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## Digital economy and the future of social security

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*The following is the text of the speech delivered at a conference hosted by the Department of Employment Affairs and Social Protection on 9 November 2017, entitled ‘The Digital Economy, New Forms of Work and Challenges for Social Security Systems: Financing and Coverage’.*

It is indeed a great pleasure for me to address this conference on behalf of the International Social Security Association (ISSA). The ISSA is honoured to be part of this historic event, organised by the Department of Employment Affairs and Social Protection and Maynooth University to mark the seventieth anniversary of the department. On behalf of the 325 social security government departments and social security institutions from 158 countries that constitute the membership of the ISSA, I should like to extend our congratulations to the department on the occasion of this celebration and express our gratitude for its long-standing commitment to international collaboration within the framework of the ISSA.

Let me also commend you on the topic you have chosen for this conference – for looking forward instead of looking back: ‘The Digital Economy, New Forms of Work and Challenges for Social Security Systems’. This topic is something that is on the mind of all of us who are concerned about the future of social security. There are many questions. How will the digital economy shape social security? What

type of work will there be? What social needs will there be, and how will social security be financed?

But let us not forget, the transformations brought about by the digital economy are far from being the first wave of change we are experiencing. Just as the department celebrates its seventieth anniversary, the ISSA also commemorates its ninetieth anniversary this year. Our organisations have experienced the second industrial revolution and its introduction of mass production, as well as the third industrial revolution characterised by computerisation. They have lived through major economic and financial crises, the last one shaking our societies and social security systems less than ten years ago, and particularly so in the Republic of Ireland. And throughout these times of difficulties, dynamic social security systems repeatedly proved their importance for our societies and economies.

In this context I would like to commend your department, which has shown the way in adapting to major changes, and again congratulate you on the ISSA Good Practice Award for Europe which you received last year, testifying to these achievements. Yet the fourth industrial revolution seems to bring unprecedented changes to the environment in which social security operates, and there is no doubt we have to anticipate how the evolution of the world of work will impact on social security systems.

What seems certain is that digital technologies are transforming societies and economies worldwide, and that the changes are happening at an unprecedented speed, scale and force. Traditional jobs are already being replaced by non-standard, platform and transnational forms of work. And we are about to see a new wave of automation, robotics and artificial intelligence (AI) that will potentially revolutionise labour markets and skills requirements. However, when we look for exact numbers, we realise that there is much less certainty. Estimates vary, depending on what source we take. The current prevalence of work in the 'gig economy' as a share of total employment is still low; however, importantly that share is growing very rapidly. While in 2015 only 0.5 per cent of all workers in the US provided services through online intermediaries, there was an approximate 35 per cent increase in the last twelve months. It is the trend and the speed of the development that trigger the debate. But it is also the lack of reliable projections that contributes to speculation. Looking at certain forecasts, it is not surprising that some may ask whether the digital economy means the end of social security. In our view, this is definitely not the case – to the contrary.

No doubt, from the point of view of many industrialised countries' social security institutions, increases in self-employment and the development of new types of work that blur employee–employer definitions and/or lead to job losses due to automatisisation and robotisation will create significant coverage and sustainability challenges. Individual needs are evolving and may not necessarily be in line anymore with the benefits and services provided today. Fragmented working careers raise questions about the capacity of individuals to build up adequate benefits as part of contribution-based systems.

But this is only one part of the story. The other part is the opportunities of the digital economy, which are also immense for social security systems and institutions. In fact, the technological transition has, for instance, already enabled much of the global progress in social security coverage, which has never been higher than today. We could not imagine that China would have been able to extend coverage to hundreds of millions of people in a few years without advanced data analysis and smartcard technologies. Big data applications, mobile technologies and AI already allow us to improve performance, quality and the level of services provided to clients. And this is potentially just the start.

