs. In this type of workplace

workers have little scope to reduce or adjust their schedules because of their low wages, limited job security and weak bargaining power.

There are workplaces which offer better quality working time arrangements: full-time hours are shorter part-time jobs are organized on the principles of equal treatment and standard employment conditions and are available in a wider range of occupations; full-time and part-time schedules are largely regular and predictable; and workers have some discretionary control over work-time (such as the ability to refuse to work overtime, flexibility in when or where they do their work, or entitlements to take time off for certain personal or domestic reasons). The latter type of workplaces is more prevalent in countries with a social democratic tradition of working-time standards set by effective working-time regulation and innovation established through the collective bargaining and legislation which is characteristic of the ‘European Social Model’; notably the Nordic countries, France, Germany, the Netherlands and Belgium (Berg et al. 2014; Fagan et al 2014; Eurofound 2016). In some countries the comparatively low incidence of long full-time hours reflects regulated working-time in the formal economy but underestimates actual hours of work once multiple jobs in the formal and informal economy are aggregated, for example in some of the central-Eastern European countries shown in Figure10, such as Bulgaria and Romania.

In many developed and developing countries across the world unions and governments have introduced initiatives to curb very long full-time hours (Lee et al. 2007, Messenger 2004), and some have sought to promote the expansion of better quality part-time employment in the formal economy, where part-time employment is rare, such as South Korea, China and Japan (Fagan et al 2014). However, where progress has been made it has also stalled or been eroded in the current era; with laws repealed, diluted or ineffectively

implemented in some countries and the decline in union coverage and bargaining power in many parts of the world.

5.4 Work schedules

Non-standard work schedules – which involve shiftwork and other work in the evening, at night, at week-ends have always been prevalent in developing economies and have gone hand in hand with long full-time hours or casual part-time jobs. Non-standard work schedules expanded in many developed economies during the 1990s and subsequently stabilized despite the spread of the global 24-hour economy (Evans et al 2001; Eurofound 2007; 2012; 2015b).

While night work and many forms of shiftwork have negative effects on health and do not fit well with the day-to-day rhythms of family life; it is primarily the volume of hours worked and the workers' control over their schedule which impacts on their self-assessment of work-life balance.

Fixed schedules offer the advantage of predictability, and this is still a common work arrangement in many countries. For example, in 2010 in the EU27 43% of employed men and 49% of employed women worked a fixed schedule (the same daily start and finish times and the same number of days per week). In contrast another third had unpredictable schedules, including 19% of employed men and 13% of employed women whose schedules changed regularly with no more than 24 hours' notice (Eurofound 2012). Unpredictable schedules include short-notice overtime or schedule changes, some forms of annualized hours agreements, and extreme forms of on-call work such as 'zero hours' contracts. The latter are a stark form of casualization which has, for example, expanded in the UK in retail, hospitality and home care services. Such unpredictability and short notice changes in work schedule requirements is uncondusive to work-life balance.

When workers have some flexibility to adapt their working hours this provides the means to secure a better fit between employment, domestic responsibilities and other

activities. Access to such flexibility remains uneven. For example, in 2011-12 in the EU around six out of ten of the employed had no flexibility in their working hours (Eurofound 2012b).

5.5 Workers' flexibility through reconciliation entitlements and negotiated flexibility

Statutory family-related leave entitlements (maternity, paternity, parental, domestic emergencies etc.) have improved in many countries. However, there are pronounced national differences in the amount and flexibility of the leave, and the amount of earnings or benefits provided during the leave period, and the proportion of the workforce who meet the eligibility conditions (Plantenga and Remery 2005; ILO 2014; Ray 2008). Furthermore, the implementation of leave entitlements remains uneven. Workers may lose their jobs, or encounter discrimination if they take leave, revealed, for example, in a recent UK survey of maternity leave (Equality and Human Rights Commission 2016). Men remain less likely to use parental leave entitlements, although their take-up increases in national systems which provide an individual entitlement to paid and flexible parental leave options (Moss 2015).

Since the late 1970s there has been some expansion in the coverage of working-time options in developed economies which provide workers with some discretion and flexibility in their schedule, such as flexitime and other types of working time accounts, and teleworking options (Riedman et al 2006, Chung et al 2007, Golden and Figart 2001). Likewise some part-time schedules are designed to make it easier for workers to better combine employment with family or other commitments (Anxo et al. 2007, Fagan 2004, Fagan et al 2012; 2014). A number of countries have introduced a statutory 'right to request' an individual adjustment to working-time; usually to switch to part-time hours but some also make provision for other adjustments to when or where hours are worked (Fagan et al 2014).

In Europe at least, the research evidence shows that flexible working options for employees (such as flexitime, opportunities to switch to part-time hours, to work from home

etc.) are more developed and used by workers in affluent economies, particularly in the public sector and in large private sector workplaces, where a union is recognised or where more than half of the workforce is female (Anxo et al. 2006, Riedmann et al 2010).

5.6 Flexible and mobile working

The home has always been the primary workplace for homeworkers and many own-account workers, as has the street for many vendors in the informal sector. Remote working by other workers has increased, facilitated by advances in information technologies and the spread of the internet.

Eurofound (2012) estimates that a quarter of European workers are ‘e-nomads’ who use ICT for their work and who do part of their work at sites other than their employer’s or their own work premises. E-Nomads are mainly highly educated professionals and knowledge workers. Digital working makes it more difficult for workers or employers to estimate actual work time; which may undermine the accuracy of trends in working time recorded in standard survey questions.

Setting up and running a workspace at home comes at a cost, many of which are borne by the worker. For a low-income home-based worker this can place a burden on housing conditions and living arrangements which may already be cramped, and where work has to be completed under conditions of inadequate heating, lighting, storage space or equipment.

For other workers the opportunities for telework and mobile work patterns provide some flexibility in principle to enhance work-life balance. This working arrangement also provides an opportunity for employers to save costs by reducing office space. However, there are risks and downsides to this trend as well. Firstly, the reduction in office space may impact negatively on the workforce’s working conditions (Lewis et al. 2016). Secondly, the costs incurred from remote working may be less burdensome than those faced by homeworkers but they are rarely covered in full by the employer, or by tax relief. Thirdly, it can become more

difficult to create boundaries between work and personal time, whether it is a homeworker compelled to work to a tight deadline in order to be paid (Felstead and Jewson 2000; Felstead et al. 2002) or a professional who operates under an explicit or normative expectation that remote working means constant ‘on line’ availability to respond to clients, co-workers and their line manager. This can be exacerbated when workloads are unmanageable and work is ‘taken home’ in order to keep up.

5.7 Working-time quality: a social progress assessment

Working time arrangements impact on workers’ health and well-being, and their ability to fulfil family care responsibilities and participate in other civic, voluntary and leisure activities. Long working hours, poorly designed shift work, and working time requirements which are variable or unpredictable all have negative effects on the worker. The impact extends beyond their personal health and well-being; it can impact on their children’s development, the care they are able to provide for elder and other family members, the time and energy they have left to contribute to their community.

There are efficiency gains to be made from working-time innovations. Empirical studies show that well-designed reductions in working hours are accompanied by productivity gains (Golden 2012). Some workers are willing to trade a wage reduction for shorter hours, which is more feasible for the better paid or when real wages are rising (Fagan 2004). Significant working time reductions can also promote work sharing if the reduction means the work team has to be expanded. A particular type of work sharing is temporary reductions in working-time in order to avoid lay-offs in economic downturns, which operates, for example, in Germany’s manufacturing industries.

Likewise reconciliation measures and other working time options also bring economic benefits to firms through improved workforce recruitment and retention, enhanced staff morale and loyalty, and other productivity gains from innovation in work schedules (Smeaton

et al. 2014; Cranfield University School of Management and Working Families 2008, Eurofound 2006). Cost benefit analysis of such interventions has been a powerful tool in campaigns for the introduction of family leave at the federal state level in the USA (Sarna et al 2013) and in enterprise-level innovations (Kossek 2005; Kelly et al. 2008, Bailyn 2006; Rapoport et al. 2002). At the macroeconomic level a well-designed and coherent set of reconciliation measures are a social investment which improves the well-being and quality of life of workers and their families. When such measures are widely available they temper social class inequalities between households and help to progress gender equality by supporting women's employment options.

Working time conditions have improved in many countries over many decades; but across the globe the poor quality of working time for many men and women is evident. This is particularly acute in poorly regulated parts of the economy. Long full-time working hours remain widespread. For low wage workers this is often a stark economic necessity. Many well-paid managers and professionals jobs also require long working hours due to heavy workloads and to compete for career progression. Much part-time employment is in poor quality and insecure jobs and is undertaken involuntarily because full-time employment is not available or by women with care responsibilities in the context of a lack of childcare and eldercare services. Where better quality part-time employment exists the opportunities for career progression are, on average, curtailed compared to those for full-time workers. Workers generally prefer jobs where the schedules are predictable or where they have some scope to vary when and where they work, but many have little control over their hours of work. There are significant occupational differences in the quality of working time. Managers and professional having more control over their work schedules, more predictable schedules and the quality of part-time work in these occupations is vastly superior to that of manual part-time work.

The dominance of the informal economy in many developing countries, combined with the erosion of working-time standards which had been introduced in the formal sector in some developed countries (e.g. the roll back of the French legislation for a 35 hour week) and the decline in coverage by collective agreements presents challenges for progressing working-time standards, as for any employment condition. Historically the primary drivers for progress in working-time standards have been regulations and innovations introduced by collective bargaining and legislation, secured by powerful unions in the context of industrial growth and productivity gains (Bosch et al. 1994). Additional policy instruments are needed to secure progress in working-time standards in the political and economic conditions of the current global era.

6. Diversity and discrimination in the labor market⁹

6.1 Introduction

While diversity in the labor market is not new, increasing rates of paid employment by women, migration, an ageing workforce and a focus on disability have led to a growing research interest in labor market diversity. One issue is whether diversity in the labor market is good or bad for economic and social outcomes. Another important question relates to individual outcomes and how individuals from different groups - women, men, immigrants, natives, ethnic minorities, old, young, those with a disability, or a different sexual orientation - fare in the labor market. Do modern labor markets offer ‘good jobs for all’ - or just for those with the ‘right’ skin color, gender or age? Having access to a paid job is crucial for financial security of the individual and their family. There will always be differences in access to good jobs due to differences in individual’s skills. Yet some groups experience discrimination: they are treated differently in access to jobs and in their working conditions not because of their

⁹ Section drafted by Fran McGinnity, Hillel Rapoport and Marie-Anne Valfort.

productivity, that is ‘what they can do’, but because of their group membership, that is ‘who they are’. To the extent that some groups are discriminated against, this is inimical to social progress. Having individuals assigned jobs below their potential is also economically inefficient (OECD 2008).

6.2 Diversity and economic outcomes

A population can be diverse along a number of dimensions: age, gender, ethnicity, birthplace, genetic makeup, religion, or any other physical or cultural trait. The main dimensions of diversity that have been considered in the literature on diversity and growth are ethno-linguistic diversity and, more recently, genetic and birthplace diversity. While the first two are quite persistent (i.e., evolve very slowly over time) at the level of countries, the last one can be changing more rapidly in a context of sustained immigration. And indeed, population heterogeneity in terms of birthplaces is increasing in virtually all advanced economies due to immigration. Theory suggests that diversity has both positive and negative economic effects. The former are due to complementarities in production, diversity of skills, experiences and ideas. The latter arise from disagreements about public policies, animosity between different groups and conflict.

6.2.1 Measuring diversity

Diversity is usually measured through fractionalization indices such as the Herfindahl index, computed as one minus the sum of the square shares of each sub-group in the population. The index ranges between zero (in case there is only one homogenous group) and one (in case the population at hand consists of a myriad of small sub-groups) and in effect gives the likelihood that two randomly drawn individuals from the population belong to different sub-groups. Such Herfindahl indices have been proposed for ethnic fractionalization (Easterly and Levine 1997; Alesina et al. 2003; Fearon 2003), linguistic diversity (Desmet et al. 2012), or birthplace diversity (Alesina, Harnoss and Rapoport 2016).

6.2.2 A macro view on diversity

Ethnic fractionalization and racial diversity

The literature on ethnic diversity and economic performance has generally found a negative relationship between ethno-linguistic fractionalization and growth/development. For example, Easterly and Levine (1997), show that ethnic fragmentation is associated with lower economic growth, especially in Africa. Collier (1999, 2001) adds that ethnic fractionalization is less detrimental in the presence of democratic institutions. It is, however, unclear if this observation is not a corollary of higher income, as shown in Alesina and La Ferrara (2005). Fearon and Laitin (2003) add that ethnic diversity alone is not sufficient to explain the outbreak of civil war.

At lower levels of aggregation, Putnam (1995), and Alesina and La Ferrara (2000, 2002) stress the role of trust, showing that individuals in racially diverse cities in the US participate less frequently in social activities and trust their neighbors to a lesser degree. The authors also find evidence that preferences for redistribution are lower in racially diverse communities. This also extends to the provision of productive public goods (Alesina et al. 1999).

Birthplace diversity

Most recently, Alesina, Harnoss and Rapoport (2016) propose a new index of diversity based on people's birthplaces. People born in different countries are likely to have different productive skills because they have been exposed to different life experiences, different school and value systems, and thus have developed different perspectives that allow them to interpret and solve problems differently. If early pre-working age years are formative for one's own values, perspectives and problem solving skills, these differences are more likely to be complementary and lead to higher overall productivity gains than for other dimensions of diversity. The authors find that, empirically, ethno-linguistic, genetic and birthplace diversity

are almost completely uncorrelated. Most importantly, they differ economically in that ethno-linguistic fractionalization turns out either negative or non-significant while birthplace diversity remains robustly positively related to long-run income even after controlling for many covariates. This positive relationship is stronger for skilled migrants in richer countries and is economically, not just statistically significant. Increasing the diversity of skilled immigrants by 1 percentage-point is shown to raise long-run output by about two percentage points. Moreover, Alesina *et al.* (2016) address endogeneity issues by specifying a gravity model to predict the size and diversity of a country's immigration; finally, they allow the effect of diversity to vary with bilateral cultural distance between immigrants and natives, the results being suggestive of optimal diversity at intermediate levels of cultural distance.

6.2.3 A micro view on diversity

This mostly macro literature is completed by a series of studies especially in the field of management at the "team" level and, more recently, in the field of the economics of firms and productivity. For example, a study on productivity in the airline industry, by Hambrick *et al.* (1996), found that management teams which are more heterogeneous in terms of education, tenure and functional background react more slowly to a competitor's actions, but also obtain higher market shares and profits than their more homogeneous competitors. In a recent experimental study, Hoogendoorn and van Praag (2012) set up a randomized experiment in which business school students are assigned to manage a fictitious company. They find that more diverse teams (defined by parents' countries of birth) consistently outperform more homogeneous ones when the majority of team members is foreign. Finally, Kahane *et al.* (2013) use data on team composition of NHL teams in the U.S. and find that teams with higher shares of foreign (European) players tend to perform better. They attribute this finding both to skill effects (better access to foreign talent) and to skill complementarities among the

group of foreign players; however, when players come from too large a pool of European countries, team performance starts decreasing.

Turning to economic analyses of diversity at the firm or plant level, it is fascinating to see that their results tend to support the conclusions from the cross-country studies on ethnic vs. birthplace diversity, with generally negative outcomes for the former and positive ones for the latter. For example, Hjort (2014) analyzes the productivity of teams working at flower production plants in Kenya and uses quasi-random variation in ethnic team composition to identify productivity effects from ethnic diversity in joint production. He finds evidence for taste-based discrimination between ethnic groups, suggesting that ethnic diversity, in the context of a poor society with deep ethnic cleavages, affects productivity negatively. Brunow *et al.* (2015) analyze the impact of birthplace diversity on firm productivity in Germany. They find that the share of immigrants has no effect on firm productivity while the diversity of foreign workers does impact firm performance positively (as does workers' diversity at the regional level). These effects appear to be stronger for manufacturing and high-tech industries, suggesting the presence of skill complementarities at the firm level as well as regional spillovers from workforce diversity. Parrotta *et al.* (2014) use a firm level dataset of matched employee-employer records in Denmark to analyze the effects of diversity in terms of skills, age and ethnicity on firm productivity. They find that while diversity in skills increases productivity, diversity in ethnicity and age decreases it. They interpret this as showing that the costs of ethnic diversity outweigh its benefits. Interestingly, they also find suggestive evidence that diversity is more valuable in problem-solving oriented tasks and in innovative industries.

6.3 Discrimination in the labor market

Discrimination in the labor market is defined as a situation in which equally productive individuals are rewarded differently due to their membership to different groups¹⁰. It can be “taste-based”, to the extent that the taste or distaste of economic agents (consumers, workers, employers) toward various groups influences recruiters’ hiring decision (Becker 1957). It can also be “statistical”: in the absence of precise information about candidates’ productivity, recruiters rely on their group membership as soon as it correlates with not easy-to-observe productive characteristics (Arrow 1973; Phelps 1972). This section considers the evidence on the extent to which such discrimination occurs.

The salience of group membership in the labor market is not constant over time or across space. What it means to be Black or Muslim or female or an older worker can be very important in some countries and irrelevant in others. Why is this the case? Recent studies have highlighted the importance of symbolic boundaries to distinguish between ‘us’ and ‘them’ (Bail 2008). Wimmer (2008) argues that boundary making is not fixed, but a result of a struggle between social actors, influenced by institutions, the distribution of power and political networks. Past practices, legal rules, social attitudes, the media portrayal of certain groups and the actions of political elites can all contribute to this ‘boundary making’. Yet even when group boundaries and group identity are very important, whether this translates into labor market discrimination is not given. Actors operate in social settings, so country-level policies and practices may contribute to the systematic disadvantage of certain groups, or alternatively to ‘levelling the playing field’ (Pager and Shepherd 2008, see section 6.4).

Discrimination in the labor market is challenging to measure. The typical approach is to compare the wages or jobs of majority and minority populations, statistically controlling for differences in education and experience (human capital characteristics). The remaining difference between groups is often attributed to discrimination, though this is problematic

¹⁰ We focus here on «unfair» discriminations, as opposed to «fair» discriminations that are part of national affirmative action programs and aim to compensate historically discriminated groups (e.g. Blacks in South Africa). See Section 6.5 for a brief discussion of affirmative action.

given that some relevant human capital differences may be incompletely measured. Using surveys to ask people directly about their experience of discrimination is another method, though here reports of discrimination can vary depending on the perspective of the respondent, their expectations and the information available to them (McGinnity and Lunn, 2011). Legal cases may represent the ‘tip of the iceberg’ in terms of how many incidents of discrimination actually make it to court and are successful (OECD, 2013).

