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Eichhorst, Werner; Rinne, Ulf

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Digitalisation of the Welfare State

Werner Eichhorst and Ulf Rinne

Digital Challenges for the Welfare State

Werner Eichhorst
IZA Institute of Labour Economics

Ulf Rinne
IZA Institute of Labour Economics

INTRODUCTION

Many ongoing changes in the labour market can be summarised under the keyword 'digitalization'.[1] Although the risks associated with this process generally appear manageable and there is no reason to be overly concerned or even alerted (Eichhorst and Rinne 2017), our world of labour is indeed changing to a substantial extent. Hence, there are a number of challenges associated with this process, for which it is reasonable to prepare in due course. Since digitalization is often very broadly defined, it appears useful to break down this process into its two main components (Degryse 2017).

The first component of digitalization can be labelled 'automation'. It comprises the increasing use of robots, machines and algorithms in value chains, which is no longer restricted to simple routine tasks. Related to this component is the more general perspective on the future of work in the light of technology-induced productivity growth, which particularly focuses on its potential impacts on aggregate (and occupation-specific) employment. Hence, the controversial debates about the 'end of work' technological unemployment and polarization are also related (Eichhorst *et al*. 2017, for details). Representative for this strand of the literature, Autor and Salomons (2017) find that the negative employment effects of productivity growth within industries have been offset by spill-over effects in the rest of the economy to date. Aggregate demand has therefore been remarkably stable, and job losses have been outweighed by new employment opportunities. However, underlying employment shifts, mostly into tertiary services, are skill-biased and tend to polarize labour demand.

[1] Globalization, demographic change, and changing values and attitudes towards work are also important developments related to (and drivers of) ongoing changes in the labour market (BMAS 2017).

The second component of digitalization may be summarised under the label 'platform economy'. It refers to an entirely new business model that includes new real and virtual services and, importantly, online outsourcing. In fact, online outsourcing may be viewed as a new form of (digital) Taylorism, and the 'crowd' may be viewed as a new player in the labour market (Degryse 2017). Similar to developments during the industrial revolution, labour can once again be divided into its constituent parts – albeit this time, at least potentially, on a massive, virtual and global scale, where these constituent parts are increasingly automated and connected flexibly to each other (Eichhorst *et al*. 2017).

Digitalization as a whole, but especially its second component – the platform economy – may lead to significant 'digital challenges' for the welfare state. These challenges include the question of how the welfare state handles new social inequalities and a potential 'digital divide', for example, by developing the individual skills and abilities that digitalization and future jobs require (Buhr *et al*. 2016). But 'digital challenges' also relate to the potentially eroding foundations and basic concepts on which the welfare state was historically built upon. Forward-looking policy responses, inter alia in the areas of taxation and social security, may therefore ultimately require a new institutional perspective on workers, firms, and the welfare state.

ERODING THE FOUNDATIONS OF THE WELFARE STATE

The entirely new business model of the platform economy blurs traditional definitions of the welfare state. The categories of self-employed and dependent employees, for instance, appear inadequate to properly classify and treat platform workers, the concept of a 'firm' cannot be easily applied to virtual companies that operate in the cloud, and national and country-specific policy approaches are also substantially challenged.

More specifically, standard employment relationships are fundamentally challenged by the platform economy – at least in areas where work does not require specific skills and can be sourced out easily. Following traditional categorizations, platform workers are usually classified as self-employed or freelancers, and

they are therefore not covered to the same extent as dependent employees by social security, and particularly social insurance. This spurs unfair competition with traditional workers, who no longer act on a level playing field. Perhaps the most prominent and often cited example is in the transport business, where Uber drivers compete with rather heavily regulated taxi drivers. In this context, for instance, it is not clear whether Uber should be considered a transport company or digital service – with important implications for its workers.[2] Many self-employed persons and freelancers also lack appropriate pension insurance. If crowd-working is the main activity, the coverage and capacity to contribute to pension insurances and other types of social security is limited.[3] Under current circumstances, platform workers would thus be largely dependent on tax-financed basic welfare or social security.

Firms operating in the platform economy follow many different business models and only share some common features. This complicates applying a universal approach towards platform firms and platform workers. In many instances, platforms ultimately create their own 'markets', and they also define the rules governing these markets. It appears, at least to some observers, as if "the platforms regulate the market" (Berg 2016, 18). Platforms may regulate market entry, market transactions and data collection in a given market, which is, in turn, ultimately defined by the platforms themselves. This leads to unfair competition with traditional firms employing dependent employees, parallel labour markets, and an erosion of labour law. Many platforms can effectively externalize social security obligations to their workers, and a possible expansion of freelance work or self-employment could thus undermine the social security model. This has also to do with market structures, as the supply of digital online work usually exceeds its demand by far.