For the remainder of this paper, I approach the question of the digital economy and the future of social security from two sides. First, I will look at some of the major challenges that the digital economy presents to social security and the institutions administering it, and then discuss some of the opportunities. Finally, I will provide a brief introduction to the work we are doing at the ISSA on the digital economy, new labour markets and innovation in social security.

Non-standard work is fast emerging and we must ask how much work there will be. Today's social security systems are primarily conditioned by classical employment relations. Employment in various areas of the digital economy, however, does not correspond to the known employer–employee relationship – it is non-standard when compared to traditional forms of employment. Concerns most often voiced are, for instance:

- Uncertainty regarding the status of workers; for example, those providing services through digital platforms. Are they employees or self-employed workers? Who, if any, is the employer?
- The increasing prevalence of temporary work, making it difficult for workers to accumulate entitlements.

- The rising incidence of self-employment, which is related to generally much more basic or patchy social security coverage.
- More fragmented and flexible careers, again making it more difficult to acquire rights over the longer term, and requiring a life-course perspective for promoting employment and training.

These concerns relate to changes in the types of work. Another dimension is the total amount of work available, and this question has raised much debate about the need for a basic income or some other form of minimum guaranteed benefit for people in working age. Will robots take over jobs in the future? Will large-scale automation reduce labour demand, or will new types of jobs be created as was the case for the third industrial revolution? By now it is undeniable that the changing labour market raises challenges for social security:

- All social security branches will be impacted – whether health insurance, employment insurance, employment injury insurance or pension systems.
- The impact could be felt strongly on the financing side, as the contribution of income derived from payroll may significantly decline.
- The capacity of social security schemes to provide adequate protection is put into question – we need to review our approaches to accumulating pension rights and the protection we offer to an increasing number of self-employed.
- The nature of activation and preventive social security approaches must also be reconsidered – our systems have gone a long way from facilitating exit from the labour market to proactively supporting health, employment, training or return to work. Workers in the digital economy will need new types of qualifications, in line with the speed of change, and if we activate and promote return-to-work measures, we need to consider the question of ‘What work?’

At this point in time, we do not know all the answers. What we can do, however, is look at some of the emerging responses, and I would like to start with digital platforms that, amongst other things, also enable new services.

Digital platforms include a very diverse range of emerging services and economic activities carried out using the Internet, for instance:

- Amazon and ebay for e-commerce;
- Uber, Didi or Grab-a-Cab for transportation;
- Airbnb for accommodation;
- Portals like ‘Freelancer’, ‘Upwork’ or ‘Fiverr’ for freelance work.

These platforms are enabling new levels of service delivery to us, the customers. The increasing use of the Internet and mobile devices has fostered the growth of these platforms in a large number of countries, but there is an important caveat which they all share and which is a major challenge for social security: they embody much of that detailed earlier about the doubtful status of workers or the weakening of the employer–employee relationship.

The status of platform workers is often unclear. Uber is probably the best-known representative of digital platforms in Europe today. The California-based start-up, whose cab service has expanded worldwide, stands accused in many countries of bypassing national labour protection standards and shunning collective negotiation with drivers who work on freelance terms. For Uber, ‘Drivers using the Uber app are independent contractors who enjoy all the flexibility and freedom that come with being self-employed’ (Shields, 2017), and therefore Uber does not feel responsible for paying social security contributions. Social security institutions have responded to the challenge of Uber, but responses vary:

- In October 2016 a British tribunal ruled that Uber should treat its drivers as workers and pay them the minimum wage and holiday pay.
- In January 2017 the Swiss workers’ compensation fund SUVA decided that Uber drivers are employees for which the company must pay social security contributions. Uber has challenged this decision in court and the final ruling is pending.
- In April 2017 Malaysia passed a new social security bill, which now allows the Social Security Organisation of Malaysia to directly deduct social security contributions from the taxi rate that was agreed via the platform. The driver is considered, however, a self-employed worker, and a similar approach is taken in most other Asian countries.

Uber has risen to prominence not least due to the voice of the existing taxi industry and the much discussed legal cases.