Field experiments, by contrast, provide direct observations of discrimination. They retain key elements of the laboratory experiment (matching, random assignment) and apply them to real-world contexts (such as job applications). In experiments to test discrimination in recruitment, typically two (or more) matched fictitious candidates - one from a minority group, another from the majority - apply for the same job, and differences in responses are recorded. In audit studies, whereby actors apply for jobs either by telephone or in person, and/or attend interview, matching candidates can be challenging (Heckman and Sigelman, 1993). In correspondence tests, where fictitious applicants respond to job vacancies with written applications, the equivalence of candidates is easier to demonstrate (Riach and Rich, 2002). As Rooth (2014) notes, correspondence tests do not provide general evidence of discrimination in the labor market as they are limited to a particular time and space and jobs that permit written applications; they also raise ethical issues (Riach and Rich 2004). Yet they do provide compelling evidence in the areas they test.

6.3.1 The extent of discrimination in the labor market: evidence from correspondence tests

Gender

Two regularities can be drawn from correspondence studies designed to identify gender-based discrimination (Riach and Rich 2002, Azmat and Petrongolo 2014 and Rich 2014). First, men

are typically discriminated against when they apply for a ‘female’ job (such as secretary or receptionist) and women are discriminated against when they apply for a male job, such as motor mechanic (Riach and Rich, 2002).

Second, women are discriminated against for high status jobs, particularly when they are at “risk” of pregnancy or when they face family constraints. A US study by Correll *et al.* (2007) found that childless women received twice as many callbacks to interview as mothers with equivalent CVs. Fathers were not penalized. Petit (2007) finds discrimination varies according to skills level. Comparing single and childless male and female applicants, she finds that women are discriminated against in their access to high-skilled jobs when they are 25, but are treated similarly to men when they apply for low-skilled jobs.

Age

Correspondence studies point to substantial discrimination against older applicants, where “old” can range from late thirties to late fifties. This result does not only prevail in studies that tend to overestimate age-based discrimination by endowing younger and older applicants with similar work experiences (Bendick, Jackson and Romero 1997). It is also robust to experimental setups that rely on work experiences commensurate with age (Neumark, Burn and Button 2015). Based on an unprecedented number of job applications (more than 40,000), the study by Neumark, Burn and Button offers the richer set of results. Notably, older women are found to be more discriminated against than older men.

Race or ethnicity

Studies of labor market discrimination by race or ethnicity have been by far the most common application of correspondence testing to date, and present overwhelming evidence of discrimination on the basis of race/ethnicity in the countries and occupations tested. As Bertrand and Duflo (2016) note, evidence has been accumulated from nearly all continents: Latin America (e.g. Galarza and Yamada (2014) compare Whites to indigenous applicants in

Peru), Asia (e.g. Maurer-Fazio (2012) compares Han, Mongolian and Tibetan applicants in China), Australia (e.g. where Booth, Leigh, and Varganova (2012) compare Whites to Chinese applicants), the United States and Canada, and in many European countries.

Zschirnt and Ruedin (2016) perform a meta-analysis based on 43 correspondence studies conducted in OECD countries between 1990 and 2015 to measure unequal treatment of racial and ethnic minorities. Their results indicate that, on average, minority applicants have to send 50% more applications to be invited for an interview than majority applicants. They also reveal that discrimination is typically highest for people of North African and Middle Eastern origin in European correspondence tests, though ethnic differences in discrimination are sensitive to time and place (Zschirnt and Ruedin 2016). The authors find no systematic differences between the discrimination of minority men and minority women, nor is there a clear link between the economic cycle (boom/recession) and discrimination against minorities. In terms of cross-sectoral variation, Zschirnt and Ruedin (2016) report lower discrimination against ethnic minorities in the public than in the private sectors, which may be linked to differences in the recruitment process, though this issue remains underexplored.

Religion or belief

The particularly strong discrimination directed at people of North African and Middle Eastern origin in OECD countries suggests that the penalty they experience is not only due to their extra-European origin but also to their perceived religious affiliation, Islam. This surmise raises a more general question: are religious minorities discriminated against in Christian-heritage societies? Three correspondence studies in France compare the callback rates of applicants who differ in their perceived religion but are identical in every other respect, including national origin. Adida, Laitin and Valfort (2010) and Pierné (2013) reveal strong religious discrimination: the probability of candidates being called back is much lower when

they are perceived as Muslim rather than Catholic. Valfort (2016) includes both female and male applicants (of Lebanese origin), as well as a second minority religion, Judaism and finds the probability of Catholics being invited to an interview is 30% higher than it is for Jews and 100% higher than it is for Muslims. But, in line with Bursell (2014) and Arai, Bursell and Nekby (2016), discrimination against Muslims varies strongly by gender. While the callback rate for Catholic women is “only” 40% higher than that for Muslim women, the callback rate for Catholic men is 4 times higher than that for Muslim men. Indeed the intensity of the discrimination faced by male Muslim applicants in France is six times as high as the discrimination directed at male African-American applicants (relative to their White counterparts) in the US (Bertrand and Mullainathan 2004).

Sexual orientation

Correspondence studies that aim to test sexual orientation discrimination usually indicate homosexuality through the volunteer engagement of the applicant in a gay/lesbian organization. Overall, they reveal a significant penalty experienced by homosexual men and women in the labor market. To be sure, this way of signaling same-sex sexual orientation may confound homosexuality with political activism. A recent trend in the literature on anti-gay/lesbian discrimination involves signaling sexual orientation by stressing the sex of the candidate’s partner (Weichselbaumer, 2015). Studies that have implemented these adjustments leave the previous conclusion unaffected: gays and lesbians are discriminated against in their access to employment.

Disability

The design of tests to detect disability discrimination is challenging, as some disabilities are related to the applicants capacity to do the job, and there are only a limited number of correspondence tests (Riach and Rich 2002). A recent study by Baert (2016) compares the callback rates of male applicants without and with disability (blindness, deafness or autism).

The results reveal that the disabled candidate is only half as likely to be invited to a job interview than his non-disabled counterpart. Yet, given the seriousness of some of the featured disabilities, this gap might not only reflect discrimination but also differences in observed productive characteristics.

This concern leads Amari *et al.* (2015) to focus on two disabilities that should not limit productivity in the accounting positions their fictitious male candidates apply for (spinal cord injury and Asperger's Syndrome). Their findings point to a moderate level of discrimination against the disabled applicants: their probability of being called back is 26% lower than that of the non-disabled applicants.

6.4 Policies to counter discrimination and promote diversity

There are a large variety of policies and actions that can potentially contribute to tackling discrimination against disadvantaged groups in the labor market. These range from anti-discrimination legislation, to equal employment policies, affirmative action and other strategies to promote diversity. At an international level, the Universal Declaration of Human Rights provides the most fundamental framework for anti-discrimination (OECD 2013). All OECD countries have integrated anti-discrimination provisions into their national legal framework (OECD 2008). Each anti-discrimination or equal opportunity law provides for the creation of agencies to monitor its application and implement its programs. The powers of these equality bodies vary across countries but can be far-reaching - typically activities range from awareness-raising, coordinating equality policies, receiving complaints and in some countries conducting legal actions, investigations and imposing sanctions.

A key problem with anti-discrimination law in all countries is that legal rules are not self-enforcing: they rely on the actions of individuals who feel discriminated against (OECD 2008). And taking a legal action can be costly, complex, time-consuming and is often an adversarial process in the workplace, even with financial support and advice from equality

bodies. The outcomes vary considerably across countries depending the legal framework and efficiency of the legal system.

The legal framework is complemented by more pro-active or positive strategies to influence practice and processes in the labor market. Affirmative action, which originated in the US, is typically defined as a set of policies that make specific efforts to advance the economic status of minority groups and women (Holzer 2010). Typically the policies monitor the representation of minority groups and take active steps to address underrepresentation, such as introducing a fixed quota, which generally implies preferential treatment of the target group (that is positive discrimination). The legitimacy and efficiency of quotas have been debated in the United States for many years: as a policy tool, hard affirmative action and quotas by race have generally been discontinued in the United States (OECD 2013).¹¹ Equal opportunities programs have similar goals to affirmative action but typically use targets, which do not imply preferential treatment. Equal opportunities programs with targets continue, for example in the European action plan against racism (OECD, 2013). However, evaluating the effectiveness of such policies has proven difficult. In terms of recruitment and personnel practices, there is an urgent need to assess initiatives to see if they do indeed have the desired effect (Bertrand and Duflo 2016).

7. The impact of work and employment on health and wellbeing¹²

Exclusion from paid work and exposure to hazards and poor quality employment are powerful threats to human health and wellbeing. These threats are unequally distributed across the globe, between and within societies, leaving poor people, those with less education, skills and capabilities in more disadvantaged conditions. Although any estimate is imprecise, roughly

¹¹ The impact of affirmative action quotas has not been uniformly positive: one negative by-product of quotas is they may increase stereotypes if such measures are associated with lower standards for the groups concerned (Holzer 2010).

¹² Section drafted by Johannes Siegrist.

195 million people of the world's population of employment age are *unemployed*. In low and middle income countries, a majority of those working are employed in the *informal economy*, often lacking any statutory regulation, protection against occupational hazards, and social security benefits. Large parts of those working in the informal sector do not earn enough to lift themselves and their families above the poverty line, with more women than men affected. Even worse, despite international proscription, several millions of children are still exposed to *child labor*, and more than 10 million of adults are suffering from *forced or bonded labor*, specifically in Africa, South America, and the Pacific region (Benach et al. 2007).

In high income countries, as well as in some rapidly developing countries, the nature of work and employment underwent significant changes in recent past, mainly due to the far-reaching impact of digitalization and economic globalization. These changes resulted in impressive progress of the quality of employment and the provision of safety and social security, and hence, contributed to improved work-related health. Yet, with growing economic competition and augmented pressure for cost-containment, workload and work intensity increased in large parts of the workforce in these countries, often in combination with job instability and threats to job loss (Gallie 2013). These threats of a stressful psychosocial work environment are becoming more widespread with a growing trans-national labor market and with the expansion of non-standard employment relations, and they are *exacerbated by major economic downturns*, financial crises, and related fiscal austerity measures. There is now solid scientific evidence on adverse health effects of stressful psychosocial work environments resulting from these conditions (see below 7.2).

To date, large *differences in the quality of work and employment* still persist even in socio-economically most advanced regions, such as Europe (WHO 2014). However, at each level of development, we observe consistent social gradients of the quality of work and employment. Poor quality is not confined to the poorest members of society. Rather, with

each step one moves up on the social ladder of a country's social structure, one observes gradually less poor work. Therefore, related policy efforts should aim at improving health-conducive work and employment across the whole of the social structure, but targeted progressively more towards those with higher levels of need (Marmot 2015). The current worldwide situation of work and employment with its far-reaching afflictions of people's health and wellbeing contrasts sharply with an important goal of the United Nations' recently endorsed SDG agenda: "Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all" (United Nations 2015). *It is therefore important to demonstrate the best scientific evidence on associations of working conditions with health in order to motivate responsible stakeholders and the wider public to develop evidence-based policies to reduce adversity and to promote healthy work.*

7.1. Work, employment and health: summarizing the evidence

Broadly speaking, *four categories of unhealthy work* can be distinguished, in addition to the afflictions resulting from job loss and precarious employment: (1) occupational injuries and exposure to 'traditional' (physical, chemical, biological) occupational hazards; (2) physically strenuous work; (3) work-time related stressors (e.g., shift work, long work hours); (4) stressful psychosocial work environments (e.g. work pressure, job insecurity, harassment). In many occupations, diverse combinations of these conditions are observed, often resulting in an *accumulation of disadvantage*. As mentioned, this is most often the case among working people in lower socioeconomic positions. It should be emphasized that these categories reflect the general recognition that the importance of work for health goes beyond traditional occupational diseases and beyond traditional occupational safety approaches towards preventing accidents and injuries, thus requiring a more comprehensive, inter-disciplinary approach towards dealing with occupational health.

In the following paragraphs a brief summary of substantial scientific research findings is given. As the majority of empirical studies were conducted in industrialized countries there are obvious gaps of knowledge, in particular with regard to informal work, agricultural work, and a variety of precarious jobs in the formal sector in economically less developed countries (Benach et al. 2007).

7.1.1 Unemployment, precarious employment and health

The causal link of associations between *unemployment* and health has long been debated, given powerful selection factors and evidence on reverse causation which means that people with poor health are more likely to lose their job. Valid findings are restricted to prospective epidemiologic cohort studies based on individual data that control for baseline health and important confounding factors. Several such studies have been analyzed in systematic reviews and meta-analyses. The main results indicate that *long-term unemployment* is associated with a statistically significant, but moderate *increase of relative risks of suffering from depression, suicide, or cardiovascular disease*. Moreover, according to several studies, all-cause mortality following long-term unemployment is elevated (Donkin et al. 2014). These associations should be interpreted with some caution as protective factors such as strong social support, psychological resilience (e.g. self-efficacy, optimism), and the provision of comprehensive social protection policies at national level reduce their strength. On the other hand, long-term unemployment substantially increases the risk of adopting health-adverse behaviors, including addiction, thus aggravating morbidity and mortality risks.

Precarious employment has been defined as a condition of high job instability and lack of alternative employment opportunity, often combined with low wage and low social protection. Accordingly, a wide spectrum of employment arrangements in the formal economy is considered precarious, including involuntary part-time jobs, fixed-term contracts, temporary agency work, freelance and some forms of self-employment. Research on potential

effects of precarious work on health is still limited, not least due to methodological difficulties. However, *job instability and job insecurity* in the face of business restructuring or downsizing are clearly *associated with reduced mental health* (Cooper et al. 2012). In line with these findings preliminary evidence indicates that the recent *great economic crisis adversely affects the health* of populations at working age, partly due to stressful effects of labor market disadvantage and financial strain, partly due to restrictions in access to healthcare (Karanikolos et al. 2013).

7.1.2 Occupational diseases and injuries, physical, chemical, and biological occupational hazards

Globally, 2.3 million deaths occur annually due to work-related diseases (mainly cancer and cardiovascular diseases) and occupational injuries (Takala et al. 2014). Almost one thousand workers lose their life every day due to *occupational accidents*, most of them in low- or middle-income countries. Failures in developing and controlling basic standards of *occupational safety measures* and training are the major determinants of a high burden of occupational injuries, especially so in low income countries (WHO 2014). Importantly, there is a strong link between a country's overall level of economic progress and competitiveness on one hand and the total occupational accident rate on the other hand: the higher economic progress the lower the rates of accidents (Takala et al. 2014).

While substantially reduced in high-income countries, exposure to '*traditional*' *occupational hazards* remains high in developing countries. As an example, in rapidly developing countries it was estimated that 125 million workers are still exposed to *asbestos* (WHO 2008), and the incidence of *cancers caused by occupational exposures* is likely to increase in most regions of the world. Other occupational diseases are due to dangerous workplace exposures such as biological agents, mutagenic substances, skin and airways

sensitizers, noise, heat, cold, or vibration, causing high societal costs, for instance in case of occupational asthma or hearing impairment (Montano 2014).

7.1.3 Physically strenuous and repetitive work

Work in the agricultural sector and in certain industries is associated with *heavy lifting, tiring and painful positions, and repetitive movements*. Although these conditions are more frequent in less developed countries and among unskilled or semi-skilled workers certain biomechanical and posture-related risks (e.g. repetitive hand or arm movements in computer work) prevail in the service and IT sectors of advanced societies. For instance, about half of the European workforce exerts repetitive movements on the job, mainly due to computer work (Eurofound 2015). In the long run, *back pain and musculoskeletal disorders (MSD)* result from these exposures. MSD of the neck, lower back, lower and upper limbs are the second most frequent medical cause underlying disability benefit claims in OECD countries, and they define the most frequent occupational disease and the highest self-reported work-related health complaint in Europe, where strong social gradients are observed (OECD 2010). *Sedentary work* is a further occupational health risk, widely prevalent among white collar occupations.

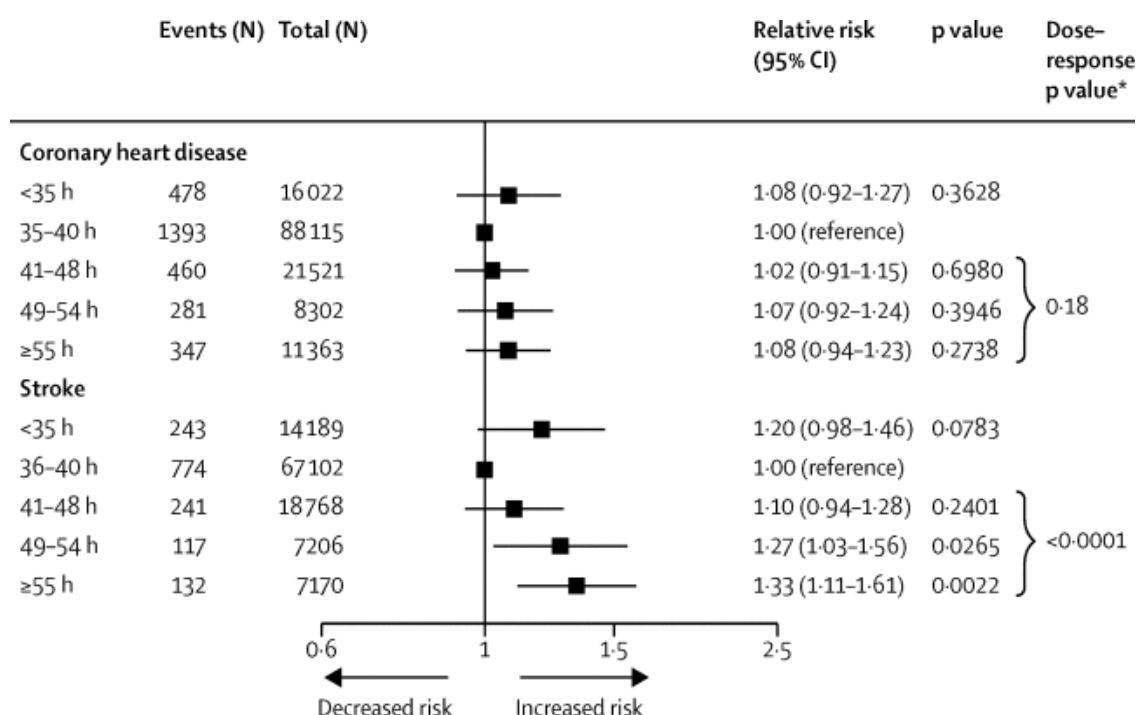
7.1.4 Shift work, long working hours

In economically advanced countries (e.g. Europe), shift work affects more than 20 percent of the workforce (Eurofound 2015). Research on *shift work* documents *elevated risks of cardiovascular disease and metabolic syndrome*, in particular after chronic exposure (Siegrist et al. 2015). However, it is difficult to disentangle work-related influences from those related to a disturbed work-life balance, changes in circadian rhythms, and health-adverse behaviors.