In addition, novel features that characterise the digital economy may lead to substantial challenges in the area of taxation, including an eroding tax base and profit shifting (Li 2014). These features include strong reliance on intangible assets, massive use of data as a production factor, new business models, and the difficulty of determining the jurisdiction in which value creation occurs. While these challenges are actually not limited to the digital economy, it nevertheless makes them far more acute. For example, Li (2014) refers to a tax 'base cyberization' in this context, which adds to the existing problem of base erosion due to artificial tax planning structures.

The platform economy is global and (virtually) spans national borders, while its governing institutions are mostly national and historically rooted in country-specific contexts. Unilateral approaches are certainly not a solution, and Robertshaw *et al.* (2015, 79) are not the only authors to identify a need for a global approach: "global policy formulations are required in the collaborative economy because it operates on a global scale, regardless of national or regional borders".

Transforming the welfare state to match the new realities of the digital era therefore requires appropriate responses on the individual and institutional level. It is, however, not trivial to solve the 'digital challenges' without impeding digital growth. Any responses have to master a balancing act: on the one hand, they have to accommodate digital growth and promote the chances of digitalization, and on the other hand, it is essential to confine new social inequalities and to avert a potential digital divide.

COMBATING A POTENTIAL DIGITAL DIVIDE ON THE INDIVIDUAL LEVEL

On the individual level, it appears crucial to combat a potential digital divide by adequately preparing workers for imminent changes. Labour markets will become more complex and more flexible, with a profound impact on employment forms, occupations and skill requirements. In this context, the focus should be on education, training and lifelong learning.

For instance, employment forms will change as flexible working times, working time accounts, as well as mobile working and working from home will become the norm, rather than the exception (Eichhorst *et al*. 2017). An increasing scarcity of skilled labour, greater competition and more innovation will pave the way for new and innovative work arrangements. Flexibility in working hours and workplaces will also blur the lines between private and working life, with both desirable effects (such as new opportunities to realize a better balance between professional and family life) and potential negative effects (like excessive demands). But this also means that, for example, competencies like self-management and self-organisation will gain importance for a massive share of the population.

In addition, the traditional perspective on occupations is likely to change. A growing number of occupations already share common sets of tasks, skills and competencies – almost independently of the specific job profile, sector or industry in question. For example, almost every job requires at least some basic IT knowledge, and more and more jobs also require programming skills. This trend is likely to continue, and it also reflects the fact that data are becoming another main production factor in the digital economy (Li 2014). A fresh perspective on occupations may therefore make it important to 'unbundle' skills and qualifications, which means that vocational education and training systems will have to increasingly focus on providing specific skills in a very dynamic fashion over the entire course of a person's labour market career in

[2] See Schmidt-Drüner (2016) who refers to a recent case in which a Spanish judge has submitted a preliminary question to the European Court of Justice. If Uber was considered a transport company, its drivers could for example (potentially) request the company to pay their insurance fees. But if Uber was considered a digital company, (national) regulations would be harder to apply.

[3] See Leimeister *et al*. (2016) for Germany and Berg (2016) for the United States.

order to prepare individuals to learn and adapt more or less continuously, rather than offering a predetermined and fixed set of skills (which is nowadays referred to as an 'occupation') at the beginning of a person's working life.

With respect to the future of jobs and skills, there are two very popular, but also entirely different scenarios (Hirsch-Kreinsen 2016). The first of the two scenarios, usually labelled as 'polarization', offers a more pessimistic outlook with a growing gap between complex, high-skilled jobs on the one hand and simple, low-skilled jobs on the other. This growing gap is accompanied by a dramatic decline in jobs in the middle of the skills distribution in this scenario. By stark contrast, the second scenario offers a more optimistic outlook. Often referred to as 'upgrading', the level of skills and qualifications is here assumed to rise across the entire distribution. The increasing use of robots, machines and algorithms would thus lead to an occupational upgrading and a specialization of workers in this scenario. Human labour would become more complementary to technology, more skill-intensive, but also potentially more rewarding for the individual.

It is, however, important to realize that these two different outlooks are just scenarios about future developments – reality may still be very different. For example, while a tendency towards employment polarization can be observed in a number of countries, this trend has been, at least to date, clearly less dramatic in Germany than in other European countries (Goos *et al.* 2014; Eurofound 2015). In this context, it can be shown that Germany's dual apprenticeship system is related to less employment polarization (Rendall and Weiss 2016). This proves once again that institutional settings, in this case especially in the area of education and training, can make a difference. This also applies to the question of whether or not a scenario of 'upgrading' or a scenario of 'polarization' is a more likely future outcome in the labour market.