However, there are many other digital platforms through which individuals carry out activities that are even less clearly identifiable as self-employed or employed. The platform economy – if left as it is right now – will considerably increase the share of self-employed in economies globally. It is therefore not surprising that the social security protection of the self-employed, and in particular of the increasing share of self-employed workers in precarious income situations, is high on the policy agenda in many OECD countries.

Another important aspect of the digital economy is the large-scale automation of industrial production and services. Here we are talking about: robots, AI, cognitive computing, big data analytics, block chain, the Internet of things, and the like. Large-scale automation will have an impact on the amount of work available. Recent studies predict that automated, AI-based systems ‘fed’ with increasingly collected big data will replace humans in an important part of working activities. While the figures vary (from 20 to 50 per cent of current jobs) and the timeline is not yet clear, there is a wide consensus, and concern, on the importance of the impact of these technologies.

This trend can leave us with new inequalities in the population: those who have a job and those whose skills were replaced by automated processes.

This issue, and the rise of atypical employment outlined earlier, is the background for a growing debate about the potential of an unconditional basic income during working age.

As you may know, a series of pilots are under way in Finland or in regions or cities in the Netherlands and Italy. The Swiss population even voted – a large majority negatively – on the introduction of a basic income. While there are several concerns about the concept, particularly related to financing, work incentives, inefficient targeting, negative impact on active labour market measures, etc., the debate is no doubt important as it points us to existing and, especially, emerging inequalities, sustainability challenges and coverage gaps in our social protection systems.

In addition to the question of income protection and equality of outcomes, modern social security systems must reflect on how to best adapt their human capital investment function to the digital economy realities and strengthen equality of opportunities in the new context. How do we equip people to change their skills more rapidly, adapt to new jobs and meet the challenges they will face? Again, social security in OECD countries is innovating and experimenting, with some countries trying wage insurance models for displaced workers, testing

individual activity accounts to encourage lifelong training and education, or redirecting return-to-work not to employment but to self-employed activities.

Others, such as Bill Gates, have suggested ‘taxing’ robots and using the income to provide for training and re-employment of workers made redundant by them. Earlier this year the European Parliament passed a resolution which called for EU-wide legislation to regulate the rise of robots. But they rejected a proposal to impose a so-called robot tax on owners to fund support for, or retraining of, workers put out of a job by robots.

Nevertheless, we need to look into innovative financing sources. We know that fragmented work patterns and digital platforms reduce social security funds derived from schemes based on payroll deductions. Different approaches are being examined, and in particular the potential of an increased share of tax funding. Although the proposal by the European Parliament’s legal committee to open the door to the taxation of robots by classifying the most sophisticated autonomous robots as ‘electronic persons’ was not included in the resolution adopted, this might not be the end of the story.

After having outlined the challenges, let us take a look at the opportunities that the digital economy can offer to us, particularly in the shape of new forms of service delivery and opportunities for social security institutions. During the World Congress on Safety and Health at Work, which was held in September 2017 in Singapore, I moderated a session on the digital economy and prevention. Following a range of different contributions from digital manufacturing to the use of exoskeletons and the need for ‘digital detox’, I asked the audience if they believed that the new industrial revolution will contribute to a better, safer and healthier work life, and over 800 hands went up. When I asked the opposite – who believes that the situation will worsen? – only 13 hands went up. There are, in other words, positive expectations to the capacity of the digital economy to further reduce occupational accidents and diseases. But there were also words of caution – to reach such positive outcomes, both prevention and social protection must be taken proactively into consideration when new algorithms are developed, when new technology, work organisation and employment patterns are designed.

Also, at the ISSA’s Regional Social Security Forum for Africa, held in Addis Ababa in October 2017, one of the major conclusions was that the technological transition opens considerable new policy space for extending coverage by reducing the transaction costs to reach out

to the informal sector. So despite the challenges that we face, there are good reasons to be optimistic. The opportunities that the digital economy may bring to us and to social security institutions are numerous, particularly in a context where more than 80 per cent of ISSA members consider service quality and rising public expectations as one of their top challenges.