A further health risk at work relates to *long working hours*. In Europe, every tenth male worker reports to work regularly more than 60 hours per week. For special service occupations and professions, persons performing on-call jobs, freelancers, and several groups

having atypical jobs, it has become increasingly difficult to clearly distinguish work from non-work periods in their daily life. Long working hours (e.g. >55 h/week) were associated with *moderately increased relative risks of depression, coronary heart disease, and stroke* (Bannai & Tamakashi 2014). For instance, a large-scale study observed a dose-response relationship between number of working hours and risk of stroke (see *Figure 11* (Kivimäki et al. 2015)).

Figure 11: Association of categories of weekly working hours with incident coronary heart disease and stroke. Estimates adjusted for age, sex, and socioeconomic status. *For trend from standard to long working hours. Source: Kivimaki et al. (2015)



7.1.5 Stressful psychosocial work environments

A collective increase in competition, work pressure and job demands occurred in the context of significant changes in work and employment mentioned above. In relevant parts of the labor force work intensification was associated with increased job insecurity resulting from economic or socio-political transformation or from far-reaching organizational restructuring

(Eurofound 2015). High levels of stressful experience are observed under these conditions.

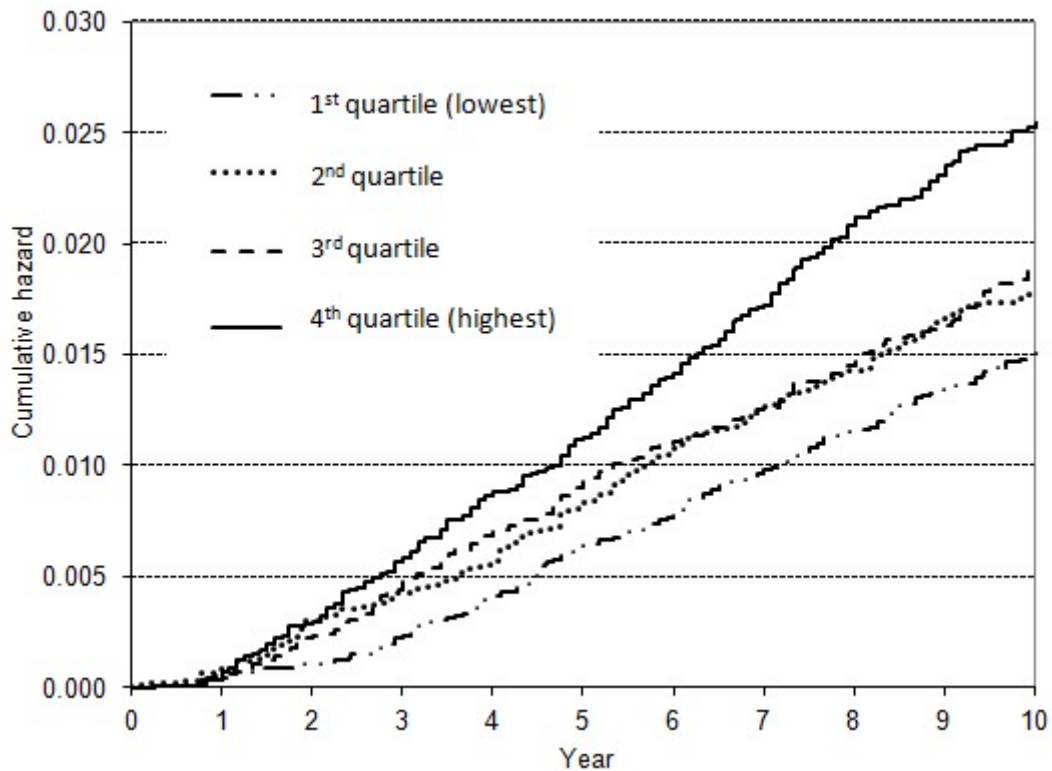
Psychosocial stress occurs if a person is exposed to a threatening demand (stressor) that taxes or exceeds her or his capacity of successful response. Furthermore, stress results from experiences of severe injustice, unfairness, and threats to one's physical or psychological integrity. Threats to personal control and appreciation elicit sustained negative emotions of anxiety and anger, paralleled by 'stress responses' originating from the organism's innate physiologic alarm mechanisms. While potentially beneficial in acute life-threatening situations chronic stress in the long run impairs the functioning of distinct bodily systems and increases the risk of developing a *stress-related mental or physical disorder*, such as *depression, cardiovascular or metabolic disease*.

Recurrent psychosocial stress at work acts as a major determinant of these developments, but the variety and complexities of work and employment characteristics provide a challenge to scientific research. In fact, *theoretical concepts* are needed to delineate particular stressful aspects within these complexities that can be identified at a high level of generalization. Among several approaches two such concepts were widely applied in international occupational stress research, 'demand-control', and 'effort-reward imbalance'. The *demand-control (or job strain) model* identifies stressful work in terms of job task profiles defined by high psychological demands and a low degree of control or decision latitude (Karasek & Theorell, 1990). The *effort-reward imbalance model* was developed as a complementary approach with a primary focus on the work contract; the principle of social reciprocity being at the core of the model (for review Siegrist & Wahrendorf, 2016). Rewards received in return for efforts expended at work include fair wage or salary, recognition, and career opportunities (promotion, job security). The model asserts that lack of reciprocity (high effort in combination with low reward) occurs frequently and generates strong negative emotions and psychobiological stress responses with adverse long-term effects on health. The

utility of these two theoretical models is due to the fact that they are based on two core stress-theoretical notions, 'control' and 'reward' and that their measurement in terms of psychometrically validated questionnaires is available in a variety of languages, thus enabling cross-country comparisons. Moreover, strong social gradients of both forms of stressful psychosocial work were documented, leaving those in lower positions at higher risk (Donkin et al. 2014).

Several *systematic reviews* summarize the current state of knowledge in this rapidly expanding field of occupational health research that is mainly based on *prospective observational cohort studies*, supplemented by experimental research and intervention studies. Strong evidence indicates that the *risk of incident depression* is almost twice as high among workers exposed to job strain or effort-reward imbalance compared to workers with low or no stress at work. Moreover, *relative risks of coronary heart disease* are increased by 30 to 60 percent under these conditions. The burden of work-stress related disease is even larger as additional risks are associated with stressful work, such as metabolic disorders, alcohol dependence, sleep disturbances, sickness absence, reduced health functioning, and disability pension, thus generating substantial economic loss in addition to human suffering (Schnall et al. 2017, Siegrist & Wahrendorf 2016). As depression is one of the leading disorders worldwide and as it has been observed as a main cause of disability pension, at least in high income countries (OECD 2010), evidence of the contribution of stressful psychosocial work environments to this latter development is warranted. Figure 12 provides some of this evidence, documenting a linear relationship of stressful work with risk of disability pension due to depression, based on a large longitudinal study in Finland (Juvani et al. 2014).

Figure 12: Cumulative hazard curves of disability pension due to depression by psychosocial stress at work (quartile of effort-reward imbalance). Finnish Public sector study; N= 51.874 employees; 75% women. Source: Juvani et al. (2014)



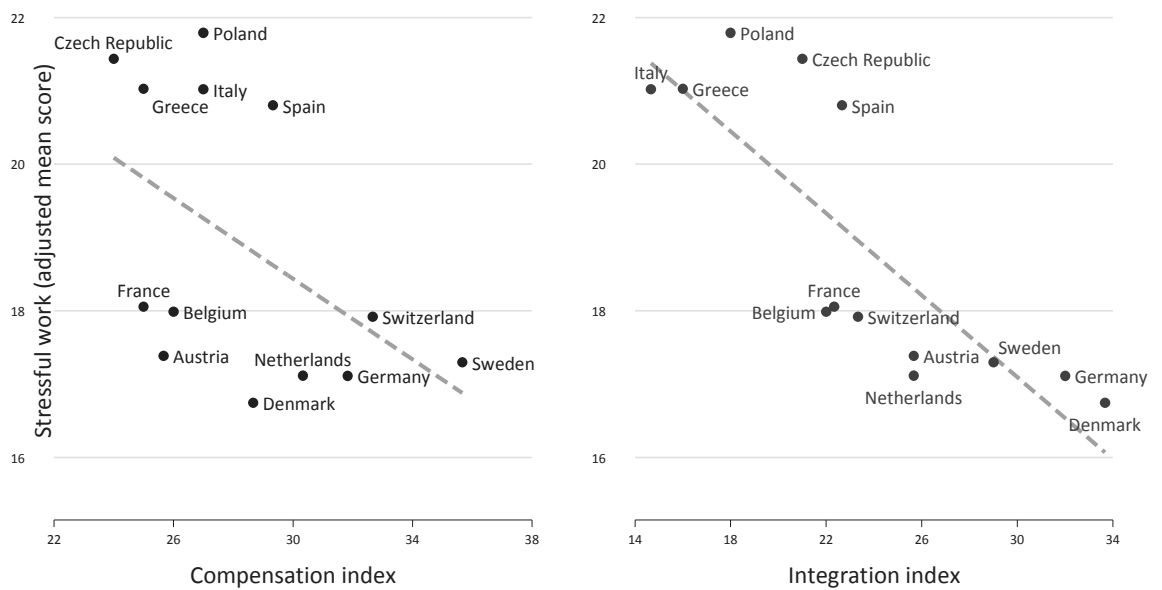
Although the majority of studies were conducted in high-income countries, there is accumulating evidence that these *work stress models* are *valid in rapidly developing countries* as well, specifically in China and Latin America, an observation of particular interest in times of economic globalization (Schnall et al. 2017, Siegrist & Wahrendorf 2016).

7.1.6 National labor and social policies

National labor and social policies can influence the quality of work and employment within respective workforces by setting rules and regulations which protect workers' health, by investing in active labor market policies including rehabilitation services, and by offering financial support in case of job loss and other income shocks. It is therefore assumed that the mean *quality of work and employment* is *more favorable in countries* that developed

comprehensive welfare state measures than in countries with poor welfare state investments. In addition, favorable policies to some extent may mitigate the adverse effects of stressful work on the health of workers. There is some *preliminary evidence* along these lines. For instance, concerning the first assumption, a comparative cross-country study of older workers in Europe analyzed the association of a summary measure of work stress per country with two indices of each country's amount of offering compensation (or social protection) and integration (or active labor market) policies respectively. *Figure 13* displays the scatter plots of this association. To interpret the results one should note that scores of stressful work range from 0 (no stress) to 48 (high stress) and that each one of the two policy indices developed by OECD ranges from 0 (poorest policy) to 50 (best policy). In case of the compensation index, associations are slightly less pronounced. In contrast, an almost linear association is observed in case of the integration index where more pronounced integration policies are related to lower levels of stressful work (Wahrendorf & Siegrist 2014).

Figure 13: Adjusted mean scores of stressful work among older male and female employees (N=11181) and policy indices.



Notes: Mean scores of stressful work are adjusted for sex, age, retirement age, periods of disability, job absence due to disability, childhood circumstances (occupational position of main breadwinner, number of books, housing conditions and overcrowding) and labor market disadvantage (occupational position in main job, involuntary job loss (laid off and plant closure) and period of unemployment). Source: Wahrendorf and Siegrist (2014).

7.2. Work and health: two causal directions

The previous section demonstrated selective evidence on how adverse working and employment conditions affect the health of people in the labor market. This evidence is based on the assumption of a *causal link between adverse work and subsequent poor health*. Despite an ongoing methodological debate this assumption is supported by crucial quality criteria of epidemiological research, such as the strength and consistency of prospectively documented associations between exposure and health in occupational cohorts, the dose-response relationship of this association, the demonstration of biological pathways explaining the link, and the reduction of risk following removal of the exposure.

With a major focus on noxious aspects of work and their risks for morbidity and mortality, the *positive, health-promoting aspects of modern working conditions* are disregarded. However, in keeping with the theoretical models mentioned, we can conclude that jobs that offer options of personal control, skill development, and recurrent experience of self-efficacy, and employment relationships characterized by just exchange, fairness, and appropriate material and non-material rewards, including promotion prospects and job security, are conducive to the health and wellbeing of workers. In fact, a broader approach stressing the protective, health-promoting features of work has been proposed as guidance to public policies related to workers and the workplace (Schulte et al. 2015). Moreover, several *intervention studies* that improved working conditions along these principles demonstrated *beneficial effects* on workers' health and wellbeing.

A second causal direction between work and health is of similar importance: *Sickness and disability can impair access or return to work as well as adequate performance on the job.* In view of a globally ageing workforce and economic pressures towards postponing pension age chronic diseases and disabilities are increasingly perceived as challenges to maintain the workability and productivity of older people (OECD 2010). In most countries people with chronic disease or disability experience barriers to employment in terms of prejudice and discrimination, lack of vocational rehabilitation, employers' fear of reduced productivity, or absence of national integration policies. For instance, while most people with spinal cord injury can work to some extent, the average global employment rate among people with this type of disability is as low as 37% (WHO 2013). Large variations between countries are mainly due to the development of appropriate medical and vocational rehabilitation and the implementation of anti-discrimination policies. Mental illness, and specifically depression, is another case of concern. Rates of return to work after disease onset are low and occur late, and stigmatization of depressed people within proximal social environments and the society at

large is still a major obstacle. Programs of early, stepwise return to work, applying individual placement and support models as well as continued medical and psychological treatment were shown to be successful and cost-effective (Marmot 2015). The fact that people with disability or long-term sickness are disadvantaged in their opportunities of fair participation in social life, and specifically of access to paid work, contradicts basic human rights. Therefore, policy initiatives are needed that aim at reducing discrimination and at widening fair opportunities of social participation.

7.3. Policy implications

To strengthen fair work and employment globally major policy efforts are required at different levels. The provision of safe work and basic social protection to employed people is a key responsibility of *employers*. However, respective commitments need to be controlled by authorities, based on national laws and regulations. Despite some binding international conventions, most importantly the convention on fundamental rights that has meanwhile been endorsed by the member states of the *International Labor Organization* (ILO 2013b), many countries in less developed parts of the world still lack basic safety, health and social protection measures of working people, they are deprived of occupational health and safety services, and their social security system fails to meet even basic needs of working people and their families (Benach et al. 2007, WHO 2008). With the diffusion of neo-liberal policies stimulated by economic globalization, the impact of national legislation, of social protection and active labor market programs has been weakened. Against this background, it has become increasingly difficult to achieve progress in negotiations on fair employment and working conditions between employers, trade unions and governments, given their restriction to the national context. Therefore, efforts are needed towards *establishing effective supranational regulation* to ensure basic human rights at work internationally.

Several such initiatives have been proposed, such as the ILO's '*Social Protection Floor Initiative*'. Amongst others, this initiative recommends the introduction of *minimal wages*, of *health- and unemployment- insurance*, and of reliable *pension systems*, thus *extending formal employment contracts* at the expense of the informal sector. Moreover, *national labor market programs* are proposed to reduce youth unemployment and adult long-term unemployment. *Transnational corporations* are asked to apply the same employment standards for their employees in high-income and low-income countries, and to refrain from relocating their production sites to countries with minimally regulated workforce. There is now some evidence that the *World Trade Organization (WTO)* recognizes the importance of occupational health and safety standards and related social protection measures in transnational trade and investment treaties. Finally, the *World Health Organization (WHO)* has fostered a global movement to promote health equity, including work-related health (WHO 2008). Based on these initiatives several recommendations are proposed (see below).

In conclusion these policy efforts at different levels directed towards responsible stakeholders, political and financial decision-making bodies, and professional and civil organizations involved in occupational affairs should result in substantial progress of developing and preserving fair, just and healthy working and employment conditions and in reducing social inequalities in health.

8. Collective bargaining¹³

8.1 Introduction

Collective bargaining—negotiations between trade unions and employers or employers' organizations to set wages and working conditions—is a key labor market institution and fundamental right, recognized by the international community. The relevant convention (C98,

¹³ Section drafted by Jelle Visser.

adopted in 1949) of the International Labor Organization (ILO) has been ratified by 164 countries and calls on governments for support. For workers, collective bargaining provides *protection* (ensuring adequate pay and working conditions), *voice and empowerment* (collective expression of grievances and participation in the success of the enterprise) and *distribution* (fair share of benefits of training, technology and productivity growth). For employers, collective bargaining aims at *conflict management*, providing for dispute resolution and legitimizing managerial control through joint rules. Collective bargaining relieves the state from the complex task of *setting standards* and *solving coordination problems* in an area where the risk of conflict and non-compliance is high.

Like the statutory minimum wage, collective agreements establish a floor in the labor market and provide a level playing field for fair competition. Unlike a national minimum wage, collective bargaining makes can tailor this floor to varying conditions in an occupation or industry. In many countries it is possible, moreover, to derogate by collective agreement from legal minimum standards on wages, working time, and employment protection. This regulatory flexibility can be an important advantage.

Collective agreements, fixing wages and hours for a larger group of workers and over a longer period, can have a stabilizing function for the economy, help firms to plan their operations and workers to plan their lives, reduce uncertainty and stimulate investment. On a microeconomic plane, collective bargaining can make allocation and price setting in the labor markets more efficient by addressing coordination and market failures due to asymmetry of information and unequal bargaining power between workers and employers, and by reducing transaction costs involved in individual bargaining. By ensuring that workers' request for pay updates in line with productivity increases are heard, collective bargaining limits costs of litigation and excessive staff turnover. It may thus improve the quality of the employment relation, improve allocation and motivation, and contribute to productivity. However,

collective bargaining can also introduce distortions ('rent seeking') at the expense of outsiders and consumers.