What should thus be the appropriate policy responses to increase the chances of the 'upgrading' scenario as a future outcome in the labour market? First of all, a general requirement for tomorrow's workforce is referred to as 'upskilling' (European Commission 2016). Qualification requirements will most likely increase across the board in the future, and important skills that will be required include creativity, social intelligence, and entrepreneurial thinking (Rinne and Zimmermann 2016). The education system, and more specifically the vocational education and training system, therefore needs to be adapted accordingly to find effective ways to provide workers with the required skills and qualifications.

In this context, Germany's dual apprenticeship system, which combines vocational schooling and structured learning on-the-job (Eichhorst 2015), may actually serve as a role model; in at least two important ways. The first important aspect is its strong demand orientation. It guarantees that graduates' skills are tailored to the demands of the labour market, and it avoids obtaining useless qualifications. The second important aspect are some universal skills that are (implicitly) promoted, including fundamental problem solving competencies, a high identification with the employer, a specific working spirit and work ethic, and a general openness to new challenges.

In addition, the need for hybrid and interdisciplinary vocational training models will very likely increase significantly in the future, partly in response to the rising complexity of the world of work (BMWi 2017). This will require, among other things, revised and new curricula that span multiple disciplines and that are more strongly oriented towards real working processes. Hence, stronger cooperation and closer links between educational institutions, training providers, and firms are needed too. The good news is that digitalization also opens up new possibilities in the area of vocational education and training. These vast opportunities should be tapped, which means adequately preparing students, but importantly also teaching professionals to effectively and efficiently use instruments such as e-learning or blended learning approaches.[4]

Educational challenges, however, are not only related to the critical period of labour market entry at the beginning of an employment career. Similar challenges also arise in earlier and later stages of a person's life. For example, it is often argued that IT skills such as programming should already be promoted in schools, as they are an important cultural skill for the 21st century (BMWi 2017). Again, such an approach also requires extra efforts in teacher training, which should at least include some basic IT knowledge. Finally, there will also be an increased need for life-long learning, which must be appropriately met because the demand for advanced and further training for all groups of employees at all qualification levels will increase dramatically across the board. Further and continuing education has to become the norm, rather than the exception, to prepare workers for continuous changes. This requires (financial) incentives for workers and firms – especially as far as general skills are concerned, and where public investments may even be tax financed (Weber 2017). However, it also requires support, guidance and monitoring to effectively steer workers' and firms' efforts.

A NEW PERSPECTIVE ON WORKERS, FIRMS AND THE WELFARE STATE

New business models of the platform economy may also require a new institutional perspective on workers, firms and the welfare state. Challenges with respect to workers concern, for example, the areas of social security and income declaration of platform workers. Another important issue (with many implications, among others in the area of taxation) is finding an

[4] See Tyilo (2017) for a review of e-learning in higher education, and O'Byrne and Pytash (2015) for details on blended learning (or hybrid learning).

appropriate approach to the profit allocation of online or virtual companies.

The platform economy involves a transfer of risk to individual workers. As online firms and virtual companies usually do not consider themselves as employers, but only as platforms, networks, marketplaces or intermediaries, their workers are formally self-employed, with all the associated risks like accidents or sickness, and costs such as for pensions, unemployment or long-term care (Eichhorst *et al*. 2017). New challenges for social policy arise from this transfer of risks.

However, it should also be noted that the platform economy has only just begun to unfold its potential. Current empirical evidence indicates that its actual importance is still small. For instance, even in the United States, which plays a leading role in this context, the proportion of the employed persons who offer their services through online platforms is estimated at only 0.5 percent in 2015 (Katz and Krueger 2016). At the same time, available data suggest that in most cases these are secondary jobs, and that income from these jobs usually supplements other types of household income. Hence, online platform work can still be viewed as being predominantly a source of additional earnings (on top of offline activities).

But the growth potential of the platform economy is undoubtedly immense. It has the potential to develop very dynamically and expand to cover a wide range of services. The task of social policy is therefore to engage early enough with its associated challenges, armed in particular with a framework for creating a level playing field between different types of suppliers. A first approach is to trace the conventional distinction between dependent employment and self-employment. Borders between these forms of employment are becoming increasingly blurred, implying that traditional classifications and schemes are no longer applicable. Hence, the introduction of a third category of workers, next to self-employed and dependent employees, is heavily debated, for example, in the form of 'dependent contractors' or 'independent workers' (Aloisi 2016; Maselli 2016). In the United States, the introduction of a new category of 'independent worker' is discussed – specifically to harmonize the social security system with the requirements of the platform economy and to bring it into the digital world of work (Harris and Krueger 2015).[5] A slightly different proposal is to include platform workers in the scope of the general rules applicable to self-employment. Goudin (2016), for example, views this option as preferable to other options.