We all know that people have come to expect a customised experience in their interaction with service providers. One can easily book a flight, hotel, car, insurance, meals and special tours, and load all the tickets, on their phone. They expect the same from public service providers, and the technological transition provides us with important new options:

- Big data allows us to customise social security coverage and benefits, introduce smart preventive scenarios and better tackle error and fraud.
- Automation and AI can improve service quality and reduce costs through more automated business processes and using intelligent assistants for customer support in service delivery.
- As social security organisations, we have new ways of interacting with clients, through social media, videoconferencing, mobile phones and the Internet of things. This improves the quality of service but also provides support to people in need, such as elderly people with restricted mobility or people living with disabilities.

In particular, access to the Internet and mobile devices creates a virtual infrastructure that allows clients to be in contact 24/7. Digital platforms and big data allow the sharing of information to support new service delivery models that meet the ever-increasing expectations of the public for personal and instant access to address their needs. New service delivery models have emerged, providing instant access to a myriad of products and services. An increasingly critical issue in the emerging digital economy is reliable data. Here we need to be aware of at least three issues: data protection considerations, data security and the continued need to demonstrate the value of using their data to clients.

We cannot draw any final conclusions about the question of the digital economy and its impact on labour markets and social security, as we are still talking about an emerging development taking place right now. We know, however, what challenges and opportunities are created by these developments and we can observe emerging



responses around the globe. And this situation makes international exchanges extremely valuable.

Rather than our usual exchanging of experiences and sharing of evaluated good practices, we need to take a different approach to look forward. And it is for this reason that the ISSA has decided to add a new dimension to its Centre for Excellence by complementing our programme of professional standards and good practices with a new set of activities summarised under the headline of innovation. As a first step, the ISSA Innovation and Digital Economy Observatory was launched on the occasion of the ISSA's ninetieth anniversary symposium in June 2017. The launch of the conference, which had exactly the same title as the conference today, was assisted by a robot, called Pepper.

Let me also draw attention to the new ISSA webpages on the digital economy and the observatory. The observatory aims to provide a better understanding of both the challenges that I mentioned and the opportunities that the digital economy will present to social security and its administrations. The information on this website is growing every day, with a media monitor presenting the latest news and publications related to our topics.

The digital economy observatory links to a wider reflection on innovation to tackle the most important global challenges for social security. Based on a report on the 10 Global Challenges for Social Security, defined through a survey of more than 260 social security institutions, we are now working on compiling innovative solutions to these challenges, both globally and on a regional basis. The ten challenges outlined by the ISSA (2016) are:

- i. closing the coverage gap;
- ii. inequalities across the life course;
- iii. population ageing;
- iv. employment of young workers;
- v. labour markets and the digital economy;
- vi. health and long-term care;
- vii. new risks, shocks and extreme events;
- viii. protection of migrant workers;
- ix. technological transitions;
- x. higher public expectations.

These challenges were the focus at the World Forum in Panama in October 2016. Both the digital economy and the technological

transition are included in the top 10 challenges for social security. Innovation will also be taken up at our regional and international conferences, by our technical commissions and in the European Network. A technical seminar on labour market changes, universalisation of benefits and the digital economy is in preparation for March next year, for instance. And finally, the ISSA is in the process of building, together with the UK-based innovation charity NESTA, the first-ever international innovation lab for social security administration. After talking about the future, let me conclude by looking back and by congratulating once again the department on the occasion of its seventieth anniversary. In particular, let me thank you for the long-standing collaboration with the ISSA. We are very grateful that almost all of your seventy years have been shared with the ISSA, as you joined the ISSA soon after the creation of the department. The unprecedented changes we are facing require rapid and innovative responses and are a compelling reason for enhancing international exchange. We at the ISSA look forward to collaborating with the department for the next seventy years, and to shaping the future of social security together.

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