8.2 Effects on productivity, earnings and employment

In 'Two Faces of Unionism' Freeman and Medoff (1984) envisage a pro-productive role for unions through aggregating worker preferences in the provision of workplace public goods and facilitating efficient contracting where there is a long-term relation between worker and firm, but employers' ex ante promises to take workers' interests into account are not credible. Research on productivity effects is mostly from the US and UK, and the findings are not overwhelming. Most survey-based studies indicate that the effects are minimal. More promising results are reported for Germany, where collective bargaining over pay takes place outside the firm for entire sectors but is combined with workplace codetermination within firms. Dual representation and multi-level bargaining with general principles and guidelines negotiated outside the firm tend to limit the possibility of 'hold ups'. Single-union representation and, in case of multiple unions, joint bargaining platforms, central union control over strikes improve governability. Sequential declines in the 'disadvantages of unionism' have been reported for Britain in combination with changes in the collective bargaining system away from the conflictual multi-unionism model of the 1970s (for a summary of recent literature: Addison 2016).

The monopoly side of unions has been studied in connection with wage rigidity in times of high and rising unemployment. Recent studies using European firm-level data collected at the onset of the Great Depression of 2008-9 suggest that unions and collective agreements constrain the adjustment of wages, but also that unions encourage the use of alternative cost-cutting strategies, such as a temporary reduction in working hours, part-time employment, and the limitation of extras and bonuses, in order to temper the adverse effects on employment (Labor Economics, 19, issue 5, 2012). If there is a harmful effect of unions

showing in higher unemployment rates or larger fluctuations in unemployment, this is mitigated when collective bargaining is coordinated across unions, firms and sectors. The effectiveness of coordination is enhanced with trust and cooperation in labor relations (Blanchard, Jaumotte, and Loungani 2013). Cooperation, as assessed by senior business executives in a 2014 survey published by the World Economic Forum, correlates with trust in unions and is highest in some of the continental and Northern European countries with high bargaining coverage (OECD 2017).

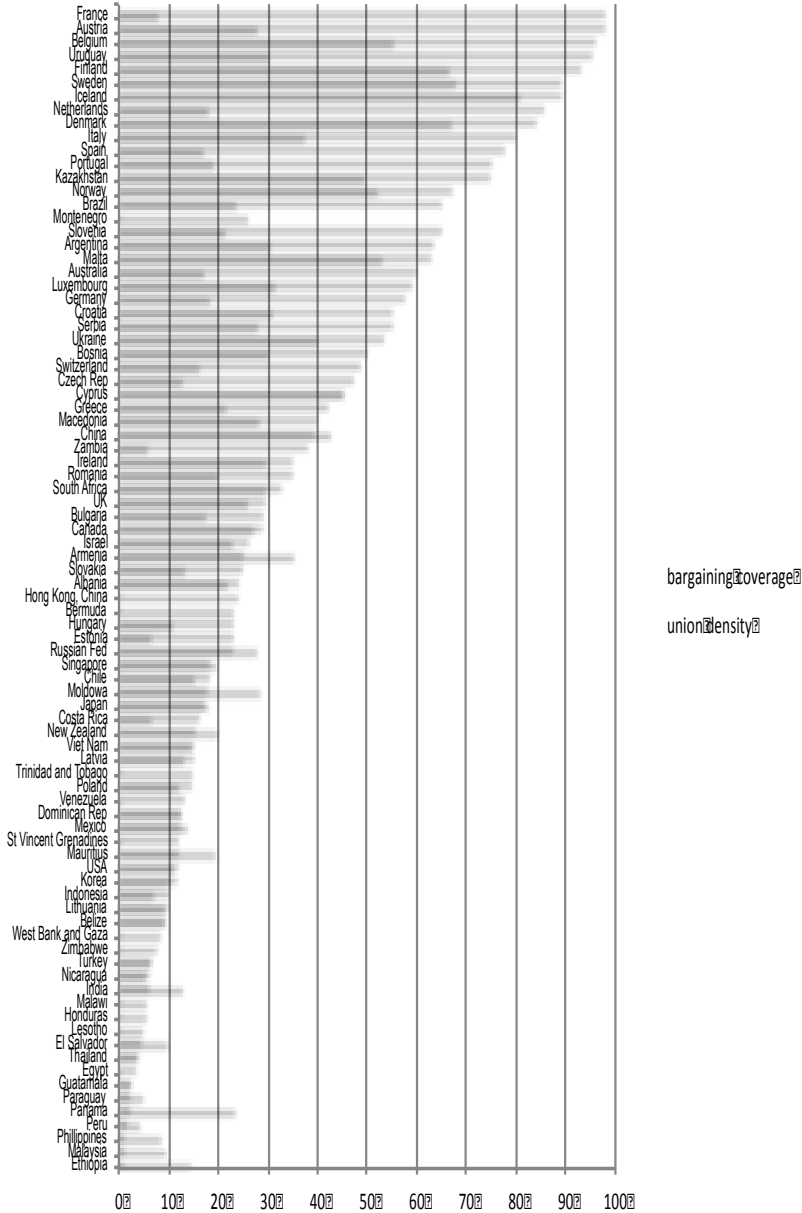
Collective bargaining is associated with higher earnings and lower profits. A study based on ISSP survey data for 1995-99 covering 17 countries found a wage advantage for workers covered by collective bargaining from less than 1 percent, negative or insignificant in Sweden, Italy or the Netherlands, 4 percent in Germany, 7 percent in Norway and Spain, rising to more than 20 percent in Japan (Blanchflower and Bryson 2003). A recent study of German wage data found that the gap between mean wages of covered and uncovered workers had risen from 1 to 10 percent between 1999 and 2010, if controlled for firm size (Felbermayr et al. 2014). Addison *et al.* (2014), controlling for employee heterogeneity, report a smaller wage gap of 3-4 percent. Workers whose firms abandoned the sectoral collective agreement experienced a loss, whereas workers whose firms joined the agreement enjoyed a gain.

8.3 Bargaining coverage

The bargaining coverage rate—the share of employees covered by collective agreements—is the key indicator for assessing the relative strength of collective bargaining. Coverage rates vary massively across countries (Figure 14), from less than 5 percent in Egypt, Ethiopia, El Salvador, Guatemala, Panama, Paraguay, Peru, Malaysia, the Philippines and Thailand and to about 90 percent or more in Iceland, Sweden, Finland, Uruguay, France, Belgium and Austria. Collective bargaining plays a marginal role in low-income countries with a large informal

labor market. However, the relationship with industrialization, development or income is not straightforward. In some of the richest countries, after decades of union decline collective bargaining plays a marginal role, with coverage rates having dropped in 2015 to 11.8 in the USA (7.4 percent in the private sector) and 16.8 percent in Japan.

Figure 14: Bargaining coverage rates across 85 countries in 2014-5.



Source:

Within countries, the highest coverage (and unionization rate) is in the public sector, in manufacturing, and transport, whereas collective bargaining tends to be less widespread in market services and agriculture. Large firms are more likely to be covered than small firms, explaining part of the sectoral variation. Workers with open-ended employment contracts, those with full-time jobs, and older workers are more likely to have access to collective bargaining than temporary, part-time and younger workers (OECD 2017). These variations mirror differences in unionization. Bargaining coverage (and union density) rates between men and women have converged, with female unionization and coverage rates overtaking those of men in some Northern and Eastern European, Anglo-Saxon, and African countries.

8.4 Unions and collective bargaining

As a *voluntary* process between *independent* and *autonomous* parties, collective bargaining presupposes independent employee representation. Usually representation is expressed through the trade union and one should expect that where unions are weak (few members, few resources, limited strike capacity) collective bargaining is weak. Negotiating the terms of employment for their members is a core union activity besides lobbying for labor-friendly laws and managing common (insurance) funds. Unions need members to claim representation and recognition as bargaining agents, and they need members, loyalty and money to back up claims with strike action. Are therefore more workers covered by collective agreements when more are unionized?

Figure 14 addresses this question in a cross-country comparison, showing union density and bargaining coverage rates, calculated as a proportion of *employed wage earners*. It turns out that differences in union density account for less than half of differences in bargaining coverage ($R^2=.44$; 85 countries). In most countries bargaining coverage is much broader than union membership. The opposite, with smaller coverage rates, applies in countries, mostly in Africa, Asia and Central America, where unions are present in the state

sector but collective bargaining is restricted (as wages are set by public authorities) and unions fail to gain recognition in the private sector.

Bargaining coverage can exceed union density for two main reasons. Firstly, collective agreements are often applied *erga omnes* (“towards everybody”). Even if agreements are legally binding only for union members, employers often apply the same terms to non-members, either because they do not know who is member or they want to limit rivalry, maintain social peace, and limit union incentives for organizing. Works councils, elected by and from the company’s staff are in many European countries charged with supervising the implementation of the collective agreement for all, union and non-union employees. This tends to create a ‘free rider’ problem for the unions, which is sometimes mitigated by a small payroll tax used for reducing union membership dues or lowering union bargaining costs. This is often regulated, not by law, but by agreement between unions and employers. In the USA, however, legislation has moved in the opposite direction, with most states having ‘right to work’ laws allowing employees to opt out from paying union dues in unionized workplaces. Secondly, the administrative extension of sectoral agreements to firms that are not members of the signatory employers’ association(s) increases inclusiveness.

8.5 Extension and employers’ organization

Extension is a public policy act based on legislation mandating the government, a public agency or the court to declare a collective agreement binding on all employers operating in a sector or occupation. Extension serves several purposes, like i) promoting collective bargaining; (ii) furthering industrial peace; (iii) creating common standards or funds for apprenticeship and vocational training; (iv) establishing and enforcing minimum wages and terms of employment; (v) binding foreign service providers to domestic standards; and (vi) protecting wages and rights of migrant and posted workers. Extension had been used since the

19th century but became widespread during the 1930s Depression (Hamburger 1939). The legal possibility of extending collective agreements exists in well over fifty countries (Hayter and Visser, forthcoming).

What makes extension different from other forms of state regulation, such as a statutory minimum wage, is that it is based on a concurrence—a negotiated agreement. It thus retains some of the flexibility and self-regulatory features of collective bargaining, but like the law in democratic societies it binds the minority to majority decisions. In order to prevent that particular groups or large firms impose their conditions on others, many countries require that the collective agreement must cover a majority of employees before it can be extended and sometimes they allow small or struggling firms to be (temporarily) exempted. The use of extension varies from quasi-automatic application (for instance in France, Spain or Belgium) to being extremely rare or having fallen in disuse (Japan, Canada, Poland, the Baltic states). During the Great Recession, extension was ended or restricted in Greece, Romania and Ireland, reregulated in Portugal, and eased in Germany.

Extension presupposes multi-employer bargaining. Where there is no sectoral (or occupational) agreement, there is nothing to be extended. When collective bargaining takes place only or mostly at enterprise level, coverage will be low even if agreements apply ‘*erga omnes*’. The current maximum is less than one-fourth of all private sector employees. Under conditions of enterprise bargaining employees in small firms and in sectors dominated by small firms will have no access to collectively bargaining even if they want it, either because there is no union or employers impose conditions unilaterally, with individual bargaining only for those whose experience and skills are in demand.

Where unions and employers’ associations negotiate at sectoral level, coverage rates are always higher, upwards from 50 percent with an average around 75 percent. Presence or absence of multi-employer bargaining accounts for three-quarters of the difference in

coverage rates ($R^2=.77$, 78 countries). Sectoral agreements will cover also workers in small firms where unions have few members. This inclusion is guaranteed when agreements are extended but can also be achieved through union pressure (boycotts and secondary picketing) on non-member firms to apply the ‘common rate’, as is practiced in Sweden and Denmark.

For obvious reasons, multi-employer bargaining depends on employers having organized and willing to negotiate. Unfortunately, reliable data on the extent of employer organization is scarce and exists only for European countries. From data covering the last decade or two, we find that on average employer associations are far more stable than unions and that the level of organization, measured as the share of employees working in member-firms, doubles that of unions (OECD 2017). Developments in Central and Eastern Europe since 1989 show that it has been extremely difficult to create employers’ organizations where they did not exist and that the frailty and disunity of such organizations has translated in weakness of collective bargaining.

8.6 Decentralization and union decline

Technological and organizational changes, decline of manufacturing, privatization, outsourcing and scaling down of public sector employment, together with the increase of unemployment and contingent employment have been the main drivers behind union decline. Whether the same factors are behind the observed long-term decline in strike participation rates (in the private sector) and indicate a growing difficulty to express collective worker power and social solidarity is plausible but not undisputed, also because strike data are notoriously hard to compare. Globalization and increased pressures to relocate production have narrowed the margins of worker bargaining power.

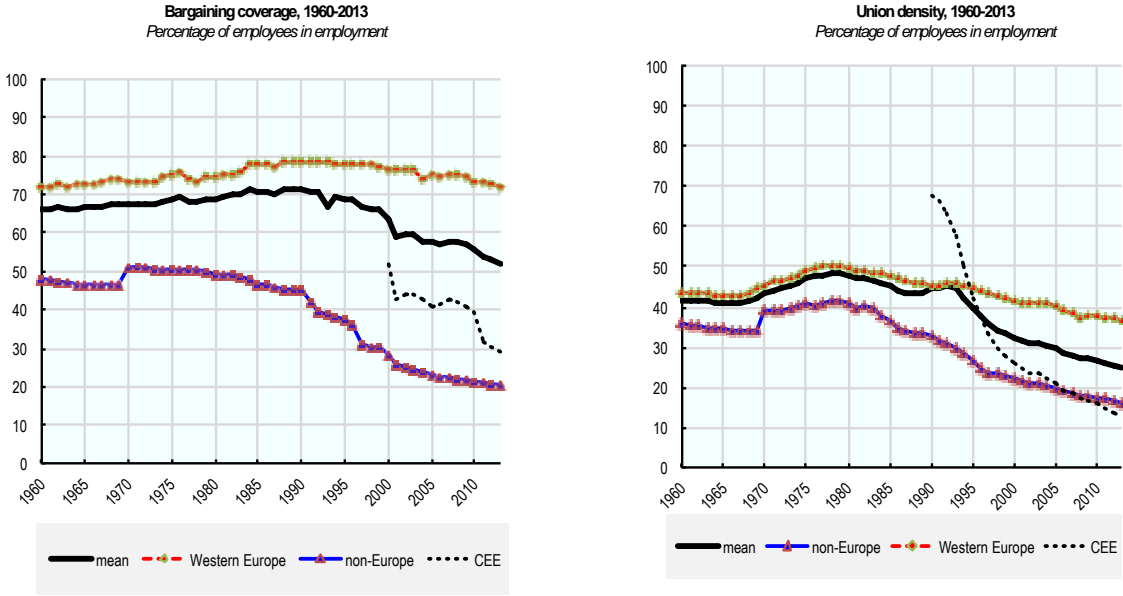
These trends have been accompanied by changes in the content and organization of collective bargaining. Stabilizing the employment relationship through collective standard setting was the norm for about half a century since the 1930s Great Depression. This

corresponded with the ascent of sectoral collective bargaining and pattern setting by large firms, with high and stable coverage rates reaching the majority even in countries and industries where unions organized only the minority of skilled, dominantly male workers. Since the 1980s employers and governments have advocated more pay and contract flexibility, leaner or no agreements at the sectoral level and more room for variable pay at enterprise level. The state and international organizations, like IMF and OECD, have advocated labor market reforms including lower employment protection and weakening or ending national and sectoral bargaining, as occurred in Central America, Chile, East Asia, Britain and Turkey, throughout Central and Eastern Europe, as well as in Greece and Romania during the Great Recession.

In the 1980s the United Kingdom was the first and only European country where the government was determined to end multi-employer bargaining and roll-back union power – a process that has been coined ‘disorganized centralization’ (Traxler 1995). This approach had been preceded in the USA, found followers in New Zealand and Australia, but not in Europe at that time. Re-establishing free unions and collective bargaining after 1989, the post-Communist European countries made explicit room for sectoral collective bargaining, though the practical effects were minimal. In Northern Europe, collective bargaining was gradually reorganized into a two-level bargaining model with leaner and broader sectoral agreements that left more to decide at enterprise level. Unlike the ‘unorganized’ variant, such ‘organized decentralization’ was not associated with declining coverage, even though unions lost members and bargaining clout. Finally, in a number of countries both centralizing and decentralizing tendencies tended to block each other (Italy, Finland, Spain or France), while in Germany collective bargaining coverage eroded with the disaffiliation of small firms from their employers’ associations and greater scope for using opening clauses by large firms.

Figure 15 shows the changes in union density and bargaining coverage rates in 32 industrialized high-income countries with (annual) data between 1960 and 2014. Around 1980s the mean level of unionization starts to decrease, one decade later followed by a decline in bargaining coverage. Decomposing the average in three groups—fifteen Western European countries with mainly sectoral and two-level bargaining systems; nine non-European countries (USA, Canada, Australia, New Zealand, Japan, Israel, Turkey, Mexico and Chile) with dominantly enterprise bargaining; eight post-Communist countries in Central and Eastern Europe (CEE) with failed sectoral and limited enterprise bargaining—we gain some insight as to what has been going on.

Figure 15: Time trends in bargaining coverage and union density rates, 1960-2013, by country groups.



Source:

In the non-European part of the OECD unionization and coverage rates have fallen since the early 1980s. The mean coverage rate in 2015 was below 20 percent compared to 50 percent in 1980; this matches with a mean unionization rate of 16 percent today compared to 36 percent in 1980. In Central and Eastern Europe both unionization and coverage rates have dropped year after year since free unions and free collective bargaining were restored. In Western Europe union decline began around 1980 but was milder and bargaining coverage remained close to 80 percent until 2008, with lower and declining coverage rates in the UK, Ireland and Switzerland, and slow but continuous decline in Germany.

8.7 Sectoral and enterprise bargaining

Enterprise bargaining (US, Canada, Mexico, Chile, Turkey, most Asian and Central Eastern European countries, the UK and Ireland) is associated with declining union density and coverage, and bargaining coverage is as exclusive as union membership. Multi-employer bargaining (as in continental Western Europe, but also in Argentina, Uruguay, Brazil or South Africa) allows both rates to diverge, with inclusive bargaining coverage rates in spite of union decline. Employers face different choices under enterprise and sectoral bargaining. Under conditions of enterprise bargaining they may withhold or withdraw union recognition as a credible threat in seeking a cheaper or less constraining contract, or else relocate employment to a non-union environment. Newly established firms may refuse recognition to begin with and base the choice of where to invest on how easy it is to avoid unions. Union contracts tend to become associated with older firms and investments, and coverage and unionization rates decrease together with declining employment in older firms and sectors. Legally mandated union recognition procedures, based on elections in which workers must choose between offers from the union and threats issued by the employer, as in the USA and since 2000 in the UK, have done nothing to stop the erosion in bargaining coverage and union representation.