A second approach would be to extend employment-related social security to employment forms that are currently not included, and especially to self-employment, both in the case of online and offline freelancing, and both for main and secondary activities. This particularly applies to social insurance for old age and disability, but also to unemployment (Eichhorst *et al.* 2017). For example, in Germany only certain groups of 'employee-like' self-employed individuals are currently required to pay into the statutory pension insurance scheme (e.g. teachers, nurses). Other groups have access to different or occupation-specific models (e.g. artists and journalists, doctors, architects, lawyers). A major advantage of a more universal social security insurance system lies in the fact that the problem of identifying the currently important distinctions between different employment forms, and even occupations, will be substantially mitigated.

Against this background, it seems plausible to bring self-employed workers of all types into the social security system, rather than providing them with a rather generous 'opt-out' clause. For example, it may be reasonable to require all self-employed workers to pay at least a minimum amount of contributions into the statutory system. Of course, this would require the self-employed to take taxes and contributions into account when setting their prices. The contributions of the self-employed workers themselves could also be supplemented by compulsory contributions from the customers or the intermediaries and platforms, which are the equivalent of an employer in the platform economy. These could be paid directly or could be claimed by the self-employed person when invoicing for their services. The German model of social security for artists (*'Künstlersozialkasse'*) is an existing example in which the liability for one part of the contributions is with the users. In addition, a certain percentage of tax financing could be considered – which would, of course, also be generated from tax revenue of platform-based entrepreneurial activities.

Another more general challenge, which absolutely requires stronger international cooperation and coordination, is to implement tax liability in the virtual and global platform economy. Tax rules also have to adapt to a changing business environment in the digital economy. Two concepts in particular are hardly applicable for virtual and global firms with intangible assets (Becker and Englisch 2017a). The first concept is the so-called permanent establishment. Here it appears necessary to find a practicable way to also include virtual establishments. The second concept is the so-called arm's length principle for transfer prices. As platform firms or digital companies often create their own markets, it is indeed very hard – if not impossible – to find an appropriate comparison to value their goods, services and intangible assets like very unique patents. While in this context the introduction of a destination-based cash flow tax is proposed in the United States (Becker and Englisch 2017b), the introduction of an equalization tax is discussed in the European Union (BMF 2017).

[5] Austria introduced the construct of a 'free service contract' already some time ago. This form of employment supplements traditional service contracts, as it is based on hourly-wage payroll accounting and also includes full social security contributions. However, specific difficulties arise with privileges and benefits that are per definition linked to working time or hourly wages (such as overtime rules and minimum wage provisions).

In any case, one issue appears to be a key in the ongoing debates over social security, taxes and the welfare state. It is precisely the question of if and how virtual value creation can still be located in the real world. Current social security and tax concepts rely on the physical presence of workers and firms in a precisely defined location. When value-added chains become increasingly complex and diffuse, and the role of firms as employers blur, it could be reasonable to consider the perspective of consumers in this context. They will continue to be precisely located in the real world (at least from today's perspective), so shifting the perspective towards consumers in the areas of social security and taxation could mitigate at least some of the 'digital challenges'. Consumers may serve as the much needed anchor point and channel through which (employers') social security obligations and taxes can still be determined and collected in the digital economy, for example, via consumption taxes – if intelligent ways can be found to shift their incidence from firms to consumers, which also depends on both the demand elasticity and supply elasticity.

CONCLUSIONS

Digitalization does indeed have the potential to fundamentally change the functioning of our economies, labour markets and welfare states as we currently know them. However, the full dimension of the digital transformation is only just emerging, and scenarios of massive upheaval and disruptions are not (yet) matched with the evidence at hand. Nevertheless, from a policy perspective, this situation of a gradual transformation offers a window of opportunity to redesign established institutional solutions, particularly in terms of skill formation, social protection and taxation.

There are two main risks or challenges involved. The first is to avoid, or at least limit, a further divide in and polarization of the labour market due changing labour demand. Skill upgrading for the labour force, not only in terms of initial general and vocational education, but also over the entire employment career, will be crucial to safeguarding employability for a broad segment of the population in the future. The second issue that needs to be addressed is to make social insurance more inclusive and sustainable in a situation where we can expect to see more self-employed or freelance activities and a more global, highly mobile and fluid way of working, delivering and using services. This raises fundamental issues regarding the funding of social policies, but also public service provision more generally. In this respect, finding innovative ways to establish feasible solutions to the problem of how to tax internationally mobile market actors – platforms, firms or workers – is high on the agenda.

Policy solutions in these two fields are necessary, and they should be designed and implemented while the window of opportunity is still open. Otherwise we run the risk of major economic and societal distortions.

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