When collective agreements apply to whole branches of the economy, employers seeking a change in the contract face a different choice. They cannot easily escape collective arrangements by switching to a non-union environment, at least not when staying in the same sector and country. They can outsource activities to firms and subcontractors located in branches with cheaper collective agreements; make greater use of ‘flexible employment’; discontinue membership in employers’ associations; or work hard to obtain a change in the sector agreement, for instance transforming it into a framework for local negotiations. All of these strategies have been used and are visible in the data, but the overall impact on coverage rates is not a priori clear. The change to less-prescribing sectoral agreements in Scandinavia, combined with local wage negotiations, tends to have increased or stabilized bargaining coverage. Outsourcing to cheaper contracts and greater use of flexible employment has been matched by an increase of bargaining coverage in industrial cleaning, catering and security, and for temporary agency and part-time workers in the Netherlands.

8.8 Minimum wages

To offset decreasing union and bargaining coverage, many countries, among them all the post-communist countries in Central and Eastern Europe, as well as Britain, Ireland, Israel and most recently Germany have introduced a statutory minimum wage. In the eight European countries without a statutory minimum, high bargaining coverage rates supported by union action (Sweden and Denmark), extension of sectoral agreements (Finland, Iceland, Norway, Austria, Switzerland), judicial action (Italy) or special mandates for setting minimum wages in non-unionized sectors (Switzerland) assure minimum standards in most sectors. The USA and Canada introduced minimum wage legislation as far back as in the 1930s, later followed by most countries in Central and South America. China adopted a minimum in 1994, which was strengthened in 2004; South Africa did so after the end of apartheid; Brazil strengthened its system of regional minimum wages in 1995 with further

increases in 2005; the Russian Federation complemented its national minimum wage with regional floors in 2007; In South East Asia, after Korea and Japan, the latest countries to introduce a statutory minimum are Malaysia, Myanmar and Laos, in Africa Cabo Verde recently introduced a national minimum.

Besides issues of monitoring and law enforcement, legislation cannot match the flexibility of collective bargaining, not does it provide for participation and involvement of people affected by the outcomes. Not only the level but also the setting of the minimum wage varies across the world, and so will the effects on collective bargaining. Its adjustment may be an autonomous political decision, as in the USA; the result of expert consultation (UK) or a national agreement between the social partners (Belgium); adjustments may follow changes in contractual wages (Netherlands, Germany) or occasionally overtake sectoral minima and contractual changes (France, Portugal). Whether the minimum wage complements or replaces collective bargaining depends on such features. In its recently published policy guideline the ILO recommends broad legal coverage, full consultation or direct participation of the social partners, and setting the minimum wage at a level that ensures a living wage for working people and takes account of the effect on employment (ILO 2016). Most countries have fixed the minimum wage somewhere between 45 and 60 percent of the median, with outliers below 40 or even 30 percent in Estonia, the Czech Republic, Vietnam, Mali or India, and a higher minimum wage above 65 percent in France, Indonesia and the Philippines. The relative high minimum wage in some developing countries (measured by the distance to the median) reflects the much larger wage inequality (relatively flat at the bottom, with large spikes at the top) in these countries (ILO 2017).

8.9 Wage inequality

Unions, collective bargaining and minimum wages tend to reduce wage inequality. The size and shape of the effect depends on how collective bargaining is organized. The minimum

wage tends to compress wages at the lower end. By raising wages within the lowest-paying firms it tends to decrease between-firm inequality, in part by truncating low-pay employment. Enterprise bargaining tends to reduce inequality within firm. When collective bargaining takes place at national or industry level, not only are more workers covered but inequality tends to be reduced both within and across firms, and differences between union and non-union members tend to be smaller. Decentralization, such as the change from national to sectoral bargaining in Sweden or the increased use of opening clauses in sectoral agreements in Germany have been associated with increases in wage inequality.

Across countries, wage inequality tends to be lower where collective bargaining is inclusive, as indicated by higher coverage rates and sectoral rather than enterprise bargaining (Hayter 2015). The highest inequality is found in countries in which sectoral and national wage bargaining has disappeared and is inexistent. Jaumotte and Osorio-Buitron (IMF 2015), using a panel regression analysis of 20 advanced economies from 1980 to 2010, found that union (and bargaining) decline is strongly related to rising incomes (not just wage) inequality *at the top* of the distribution. Three potential mechanisms might account for this: stagnation of the ‘middle class’ and of wages at the lower and middle end, which ‘mechanically’ increases the ‘top’ share; changes in firm behaviour and less influence of unions on (sharply rising) executive pay; declining power and voice of unions in politics influencing redistributive policies and taxation.

8.10 Conclusion

Collective bargaining, as an established practice and institution which has existed well over hundred years, is under pressure. In many parts of the world it is an institution in retreat, alongside the decline in union organization. This weakening is bad news for workers, especially for those with little individual bargaining power. Collective bargaining is for them the main tool to provide protection, voice, empowerment and fair participation in the process

and proceeds of labor. Governments may step in and in most countries they do provide basic protection, at minimum levels, on wages, working hours, and workers' rights. The recent Great Recession combined with "the longer-running trend of rising inequality have added momentum to minimum-wage debates" (OECD 2015:1). Will it turn trends in collective bargaining and union organizing?

To counter decline, unions have attempted to build new membership and networks in hitherto unorganized sectors and seek representation and recognition for contingent and part-time workers, the self-employed and migrant workers. Collective bargaining for the dependent self-employed is now on the agenda of European trade unions, requiring changes in competition law and extension of social insurance coverage. In Brazil and India, to name only two countries with a large informal economy, millions of workers in the informal sector, without social insurance and employment protection, have organized. The Self-Employed Women's Association in India, which operates as trade union, cooperative and bank, has inspired similar organizations elsewhere. Since 2000 international framework agreements between global union federations and leading multi-national corporations, mostly with their home basis in Europe, have proliferated and currently some 200 agreements are in operation. Their aim is to secure core labor rights across multinational corporations' global supply chains. As 'soft law' instruments they cast a public spotlight on the normative significance of fundamental social standards and workers' rights. By promising to respect core labor right as defined by the ILO and not obstruct worker efforts to organize, such initiatives may help workers in subsidiaries, including those located in the USA, to seek representation and recognition.

9. Skill formation and the labor market¹⁴

Since the seminal works of Schultz (1964) and Becker (1962), the role of human capital formation has become central to all discussions about the development of individual potentials and their performance in the labor market, and more broadly, on the success of societies to improve the overall wellbeing of their citizens. By human capital formation it is understood the process of investment and accumulation of a set of skills, abilities and productivity characteristics that an individual acquire along her life cycle. Although investments in human capital encompass several dimensions of skills and ability acquisition we concentrate this section on the issues of investment on formal education and training.

Human capital can be divided into general human capital and specific human capital (Becker 1993). General human capital is the stock of skills and knowledge that can be used productively by the individual in any economic activity or task. It is a generic knowledge or skills that are transferable across tasks, sectors or firms. For instance, being literate or able to perform analytical reasoning are skills that are transferable from one task to the other. Specific human capital is the stock of knowledge or skills that are useful in a specific task or company only. The knowledge to operate a specific technology, for example, is valuable to perform that particular task but not much valuable for other tasks or activities. General education is an investment in general human capital and vocational education can be investment in either general or specific human capital.

Human capital theory predicts that individuals with higher human capital have higher earnings. Mincer (1974) developed an empirical model based on human capital theory to estimate the rewards of the productivity characteristics in the labor market and, under certain hypothesis, the returns to schooling. In general, the returns to one extra year of schooling estimated ranged from 5% to 15% among the higher income countries (Card 1999).

¹⁴ Section drafted by André Portela.

Another important aspect of the empirical literature is the issue of measurement of human capital. The proxy that is widely used is the number of completed years of schooling of the individuals in cross-sectional studies and the average completed years of schooling in cross-country studies (Barro 1997). More recently, this measure has been called into question. Hanushek and Woessmann (2015) argue that the average years of schooling in a population is not a good proxy for the stock of human capital of a country. More important is the level of cognitive skill of the people, indicated by cognitive ability measures such as test scores.

9.1 The technology of the life cycle skill formation

Cunha and Heckman (2007) and Cunha et al (2006), based on several studies of individual's skill formation, develop a very useful analytical framework to discuss the technology of individual's investment in human capital through her life cycle. Skill formation is a life cycle process. Skills are multidimensional and their acquisitions occur in several periods from childhood to adulthood. The process of skill formation exhibits two main properties, self-productivity and complementarity. Self-productivity is the property that a skill obtained in one stage of life augments the subsequent attainment of other skills later in life. For instance, self-control learned early in life can boost the learning of cognitive skills later on.

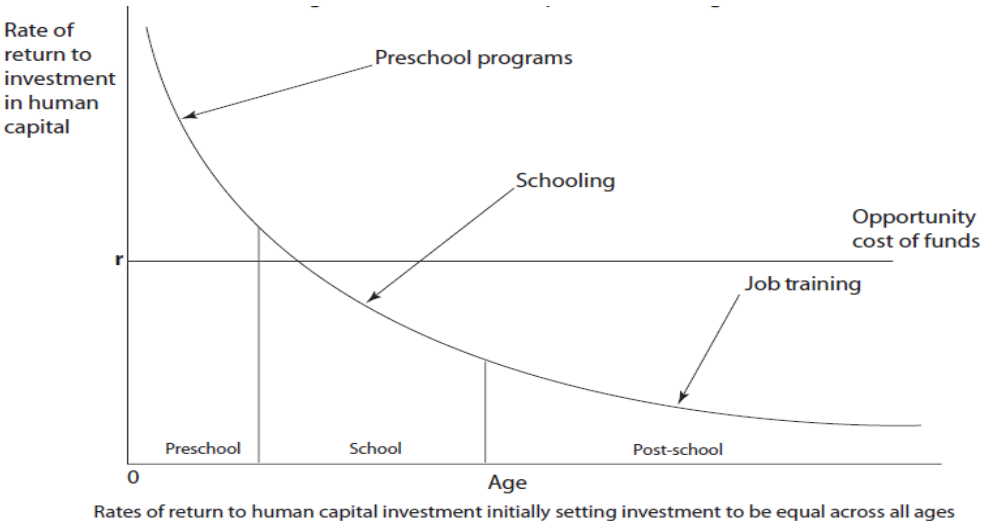
Complementarity is the property that a skill attained in one period increases the productivity of the human capital investment in future periods. For instance, children exposed to story-telling early on improve their vocabulary so that the investments on learning later on are more productive. Thus self-productivity and complementarity generate multiplier effects in skill formation. Skill investments at different stages boost each other and earlier investment must be complemented by later investment in order for the early investment to be productive.

These two properties have some important implications. First, it implies that the skill formation has critical periods and sensitive periods. A critical period of a skill is a stage of life when such a skill must be attained; otherwise it will not be acquired anymore. The sensitive

period is the stage when a skill is obtained at the lowest cost or effort. Second, it implies that there is no equity-efficiency trade-off in the early life investments. The returns to remediation policies for disadvantaged adolescents are lower than the returns to investments at early childhood among children from disadvantaged background.

The technology of skill formation has a dynamic implication for how human capital investment should be distributed across the life cycle. Figure 16 below depicts the summary of the findings of this large empirical literature that suggests that earlier age investments has greater marginal returns compared to later life investments. The horizontal axis represents the individual's age. The vertical axis represents the returns to investment in human capital. Assuming (i) that the amount invested in each period is the same, (ii) the cost of the investment is constant and exogenous, and (iii) the individual has enough funds to finance the investments, investments in human capital presents decreasing marginal returns and the individuals will invest up to the point that the marginal gain (represented by the curved line) is equal the marginal cost r of funds.

Figure 16: Rates of return to investment in human capital



Source: Cunha et al (2006)

9.2 Cognitive and socio-emotional abilities

The recent literature on life cycle skill formation has emphasized the fact the skills are multidimensional and both cognitive and socio-emotional abilities are important for a successful adult life. Several studies have documented that cognitive abilities are important determinants of schooling, wages and other socio-economic outcomes in the adult life (Heckman 1995; Murnane, Willett and Levy 1995).

There are also evidences that socio-emotional abilities have important direct effects on adult outcomes. Abilities such as perseverance, motivation, time preference, risk aversion, self-esteem and self-control have direct impacts on schooling as well as on wages and crime behavior (over and above schooling) (Borghans, Duckworth, Heckman and ter Weel 2008; Bowles, Gintis and Osborne 2001; Heckman, Stixrud and Urzua 2006).

9.3 The role of the early childhood investments

Abilities are malleable and can be strongly influenced by the environment. Abilities attained during early childhood are crucial to the development of an individual's lifetime skills. Ability gaps across individuals of different family and economic background appear at early ages and remains later in life (Cunha and Heckman 2006).

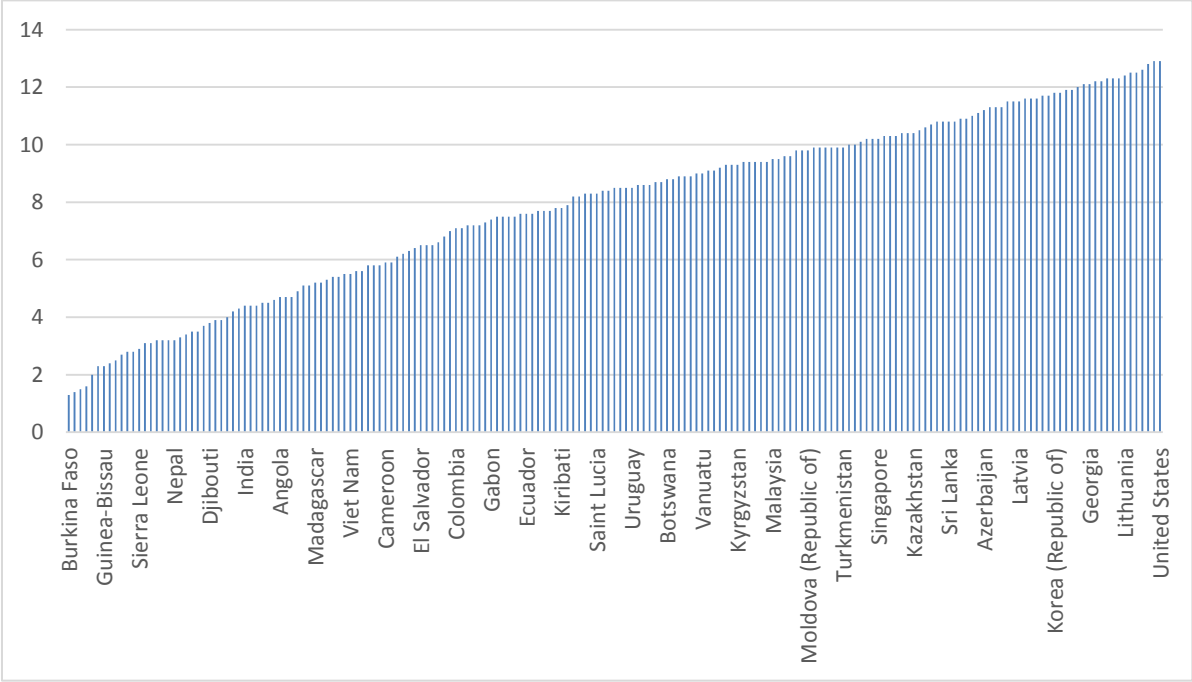
There are evidences, however, that appropriate early childhood interventions can be very effective in reducing or even closing the ability gaps across children of different socio-economic backgrounds. For instance, the Perry Preschool Program, an early childhood program at Chicago targeted at disadvantaged children and which was evaluated experimentally, has significant impacts on several dimensions in adult life such as cognitive tests, employment, earnings, crime behavior and others (Schweinhart et al 2005).

9.4 Schooling in the developing world: The role of credit constraints

Improvements in the human capital of the individuals are crucial to the development process. Lower income countries exhibit less average years of schooling compared to higher income

countries. Figure 17 below presents the average years of schooling of the adult population of 187 countries in 2012.

Figure 17: Average Years of Schooling of Adults by Countries, 2012



Source: Barro and Lee (2013)

Barro and Lee (2013) compile these Figures using the available data for most of the countries. The average years of schooling across all countries is around 8 years of schooling. The lowest is Burkina Faso with 1.8 and the highest is Germany and US with 12.9.

The interaction between low income and low education perpetuates the situation characterized as a poverty trap. Many channels can generate poverty traps. One central channel is the role of credit markets in the financing of human capital investments. Poor individuals cannot afford to pay for their education. If they cannot borrow from the credit market, they do not invest in their human capital. In general, poor families lack resources or assets that are used as collaterals for loans. In the absence of a developed credit market which accepts higher future earnings as collaterals for the loans, poor families would invest less in

the education of their offspring. Having less education, they would remain poor. On the other hand, richer families are able to invest more in human capital and thereby to earn more in the future. The presence of credit constraints can explain why individuals have different levels of schooling and income within a country (Orazem and King 2008) or why countries differ in their levels of income and human capital (Ljungqvist 1993).

Several policies have been implemented to improve the human capital accumulation in developing countries. From the demand side, conditional cash transfer programs, school subsidies and voucher programs have been experimented with in many countries. On the other hand, improvement in school access and school quality and teachers' training are examples of policies in the supply side. The results are mixed. Many policies aimed to increase school enrollment have been successful although improving learning is still a challenge (Glewwe and Kremer 2006). The effectiveness of the educational policies seems to depend on the appropriate policy design that is well-adjusted to the context (Behrman 2010).

9.5 Vocational education and training

An alternative to the general education path is vocational education and training (VET). This form of education seeks to provide practical experience in a particular occupational field, thereby often breeding specific human capital. VET programs are usually known for easing the school to work transition, increasing workers' productivity and helping provide the market with demanded specific skilled labor. Nonetheless several aspects of this form of education are still unclear: The long term benefits of vocational education, who should pay for it or which system to use, for example, are still up to debate.

9.5.1 The trade-offs between general and specific human capital investments

On that aspect, one of the first works to assay the trade-offs of specific human capital investments was Becker (1962). Becker defines general human capital as the type of human capital that increases a worker's productivity in all firms. Opposed to it, there is the specific

human capital which is a form of capital that increases productivity by different amounts in each firm. For example, a doctor trained internally in a hospital can use her skills in other hospitals and hence it is considered a general skill. The ability to operate special equipment used in one firm only can be considered a specific skill.

One advantage of vocational education programs is that they are able to provide workers with both types of skills. Technical Schools for example are known for breeding general human capital that can be used throughout an entire industry. On-the-job training programs, on the other hand, provide workers with a specific human capital for a particular firm.

9.5.2 Short term and long term benefits

One common claim about specific human capital investments is that it eases the school to work transition by decreasing the probability of unemployment after high-school. Hanushek *et al.* (2011) provides an interesting analysis of life long benefits of this different type of education. After carefully examining unemployment trends in several countries Hanushek *et al.* (2011) concludes that even though vocational education paths may lead to an increase in employability on the short term after graduation, this effect tend to be dissipated over time. In fact, at later stages of life, general education programs seem to contribute more to an increase in worker's employability.

Although varying considerably by country Hanushek *et al.* (2011) argues that one reason for this difference is that individuals with general education are more likely to take a career-related training than individuals with a specific education. That means that general education generally puts workers in a better position to update their skills, an important asset in dynamic economies.

9.5.3 Firms' vs. individuals' investments

Becker (1993) argues that since in competitive markets wages are equal to marginal productivity, firms would have no incentives to make general human capital investments because any marginal productivity increase would be offset by an equal increase in wages. A firm will only offer training if its costs are paid by its employees, who ultimately are the ones that will benefit from the higher wages. Since specific human capital is defined as the type of training that increases productivity for one specific firm only the wage assumption does not hold. That is, the individual cannot find a higher wage elsewhere and hence the firm can benefit from retaining the services of the trained worker.

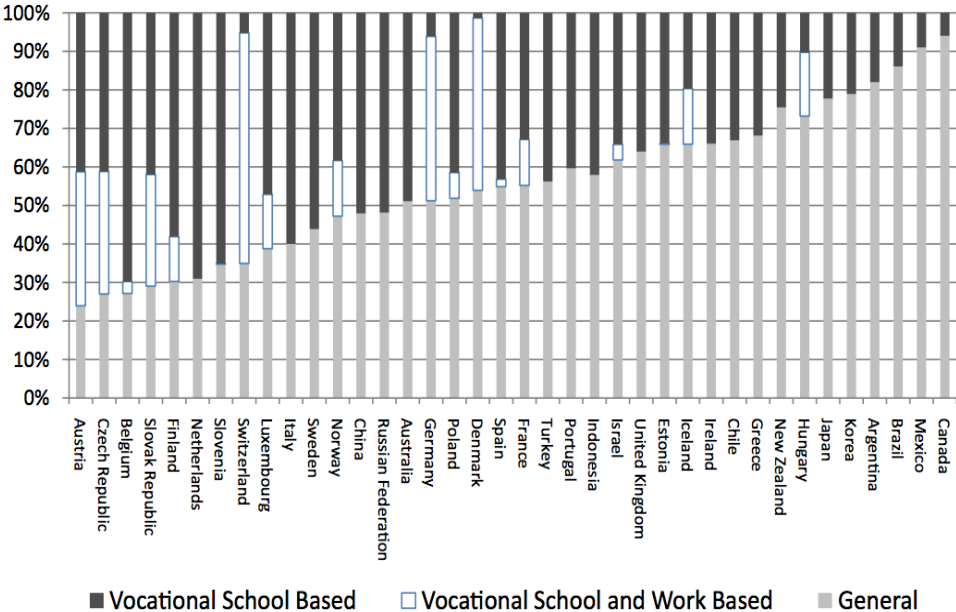
The practical implications of this theory is that firms tend to pay for specific human capital training since they benefit from the higher productivity of workers while workers pay for general human capital formation since in this case they benefit from the higher wages. Although purely specific and purely general human capitals are rare in practice, Becker's model is considered to be an important insight on the forms of financing the investments on human capital.

9.5.4 "In class" training vs. "on the job" training

Countries differ significantly on the relative amount of investment in general and vocational education. Additionally, VET systems vary significantly across countries. Figure 18 below shows the proportion of workers by type of education across selected countries. Some countries rely heavily on general education such as Canada and others rely more on VET such as Austria. As noticed in Eichhorst *et al.* (2015) three main categories stand out: the vocational and technical schools, the formal apprenticeship programs and the dual system. The vocational and technical schools are more typical of Southern European countries. This system relies on the educational system to provide the practical skills demanded by specific occupations. Although still considered vocational education, vocational and technical schools

deal with a highly transferable form of knowledge when considering the Becker model and thus can be used to increase the productivity of an entire industry and not only a particular firm.

Figure 18: Shares of general, vocational and “dual” vocational education enrollment at upper secondary level in selected countries in 2011



Source: Zimmermann et al. 2013

Second, in the formal apprenticeship programs, most commonly found on the United States, United Kingdom and in Australia, human capital is acquired mostly on the workplace, with institutional instruction serving merely as a complement. Unlike the previous system, apprenticeships teach a very specific type of skill.

Finally, there is the dual system. Typical of Germanic countries such as Austria, Switzerland and Germany this system is in a middle ground between apprenticeship and vocational and technical schools. Displaying a high degree of formalization and a strong involvement of the social partners, this system relies on both vocational schools and employers to provide vocational training. While knowledge from this system is considerably

more transferable than in the previous one, governments usually bear the costs of training in schools, while institutional framework allows companies benefit from trained workers.

9.5.5 The challenges of the matching between the structure of the supply of the vocational training and the structure of the occupations in the labor market

Another common argument about vocational education, or about more specific types of human capital, is that it leads to higher horizontal mismatches. That is, since the vocational education demands very specific skills then the chances of mismatches between the field of training and the job structure are higher. This correlation between specific human capital and horizontal mismatch was first noticed in Robst (2007) at the college level but can also be applied to VET courses. In a recent article however, Eymann and Schweri (2015) finds no evidence that this mismatch leads to a wage penalty in a highly vocational education oriented country like Switzerland.

On the other hand Mavromaras *et al.* (2012) finds that vocational educational workers are less prone to vertical mismatches when compared to other workers with more general degrees. That is, workers in vocational tracks have a lower probability of being considered over-skilled or under-skilled for the job they hold. Although the final impacts of vocational training on mismatches is still open to debate (Kahn 2015), it seems clear that school-based VET are more effective when a proper match can be made between the vocational training and the future occupation of employment (Zimmermann *et al.* 2013; Eichhorst *et al.* 2015).

Although vocational education increases the chances of employment, there are two concerns about it. First, there is a broader concern about the right mix of general and specific knowledge a young individual should acquire. General skills that include a minimum amount of culture that allows individuals to become an engaged good citizen are desired. Too early entry in the vocational track may hamper the acquisition of this type of general skills. Second,

the rapid changing technologies increase the risks skill obsolescence. The challenge is to design a training system that allows individuals be retrained frequently.

9.6 Tertiary education

Higher education is an important path for many students. There are several evidences for many different countries that the college wage premium is high (Peracchi 2006). However, countries differ significantly concerning access to higher education. For instance, around 2/3 of high school graduates access some form of post-secondary education in the US (McPerson and Schapiro 2006), whereas this figure is less than 15% in Brazil.

Given that it is highly specialized, higher education is very costly. This fact raises several questions regarding efficiency and equity issues. On one hand, even among higher income countries, there are credit-constrained families that cannot afford its cost. Some of these potential students could profit from going to college beyond its cost. Moreover, higher education can generate positive externalities on societies. It can help, for instance, promote technological change and generate better-informed public debate. Additionally, if selection into college is merit-based only, it can raise inequalities and perpetuate low diversity among higher education population. If the provision is left to the market alone, it can create inequities (Chapman 2006).

Countries have tackled the higher education access issue in different ways. There are cases where the supply of higher education is public and fully subsidized to the students (some European and Latin American countries) and other that the supply are public or private but it is subsidized through student loans (USA, UK). Clearly, there is no silver bullet to the best way to provide higher education. Fully subsidized and free access to higher education has the advantage of allowing a greater access but with high costs that may lead to over-education (Groot et al. 2000). Credit and students loans may be a better way to enable self-selection by

individuals into college but in order to be effective it has to be well designed and implemented (Chapman 2006).

The challenge is that the increase of life expectation and the expansion of the technological frontier push for higher education expansion and the societies have to find creative ways to provide affordable access to the new generations.

9.7 On the job training

Individuals can continue to accumulate human capital after they have completed their formal education through further investments in on the job training. Training on the job can occur through learning by doing or through formal training programs at or away from the workplace. The costs of such investments include the reduced productivity of the trainees during the learning process and the time devoted by the trainers. The benefits for the worker are the gains in productivity later on. These investments can be in general or specific human capital. Generally, employees and employers share their costs. The greater the investment there is in specific human capital the greater the cost share born by employers.

There is empirical evidence that on the job training increases worker's productivity. Haelermas and Borghans (2011) conduct a meta-analysis of the wage effects of on the job training and find that it increases wages, on average, by 2.6 percentage points. Adjusting for hours spent on the job training and schooling, and assuming the rate of return to schooling is 8 per cent, the authors estimate that training courses are profitable until the age of mid-50.

Of course, there is great heterogeneity across training courses. Knowledge about the expected wage returns of a specific program is important for a firm to decide which investments on the job training to provide. Moreover, if well designed, on the job training can be a helpful policy for those that missed the earlier opportunity to invest in their human capital and need to catch up later in life. For instance, Heinrich et al. (2013) find positive

impacts on earnings and employment of the two primary adult workforce support and training programs under the U.S. Workforce Investment Act (WIA).

9.8 Concluding Remarks

There is accumulated evidence about the importance of investments in human capital for an individual's productive and successful adult life. The correct human capital investments in the appropriate time along the life cycle of the skill formation can have lasting effects. And well-designed interventions can mitigate or even compensate those less fortunate individuals that did not have the appropriate human capital investment early on.

There are some clear policy recommendations from this literature. First, appropriate early childhood investments are crucial for an individual's success in life and are the most cost effective way to reduce inequalities of opportunities. Thus, governments should create opportunities for early childhood investments for all and appropriate interventions for those less fortunate children in order to avoid potential future risks for their human capital accumulation process.

Second, skills beget skills. Thus, later life investments should be made so that the development of abilities and skills be fully realized. Governments should provide opportunities for the continuation of the human capital investment process. Special attention should be given to mobility between different educational tracks, and avoiding early selection and dead ends.

Third, even if an individual reach adult life with lags and gaps on their human capital, there are appropriate policies that can mitigate or compensate for these gaps. In these cases, government can provide appropriate policies that need to be well designed and contextualized in order to bear their full fruits.

Finally, since the technology and occupation changes are increasingly becoming facts of life, appropriate institutions of training and retraining workers should be put in place with sufficient fluidity so that demand and supply of skills are adjusted appropriately.

10. Protection against labor market risks: employment protection, unemployment benefits and active labor market policies¹⁵

The welfare state has a major influence on the functioning of the labor market through different types of benefits, work incentives, active labor market policies, but these institutions also interact with other labor market institutions such as employment protection, human capital formation or wage setting. From the perspective of social progress in times of constant economic change, technological innovations and globalization, it is an important empirical research topic and a policy issue to understand and adapt labor market institutions and welfare state features in order to balance flexibility and security in line with a progressive orientation. Therefore, the different pillars of protection against labor market risks need to be analyzed - employment protection, unemployment benefits and active labor market policies – but special attention has to be paid on design issues that relate to the interaction of the three pillars.

10.1 Where do we stand and what are the trends in employment protection?

Employment protection legislation (EPL) is a set of norms governing the dismissal and the hiring of employees. The rules of employment protection can have several objectives: protecting employees against the abusive behavior of employers, limiting dismissals to reduce the social costs of reorganizing the productive apparatus, stabilizing the total volume of employment, increasing employment, etc.

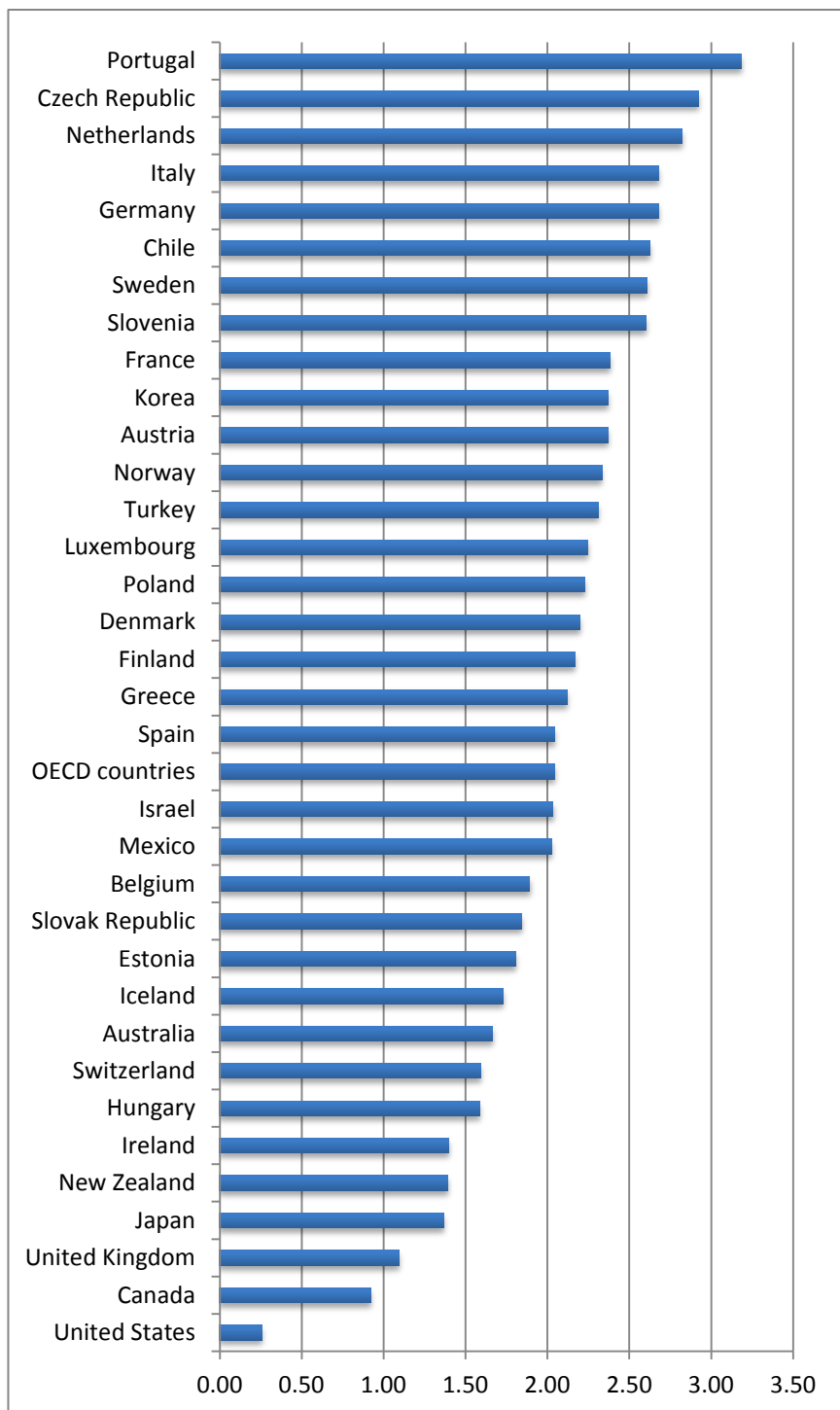
Figure 19 displays the OECD indicator of the strictness of employment protection legislation for workers on regular contracts, which focuses on the conditions for terminating

¹⁵ Section drafted by Pierre Cahuc, Werner Eichhorst and Kathleen Thelen.

employment and the consequences if a dismissal is found to be unfair. The OECD indicator goes from 0, for the less strict regulation, to 5 for the most stringent. Figure 19 shows that there is a strong heterogeneity across OECD countries in 2013. The stringency of regulation is low in English-speaking and common law countries whereas it is high, above the OECD average, in the Czech Republic, Portugal, France, the Netherlands, and Germany. EPL is also an issue in many developing countries which are featuring stringent EPL in their formal sector.

The actual heterogeneity in the strictness of employment protection may be even more pronounced than that displayed in Figure 19 because the OECD only reports the mandatory legislative restrictions governing recruitment and dismissal. In practice, employment protection can be specified in legislation, collective agreements, or individual employment contracts. It also depends on the interpretation of rules by courts or tribunals and the effectiveness of enforcement that are not accounted for by the OECD indicator.

Figure 19: OECD indicator of the strictness of employment protection for individual and collective dismissals (regular contracts) in 2013



Source: *OECD Indicators of Employment Protection data base*

Economic analysis indicates that EPL mainly has an ambiguous impact on unemployment and employment. Of course, employment protection reduces the destruction of permanent jobs. However, on the other hand, it reduces employment creation, as the additional costs induced by maintaining an unprofitable workforce reduces the anticipated profitability of new jobs. Furthermore, EPL can increase the stability of some jobs and

increase the instability of other jobs not concerned by the most restrictive provisions, leading to more dualism or segmentation in the labor market. EPL also has an ambiguous impact on productivity: on one hand it can improve the experience of workers because it increases their job tenure, but on the other hand it may weaken the necessary reallocation of the labor force towards more productive jobs.

Many empirical studies have been devoted to EPL over the last two decades, exploiting natural experiments provided by reforms of EPL. The empirical literature which relies on microeconomic data with proper identification strategies finds that more stringent EPL reduces labor turnover of permanent workers, but has adverse effects on overall employment and increases the instability of temporary jobs (see Boeri et al. 2015, for a recent survey). EPL also reduces labor productivity and lengthen unemployment spells.

All in all, EPL has strong redistributive implications. It protects those who already have a job, notably a permanent contract in the formal sector. Unemployed individuals and workers with temporary contracts generally suffer in the presence of strict EPL rules for permanent contracts and therefore gain from labor market flexibility enhancing reforms, notably when they are implemented uniformly across the board rather than being confined to new hires in new types of contracts. Two-tier regimes that allow for the coexistence of very rigid and very flexible contract types indeed increase labor market segmentation, preventing the outsiders from having access to the primary labor market of permanent contracts. Therefore, EPL does not appear to be an efficient tool to protect workers against economic uncertainty.

10.2 What do principles of justice suggest?

10.2.1 Protecting employees against abusive dismissals

The need to protect employees against abusive dismissals constitutes an objective of employment protection in Europe. It is the doctrine of the ‘just cause’, which states that

employers cannot fire their employees without invoking a proper reason. This doctrine is not applied everywhere. For example, the United States, which have the lowest degree of strictness of job protection among OECD countries, have adopted the doctrine of employment at will, which states that an employer can terminate a work contract for good reasons, bad reasons or without reason, as long as it does not infringe fundamental human rights. This doctrine, which does have a few exceptions in the United States, is justified by the idea that imposing constraints on the choice of work contracts is more of an inconvenience than an advantage for employees. They are free to negotiate redundancy payments, even for lower salaries, if they want. However, according to this doctrine, imposing legal redundancy payments would have negative effects on salaries or other benefits that an employee would get out of the employment relationship, which an employee does not necessarily want.

This doctrine is valid in an environment where the labor market works in a perfectly competitive manner without information asymmetry between employers, employees and public authorities. This is obviously not the case in general. As such, the doctrine of the just cause needs relevant justification. For example, an employer can fire employees because they demand the application of costly regulations, even if they are useful for the entire company, like regulating work accident prevention. This kind of dismissal is clearly abusive: it goes against a regulation that is justified by efficiency and fairness.

10.2.2 Providing insurance against dismissals

Besides justifying employment protection legislation by the need to protect workers from arbitrary actions by employers, it can be argued that employment protection can provide insurance to workers when the lack of public employment insurance or imperfection of financial markets limit the possibilities for workers to insure themselves against dismissals. However, job protection inhibits the ability of firms to adapt their manpower and hinders the reallocation of workers toward more productive jobs. More stringent protection of open-ended

contract also induces firms to use more temporary jobs, which increases job turnover and labor market segmentation. From this perspective, job protection is clearly not the best policy to provide insurance against dismissals. Unemployment insurance accompanied by active labor market policies aiming at facilitating the reallocation of workers from low to high productive jobs is much more efficient than job protection.

10.2.3 Job protection and the social value of employment

The decision to destroy a job can have repercussions that go far beyond just the interests of the company and the employee concerned. In this case, the value of a job for the whole economy—its social value—is different from its private value.

An important reason for the gap between the social value and private value of a job resides in the design of the tax system. A very large majority of tax revenues come from people who have a job. The unemployed and the inactive contribute very little to financing collective goods and transfers. This results in a difference between the social value and private value of a job, measured by the loss of obligatory contributions and the additional costs in the form of social transfers induced by the passage of the status of employee to that of unemployed or non-working.

In this context, an employer that fires one of its employees counts on the other employees and employers to finance the benefits of the dismissed employee. This employer also does not taken into account the fact that the job they destroyed will no longer help finance unemployment insurance. By neglecting the fiscal consequences caused by their behavior when they dismiss someone, companies only take into account the personal costs of what they suffer and not the actual cost of this dismissal for the group. In situations where this actual cost exceeds the personal costs, companies will have a tendency to destroy too many jobs. As stressed by Blanchard and Tirole (2007), a tax on layoffs, proportional to the social

cost induced by layoffs can constitute a form of EPL that incentivizes employers to take socially efficient layoff decisions.

10.2.4 Major obstacles and opportunities

Governments carry out reforms to increase the flexibility of the labor market. Nevertheless, most frequently, these reforms essentially made the labor market flexible at the fringe by facilitating the use of temporary jobs without significantly modifying the protection of permanent jobs. In many European countries, this evolution has resulted in a strong segmentation of the labor market, with a market for temporary jobs, reserved as a priority for labor market entrants and re-entrants (youth, women who have to stop working to deal with care responsibilities, immigrants and less qualified employees), and a market for permanent jobs, reserved as a priority to the most qualified employees with good professional experience. In this context, temporary jobs act as an adjustment variable, and it is the most precarious populations that are systematically the most affected by recessions.

The segmentation of the labor market between temporary and permanent jobs raises more issues than just those of fairness. It also causes an ineffective rotation of the workforce on many levels. Firstly, it translates into a rotation excess of the workforce, as companies avoid transforming temporary jobs into permanent jobs when the costs of parting with the employee are different. Consequently, the employees in temporary jobs that stay with the company for a limited time benefit less often from professional training programs and have more problems building up a professional career. Moreover, the strong protection of permanent jobs, characteristic of highly segmented labor markets, limits the reorganization possibilities of a large part of the productive apparatus.

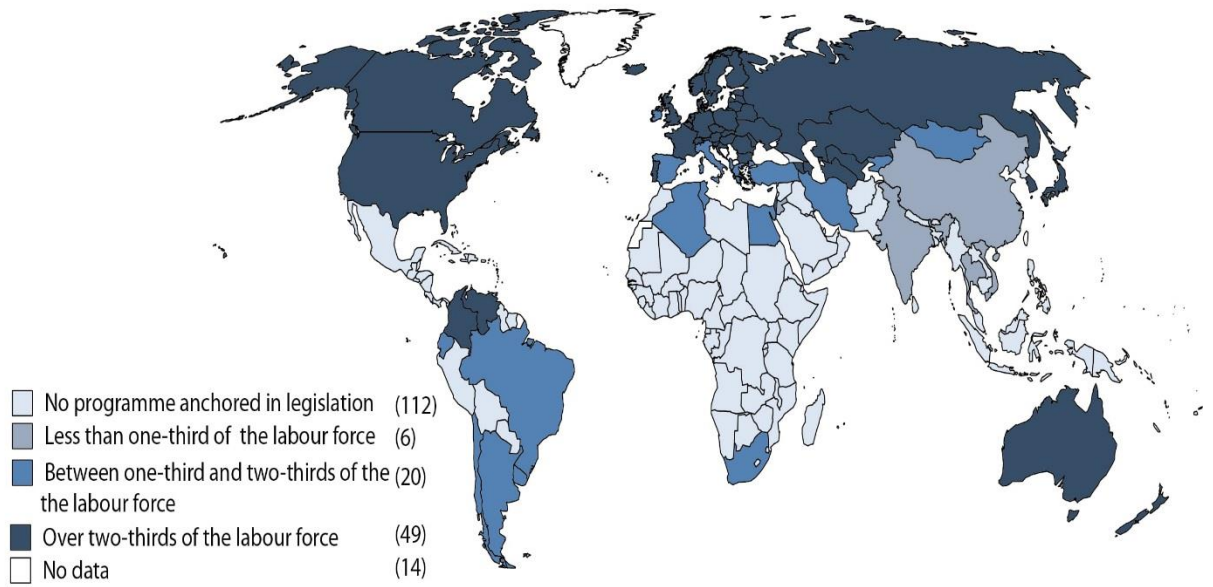
In order to complete labor market reforms, as a priority, governments should reduce the segmentation between temporary and permanent jobs and align the social and the private values of employment. A foreseeable strategy consists in substituting Pigouvian layoff taxes

(setting incentives to avoid negative external effects) to the rules that limit the dismissals for economic causes. The details of implementing this strategy depend of course on each national context (Garcia Pérez, 2015). These reforms should be part of a comprehensive package that promotes a better safety net and the reallocation of labor towards more productive jobs relying on effective unemployment insurance and re-employment services (Scarpetta, 2014, Eichhorst, Marx and Wehner, 2016), effectively linking the functioning of the different pillars of protection so that they support each other in providing flexibility and security at the same time and in a fair and balanced way.

10.3 Unemployment benefits and active labor market policies

Welfare state elements such as unemployment benefits and active labor market policies can provide security of income and adaptability via better reemployment chances in a flexible and turbulent labor market. This understanding of unemployment protection allows for the reconciliation of security objectives with a flexible labor market that depends on successful transitions from job to job.

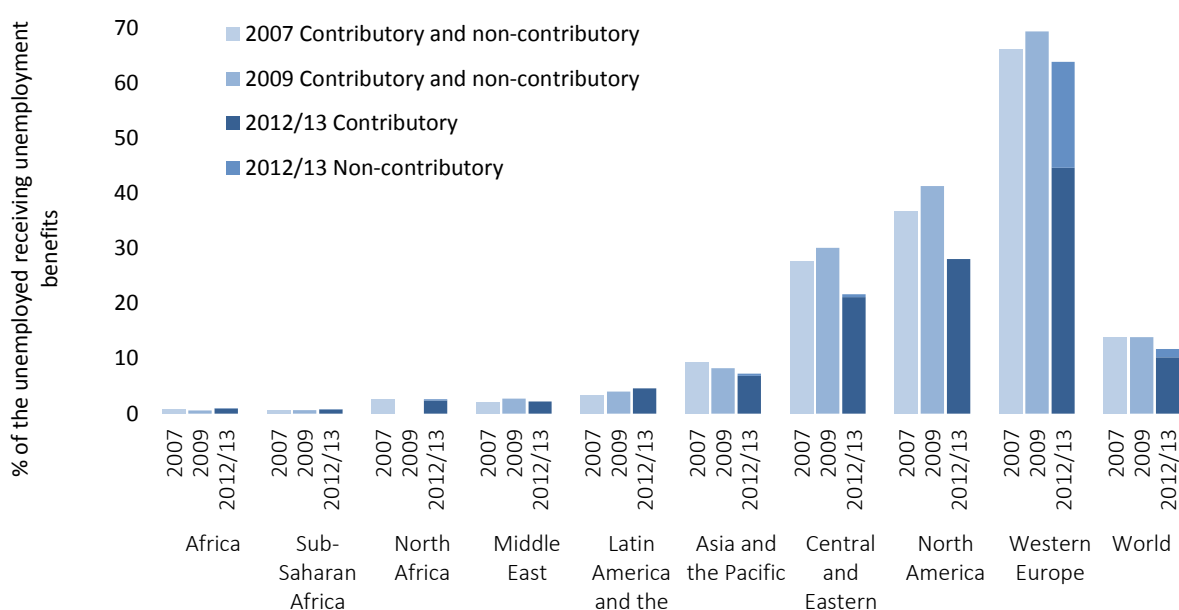
Figure 20: Unemployment protection schemes worldwide by extent of legal coverage of the labor force, latest available year



Note: Figures in brackets refer to the number of countries in each group. Data from 2009-13; for most countries, 2012/13.

Source: *ILO World Social Protection Report 2014/15*.

Figure 21: Effective coverage of unemployment benefits, 2007, 2009 and 2012/13



Notes: Numbers of unemployed receiving unemployment benefits collected from national social security unemployment schemes. Global average weighted by the labor force.

Source: *ILO World Social Protection Report 2014/15*.

Most countries with unemployment benefits have a two-tier system based on (a) unemployment insurance linked to contributions during employment that provides earnings-related benefits for a limited duration, and (b) means-tested income support schemes for those unemployed people with no or insufficient entitlements to insurance benefits. Graphs 24 and 25 however show the huge differences in formal and effective coverage by unemployment benefit systems. In many low- and medium-income countries access to benefits is very limited.

The effects of benefit systems on income, employment trajectories and other indicators have been analyzed intensively. First, it can be shown that unemployment benefits play a

stabilizing role at the level of the individual or household as well as at the level of the economy. On the one hand, they compensate for part of the individual income loss due to unemployment, and on the other hand, as they kick in quickly in a recession with increasing unemployment, they can effectively stabilize domestic demand (Dolls, Fuest and Peichl 2012). Hence, well-designed and accessible benefits can help avoid poverty, social exclusion and an aggravation of economic slumps.

Second, unemployment benefits, in particular regarding earnings-related unemployment benefits collected in the initial phase of unemployment, can help protect acquired human capital as the unemployed are not forced to take up the first best jobs, but can afford some time to find the best available job match. At the individual level, this can lead to better labor market transitions, more productive employment and higher earnings, while, at the aggregate level, better job matches imply a more productive employment of those in the labor force. More generally speaking, unemployment benefits systems can serve as a mechanism to ensure the acceptance of a flexible and dynamic labor market (with less rigid EPL) that is characterized by creative destruction and job turnover associated with labor turnover that requires an adaptable and productive labor force. If employment protection becomes dysfunctional to the extent that it stabilizes obsolete jobs and tends to slow down structural change by hampering mobility to more dynamic sectors, well-designed unemployment benefits (articulated with effective ALMPs) can ensure a more mobility-friendly, dynamic labor market. However, in particular, insurance benefits can lead to a double disadvantage for those that have only relatively short employment records such as young people, women who have interrupted participation due to care responsibilities, labor market entrants.

Unemployment benefits also interact with alternative benefits such as disability insurance or early retirement options that may lead to early withdrawal from the labor market.

In general, designing unemployment benefits in a way to minimize disincentives to work and avoid long-term benefit dependency is a core issue. Benefit systems allow the public employment service to remain in contact with their clients, but to counter potentially long-lasting benefit dependency many OECD countries have turned towards activation over the last two or three decades. Making benefit receipt conditional upon active job search and participation in active labor market policy measures has been the major change in this respect, this implies stricter monitoring and enforcement on the one hand, providing better targeted and tailor support on the other hand. Of course, this could not be achieved without changes the mode of operation of public employment services and making them more effective (see also Martin 2014; Martin and Grubb 2001, Eichhorst, Kaufmann, Konle-Seidl 2008, Graversen and van Ours 2008, Rosholm 2014).

When looking at the development of unemployment benefits and ALMPs in major world regions, in particular after the crisis, one major trend has been to try to buffer the impact of the crisis through some benefit expansion, in particular towards vulnerable groups such as fixed-term employees, freelancers or young people—however, in times of austerity this was oftentimes counterbalanced by retrenchment measures (ILO 2015c, European Commission 2016). The same holds for ALMPs where both expansionary and curtailing steps could be observed. Hence, there is the challenge of unequal or limited protection and support in some countries, not only developing countries, as regards insurance for labor market entrants, unemployed with short employment spells and in case of exhaustion of insurance benefits.

The evaluation of ALMP has made major progress both in terms of data, methods and establishing a significant body of evidence, mostly for developed countries (Card, Kluve and Weber 2010, 2015; Carling and Richardson 2004; Jespersen, Munch and Skipper 2008; Sianesi 2008; Greenberg, Michalopoulos and Robins 2003). While micro studies analyze the

effects of measures on participants in comparison to similar non-participants, macro studies can also take into account potentially significant side effects such as deadweight losses, displacement and substitution effects. Apart from that, medium and long-run effects might differ significantly from short-run outcomes of ALMPs.

In general, direct job creation schemes fully funded by the public sector are seen as rather problematic with respect to later entry into the regular labor market. However they may play a certain role for the hardest-to-place, but this requires proper targeting and selection. Publicly sponsored training has been proven to show positive medium- and long-run effects on employment probabilities and subsequent careers, once the lock-in effect during the training period is overcome. Again, carefully designing training programs that prepare for actual work experience is crucial. Subsidizing employment with private employers through temporary hiring incentives is costly and has potential side effects on non-subsidized workers and firms, but they can lead to higher employment probabilities of those who would not have entered the labor market so quickly. Finally, job search assistance and placement have been identified as effective and cost-efficient measures. However, there is now also a broad consensus that mainly demanding, work-first interventions based on counselling and strict activation are effective in shortening unemployment, but they work only in such a way for unemployed close to the labor market, but not for others as regards access to decent and sustainable jobs. If there are individual barriers to employment, highly individualized support is preferable, including a broad repertoire of measures, including major training. However, this is quite demanding as regards PES capacities and funding needed.

Active labor market policies are not unaffected by broader institutional arrangements and economic conditions. In rigid labor markets with heavily regulated permanent contracts and other barriers to mobility the role of ALMPs in stimulating entry and career advancement is more limited than in more permeable or 'flexible' constellations. And in a situation of weak

labor demand, the capacity of the labor market to absorb job searchers is more difficult, even if supported, trained and advised. In difficult economic situations with high or increasing unemployment, effective delivery of services at high quality might be more problematic due to a lack of appropriate delivery infrastructure and funding possibilities as well as limited labor demand – which implies also that labor market problems cannot be solved through ALMPs. However, there is also some evidence that ALMPs have a larger impact in bad times (Kluve 2010).

Despite many reforms in the labor market, many countries continue to suffer from a high share of long-term unemployed people or otherwise excluded working-age persons. Long-term unemployment can be combatted with tailored supportive services as many studies show particular effectiveness of ALMPs with regard to those at risk of long-term unemployment (ideally at an early stage) (see also Lalive, Morlok and Zweimüller 2011). However, this requires major fiscal and administrative effort, in particular to deliver appropriate packages of tailored support, including training and other forms of ALMP. For the most difficult to place, some well targeted forms of subsidized employment may be the only realistic option once all other efforts have failed and when one still wants to ensure social inclusion.

Unemployment benefits and active labor market policies have a long tradition in developed countries, designing proper benefit systems and ALMP delivery structures is an unsolved issue in many developing countries and emerging economies, in particular when there is a high share of informal workers and self-employed. In the formal sector, employment protection and severance pay often ensure against income losses. Non-contributory schemes can play a role here as can steps to establish conditional income support schemes that help move to the formal sector (Robalino 2014). On the ALMP side, public works programs can act as a partial replacement for income support in these cases. All in all, a benefit system

combined with active labor market policies generates significant demand for fiscal resources as well as administrative capacities to ensure proper delivery.

Unconditional basic income has been proposed as an alternative to existing conditional benefit schemes with a view of simplifying administration, removing the punitive element of activation policies and facilitating innovation and creativity. However, unconditional basic income is a contested issue as some think that unconditional basic income support would be a plausible option for a future characterized by a decline in paid work while others see this as a risky break with a welfare state and society based on paid work as a major mechanism of societal inclusion, a division of labor and public revenues. In any case, an unconditional basic income would imply a massive change in social policies with fiscal and economic implications that are hard to assess at the outset.

10.4 Flexicurity and the political economy of reforms

Linking the institutional elements discussed above, the term flexicurity, as defined by the European Commission, refers to “an integrated strategy for enhancing, at the same time, flexibility and security in the labor market” (European Commission 2007: 5). The strategy was pioneered in Denmark and subsequently began to figure prominently in the policy recommendations of the EU and the OECD (Jorgensen 2005; Viebrock and Clasen 2009). As the name itself suggests, flexicurity policies seek to reconcile employers’ increased demands for flexibility with the continuing demands of employees for some measure of job security. On the flexibility side, this involves various measures designed to loosen restrictions on employment, including for example changes to employment protection legislation to make it easier or less costly for employers to hire and fire workers, or measures that loosen restrictions on employers’ ability to hire workers in various forms of “atypical” (non-standard) employment (agency work, fixed term contracts, and other forms of irregular (on-demand) employment). On the security side, flexicurity often involves one or more of a

bundle of measures designed to support workers in period of unemployment but also—especially—to ease the transition from one job to another—e.g. through assistance with job searches or job placement, or by providing opportunities and support for retraining. Such encouragements and supports are typically accompanied by inducements—e.g., requirements to actively seek alternative employment or to participate in training programs—a kind of activation “stick” to reduce periods of unemployment and dependence on passive (as opposed to active) support.

The idea of flexicurity took hold in some European policy circles in the 1990s as a response to persistently high unemployment, particularly long-term unemployment and unemployment among youth in many countries. From a neoliberal perspective, some economists had long drawn invidious comparisons between Europe’s “sclerotic” labor markets and the more flexible labor markets of the US and other “liberal” market economies. While such arguments were often overdrawn, it did appear that high levels of employment protection in some cases contributed to the exclusion of labor market outsiders, “hamper[ing] the transition from employment to work” (Viebrock and Clasen 2009:7).

While flexibility argument were thus often brought especially by proponents of deregulation, other critiques emanated from the left, sometimes inspired by the increasing participation of women in the labor market and the growth of various forms of atypical employment. For example, other studies suggested that strong employment protections tend to suppress women’s employment (Nelson and Stephens 2013). In this context, social democrats also had their own reasons for questioning the capacity of traditional social protections to protect against new emerging risks in the labor market. As Colin and Palier (2015), for example, pointed out, traditional social policy in many countries organized around the assumption of households headed by male breadwinners enjoying stable careers within a particular firm or industry, was long out of sync with the growing realities of the service and

knowledge economies, in which women make up a large proportion of the workforce and in which employment is often less routine and less stable. Adapting social policy to this new reality would require a rethinking of traditional assumptions in which the state would be called upon not just to cover “traditional risks” (above all, occasional spells of unemployment) but to adapt to new emerging risks, including those associated with less continuous career paths, ongoing rapid technological change and the need to reconcile work and family in a context in which women increasingly participate in the labor market (Beramendi et al. 2015). This rethinking has been associated with a reorientation of policy initiatives, away from the traditional emphasis on job security toward an increasing focus on employment security—i.e. a retreat from the idea that individuals should be protected against losing a particular job toward facilitating and promoting employability generally—hence the centrality of training and retraining to most conceptions of flexicurity.

Clearly, then, one of the great attractions of flexicurity lies in the appeal it holds for observers and policy makers on different ends of the ideological spectrum (Viebrock and Clasen 2009). Neoliberals praise the “flexibility” components, i.e., the reductions in traditional employment protections and the activating elements of labor market policy, and urge further moves in this direction. Defenders of social democracy, for their part, stress the “security” aspects and the way the model provides support for those displaced by the market, thus reconciling “adaptability to a changing international environment [with] a solidaristic welfare system [that] protects the citizens from the more brutal consequences of structural change” (Madsen 2002: 243).

The idea of flexicurity first gained traction in the context of the Danish “jobs miracle” of the 1990s. After a decade of soaring joblessness and a suffocating public debt, Denmark succeeded in reducing its unemployment rate dramatically, from over 12% to under 5% in the late 1990s. Denmark’s success has been attributed to a set of policies that have been

characterized as involving a “golden triangle” of mutually reinforcing components, namely: flexible labor markets, generous support for the unemployed, and labor market policies that actively underwrite retraining and placement. Some elements of the golden triangle – in particular, relatively low employment protection – were inherited from the past (e.g. Campbell and Hall 2006). Other elements, notably activation and training-based labor market policies were products of policy initiatives in the 1990s (Madsen 2006: 331; also Viebrock and Clasen 2009). Yet even in Denmark, held up as the most successful example of flexicurity, the balance between the “flexibility” and the “security” components continues to be politically contested, as evidence in recent cuts to welfare benefits.

It goes without saying that there is no “one-size-fits-all” flexicurity formula that can simply be copied from one context to another. There is considerable “play” in how policy makers embrace and implement what travels under the broad banner of flexicurity, and individual countries will have to find their own way. Nonetheless, some of the elements of flexicurity – adapted to local political and institutional conditions – may provide a formula for stabilizing broad political acceptance of enhanced market flexibility while at the same time enhancing the security on which such acceptance ultimately depends.

11. Conclusion and policy recommendations

11.1 Summarizing the evidence

This chapter aims at summarizing and assessing the global evidence on major factors influencing the future of work. It has become evident that there is a large variation in national developments, yet, there are shared issues of general relevance that make it possible to tell a global story.

Technology and globalization are intimately related forces driving permanent structural change in employment and affecting the global distribution of economic activities

and jobs. While there has been permanent technological change, its implications differ with respect to levels of development and speed of adjustment around the globe. Over time, global integration has become stronger, not least facilitated by modern IT and other technological innovation, leading to declining costs of international transactions, but also by political decisions to remove barriers. This all points at the importance of political decisions in shaping the impact globalization can have on the further development of employment patterns.

Looking at most recent changes, workers in different parts of the world have been affected quite asymmetrically by technology and globalization. Winners and losers of change can be identified, with a certain tendency towards employment polarization in many developed countries, creating societal and political challenges in compensating for losses while not foregoing the potential wins – and by preparing societies to reap the benefits of technological advancements and global integration through forward-looking, preventive strategies. In addition, demographic change is a major driving force in the world of work around the globe. Diversity in the labor market, induced by demographic factors, is on the increase, with rising employment of women, older workers and migrations, although significant gaps regarding the labor market integration of women, older workers as well as migrants, continue to exist in some regions of the world. Empirical studies into the effects of diversity create a nuanced picture, pointing at the many dimensions of diversity and its consequences.

When looking at different types of employment types we can identify a large variety of contracts, deviating more or less from a permanent, full-time dependent employment status in the formal sector, the standard employment relationship, which is often taken as a benchmark to assess the quality of a job. Part-time work, fixed-term contracts, temporary agency work, but also different forms of self-employment or own-account and crowd work as well as informal employment differ regarding core parameters such as employment stability, earnings and inclusion into social protection from standard employment. Institutional changes, but also

changes in the structure of demand and supply for certain skills have opened up this broad diversity of contractual relationships in the world of work around the globe, not least the creation of highly flexible demand patterns and complex value chains in today's economies. Virtually all labor markets exhibit some forms of segmentation, with barriers to mobility between the segments. From a policy perspective, narrowing the regulatory gaps as well as inequality regarding inclusion into social protection between different contract types is a pressing issue, with concrete challenges depending on the national context.

While there is a fragmentation of labor markets characterized by different forms of 'external' flexibility, firms have also become more flexible 'internally', i.e. as regards their internal processes of working, but in particular regarding working time and mobile working. In general, patterns of working time and work place flexibility can be in the interest of employers, of workers or both. Over time we have seen many new and diverse arrangements emerging, potentially reconciling productivity and flexibility interests of employers and work/life preferences of workers. There has been an improvement in many cases. Still, there are many issues that can be perceived as problematic from a social progress point of view, in particular very short, very long and unpredictable working time requirements or ill-designed shift work arrangements which have negative effects on workers' health and families. This is also observed in poorly regulated informal employment or in segments of formal labor markets where working time standards have eroded due to a lack of collective bargaining and appropriate legislation and enforcement.

Moving to the margins of the labor market, different forms of under-, non- or unemployment continue to exist, pointing at a full or partial exclusion of some groups from paid work. Patterns of exclusion and boundaries of the labor market are structured by institutional rules defining certain status forms, and in particular only the existence of a welfare state and social policies make unemployment a useful category and indicator in some

regions of the world. This creates measurement issues on the one hand, calling for a multitude of indicators to assess and compare the extent of lack of work, and effective policies to combat unemployment and exclusion on the other hand.

More heterogeneous work force can bring about gains in terms of productivity and innovation while requiring additional efforts regarding cohesion and integration. Diversity is also often linked to discrimination. In fact, there is empirical evidence on discrimination in the labor market based on ethnicity, gender, age, disability, sexual or religious orientation—this is not only creating barriers for individual careers but also implying a loss of productive potentials in the economy. Anti-discrimination rules and systematic awareness raising, monitoring and enforcement are therefore justified as are positive strategies to change actual practices in the labor market.

Work is a core human activity, and it is intimately related to individual health and well-being. While unemployment is definitively harmful in terms of well-being and health, being employed can help raise individual well-being and health. However, there are also some health risks attached to work. Precarious forms of work can have negative effects on mental health. Industrial work was particularly at risk of physically hazardous working conditions as regards occupational injuries or work-related diseases caused by chemical substances, but as a matter of fact, in many low and medium income countries these risks are still very much a present phenomenon. However, in many developed countries recent changes in the modern world of work have created new mental and psychological demands on individuals, creating stressful psychosocial work environments and working-time related stress. These conditions have now been identified using theoretical models and standardized measurements, and respective research evidence indicates that jobs defined by high demands and low control, and by high effort in combination with low reward, increase the risk of stress-related disorders, such as cardiovascular disease or depression. While this evidence has clear implications for

work practices within firms so that employers have to meet their responsibilities, there is a role for public policies as regards the prevention of health risks at the workplace, in particular with respect to regulation, monitoring and support services.

Collective bargaining is an important institutional mechanism to establish negotiated standards regarding pay, working time and other working conditions. It also has a role in settling distributional conflicts. Compared to legislation, collective agreements can be more flexible as they take into account sectoral or firm-specific issues. Empirical research can show that multi-employer collective bargaining can lead to lower earnings inequality and that coordinated or centralized bargaining is beneficial to a positive economic development. Yet, bargaining systems are quite diverse around the globe, with huge differences in bargaining coverage, union density and employer organization, as well as a tendency to decline in collective bargaining coverage and increased decentralization; similar differences can also be observed inside individual countries. While collective bargaining is a voluntary system, public policies such as extension clauses and minimum wages can also contribute to shape wage structures in systems with low organizational density.

Human capital is a core element of individual life chances and employment potentials. It is also crucial for economic productivity and societal wealth. Empirical research points at the fact that skill formation has a peculiar pattern over the life course with educational investments at different stages building upon each other. Education in early childhood has the strongest returns and a clear potential of reducing ability gaps across children from different backgrounds. Schooling enrolment is far from complete, in particular in medium and low income countries, but is essential in securing individual chances of independent living outside of poverty. Comparative research also gives hints at the specific contribution of vocational education and training for a smooth transition from school to work, in particular if combined with structured learning in firms. Higher education is important for societal progress and

innovation. As with schooling also higher education tends to operate under credit constraints so that support through public subsidies is an important measure to mitigate inequality in access to higher education. Finally, continuous training on the job is needed to update skills in a changing economic environment.

Policies regarding employment protection, unemployment protection and reemployment have direct influence on stability and mobility on the labor market. In many countries, institutional rules governing permanent contracts in the formal sector stabilize open-ended employment relationships, but may hamper entry into the core labor market for some groups in the labor force as they tend to reinforce a segmentation of employment. Furthermore, in many countries both formal and effective coverage by unemployment benefits is very limited, leading to a double disadvantage of those in more temporary or informal employment as their access to unemployment protection is also limited. Hence, employment and unemployment protection often privilege certain groups over others, creating gaps in protection for the most vulnerable people. Active labor market policies can help promote the reentry into employment after phases of unemployment, and in fact, there are many options of effective reemployment measures – however, taking a global perspective, the delivery of such policies is quite unequal given institutional, administrative and fiscal constraints. All in all, relaxing employment protection while strengthening unemployment benefit systems and active labor market policies can help support individuals in a dynamic economic environment where transitions between jobs need to be secured. This, of course, requires fundamental institutional change and capacity building in many countries.

11.2 Policy conclusions

Based on our assessment of the global evidence on core employment issues, some conclusions for supranational, national and sub-national policy making can be derived.

First, and going much beyond employment policies, opportunities for economic growth should be provided in accordance with ecological sustainability—without such sustainable dynamism good jobs for all can hardly be realized.

Second, in our understanding, full and fair employment in the formal sector should be made a central aim of international institutions and national developmental strategies.

Third, while there is much variation between countries and sectors in terms of development, resources available and institutional capacities, we think that good jobs can be characterized by a couple of essential features.

Good jobs

- are free of major characteristics of precariousness, such as a lack of stability and a high risk of job loss, a lack of safety measures and an absence of minimal standards of employment protection
- enable working persons to exert some control on matters such as the place and the timing of work and the tasks to be accomplished, and these jobs place appropriately high demands on the working person, without overtaxing their resources and capabilities and without harming their health
- provide fair employment in terms of earnings and of employers' commitment towards guaranteeing job security
- offer opportunities for skill training, learning and promotion prospects within a life course perspective, thereby sustaining work ability and stimulating individual development
- prevent social isolation and any form of discrimination and violence

- aim at reconciling work and extra-work demands by implementing appropriate rules in day-to-day practices

Inclusive institutions—ranging from legal and regulatory framework, state welfare provision, collective bargaining coverage and corporate management to cultural environment—are needed at global and national levels to provide equitable opportunities for a broad cross-section of society and to enhance human development.

Global employment goals embedded in the SDG with a focus on the different aspects of decent work as defined by the ILO, but also regional political strategies such as Europe 2020 have not fully met their ambitions. However, having such global or regional benchmarks is helpful as an ultimate policy orientation, but change is still mainly driven by national if not subnational actors. Here, both economic crises as well as political and fiscal constraints hamper easy progress. Hence, policies towards strengthening full and fair employment and good work for all may vary according to the level of economic and cultural development in different regions of the world as well as according to institutional arrangements at national level.

We can recognize that technological change and globalization generate new jobs while undercutting existing employment is essential. If programs addressing job displacement are implemented, efforts to facilitate reskilling are preferable to cash compensation, though either must come with access to public and health services. Using public funds to shape technologies that generate more employment than they destroy should be a priority for regions, nation states, and transnational institutions. And global trade agreements must resist lobbying seeking gains for the few at the expense of the many (Stiglitz, 2002). Globalization cannot be framed as a race to the bottom, but rather as a process founded on minimum standards for employment everywhere.

Against this backdrop, we see a core set of policies that are essential:

- Rules regarding employment protection should allow for flexibility while avoiding a deeper segmentation of the labor market; labor laws should neither provide incentives to employers for choosing a particular employment relationship nor create obstacles to mobility on the labor market. Protections should cover all types of work, yielding no particular hidden advantage of choosing one or another type of work. This would expedite the use of different types of employment relations with no mandates prescribing one type of work or another.
- Unemployment protection through social insurance and basic income support should be coupled with appropriate active labor market policies to both replace income losses in phases of unemployment and accelerate reintegration into employment; Social protections should cover all types of work, yielding no particular hidden advantage of choosing one or another type of work.
- Skill formation at different stages of the life course is essential, in particular ensuring the acquisition of skills that can be used in the labor market as well as access to education also for vulnerable groups. Human capital is important for the individual herself and for the society. Early childhood investments should be made available for all since it is the best cost-effective way to reduce inequality of opportunities. Additionally, in order to guarantee the effects of these initial investments, later life human capital investments should be ensured. And for those that reach adulthood with gaps or lags in their human capital accumulation, government should provide policies to remedy them.
- Inclusive labor markets need effective policies to make the most out of diversity and ensure non-discrimination. Better integration of minority groups and lower segregation and ethnic inequality have been shown to mitigate the conflictual and costly side of ethnic fragmentation. As to birthplace diversity, the results from both

cross-country and firm-level studies point to the positive effects of such diversity in the context of advanced economies and industrial sectors. Hence, policies to increase the diversity within immigration, not just its quantity or quality, should also be considered. This is for example the case of the United States and its well-known “Green Card Lottery”, in fact a diversity lottery (its official name) in the sense that the odds of winning are manipulated so as to favor immigration of citizens from countries with low levels of past migration to the US. Discrimination in the labor market represents a challenge to equality, social justice and the notion of ‘good jobs for all’. Its pervasiveness has been clearly demonstrated by a wide range of experimental studies reviewed in this chapter. Discrimination is costly to individuals and for an economy as a whole. A single solution to combating discrimination is not on offer: at best a range of measures operating at societal, firm and individual level are required. Firstly, a key message is that anti-discrimination legislation is an important basic action for countries, but it is not enough to combat discrimination as it is not ‘self-enforcing’. A combination of pro-active policies to promote equal opportunities in employment, and sanctions for non-compliance or discriminatory behavior by companies would increase employer incentives to comply with the legislation and should reduce discrimination. Secondly, there is also the goal of informing both employees, job applicants and employers about both the benefits of diversity and equality, and also the downsides and costs of discrimination. Yet employers operate in social settings, and the salience of group membership varies across time and space. A balanced and fact-based public discourse can help counter negative stereotypes of particular groups, for example immigrants.

- Equally important are legislative and collectively agreed standards regarding working conditions such as remuneration, working time and health-related aspects of work, ensuring a fair distribution of economic gains as well as working conditions that are compatible with health and extra-work demands. Regarding working time, the first objective is to reduce the incidence of long full-time hours by effective regulation to establish a legally enforced limit on hours of work in conjunction with adequate minimum hourly wage rates. This requires legal rights and social protection to be built which reach beyond the formal workforce to include the most vulnerable workers in the informal economy. The second priority policy area is building reconciliation measures to make it easier for workers to combine employment with the time demands of care responsibilities. This requires investment in maternity and other family-related leave (paternity, parental, leave to care for sick relatives) and an infrastructure of childcare and eldercare services. In some countries the starting point is to implement the ILO Convention on basic maternity rights and extend coverage; for others it is to build on and extend reconciliation measures. The third priority area is to improve the quality of part-time work through equal treatment and other measures. This requires effective implementation of the principle of equal treatment in labor law and social protection, combined with measures to promote the creation of good quality part-time employment opportunities in a wider range of occupations and at higher occupational grades. The fourth priority is to build and effectively implement options for negotiated flexibility at the workplace, such as flexitime arrangements and the statutory individual ‘right to request’ reduced or rescheduled hours which has been introduced in some countries.

- In this context, to reduce the burden of work-related diseases decent work and employment standards should be enforced for all workers, with special emphasis on vulnerable groups (esp. youth unemployment, migrant workers, persons with disability). To this end, the capacity of occupational safety and health professionals and responsible agencies should be strengthened. Work- and employment-related material and psychosocial adversities should be monitored in a systematic, valid way within companies, based on national legislation, and employers should be motivated to invest in the development of health-conducive work environments.
- All in all, while supranational and national legal rules can establish a broad, but binding framework, particular emphasis lies on collective bargaining between employers and trade unions in establishing suitable arrangements regarding working conditions in certain sectors or regions. Hence, capacities to bargain collectively are seen as a major complement to legislation. Vital social partnership in old and new sectors and forms is therefore important. Institutions to protect workers from insecurity and uncertainty, as well as to facilitate the creation of good jobs, must be created by political forces. In the past, unions played a major role in advocating for workers and establishing labor laws and protections. They still need to play that role, but their decline suggests that it is unlikely that institutions will be created in flexible societies without unions. Hence, these institutions need to be created outside the labor market through public policies.

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