



ZENTRUM FÜR SOZIALE INNOVATION

CENTRE FOR SOCIAL INNOVATION

Anita Sharma (University of Hertfordshire) a.sharma5@herts.ac.uk

Digitalisation of the Service Industries in the United Kingdom

September 2017

Dieses Projekt ist von der EU-Kommission gefördert
This project is being promoted by the EC Commission
Ce projet est cofinancé par la Commission européenne
Progetto sovvenzionato dalla Commissione Europea



ZSI-Zentrum für Soziale Innovation
Linke Wienzeile 246, A-1150 Wien
ZVR: 757405110

Tel.: +43 1 495 04 42
Fax: +43 1 495 04 42 DW: 40

e-mail: institut@zsi.at
<http://www.zsi.at>

Bankverbindung: BankAustria Creditanstalt
BLZ 12000, Kto. Nr. 684 137 409
IBAN: AT69 1200 0006 8413 7409 BIC: BKAUATWW

Content

1	Introduction.....	4
2	Service markets and policies in Europe: regional findings and insights from expert interviews – Executive Summary	Error! Bookmark not defined.
2.1	European service sectors.....	Error! Bookmark not defined.
2.2	Digitalisation and trade unions’ overall views.....	Error! Bookmark not defined.
2.3	Policy initiatives	Error! Bookmark not defined.
2.4	Sector-specific developments	Error! Bookmark not defined.
2.5	Platforms	Error! Bookmark not defined.
2.6	Customers.....	Error! Bookmark not defined.
3	Service Markets in Southern Europe (Stefano Gasparri and Arianna Tassinari, Warwick Business School).....	Error! Bookmark not defined.
3.1	Background: Services and unions in Southern Europe.....	Error! Bookmark not defined.
3.2	Policy initiatives in South European Services	Error! Bookmark not defined.
3.2.1	Addressing the digital infrastructural divide	Error! Bookmark not defined.
3.2.2	Policy initiatives: Automation and Industry 4.0	Error! Bookmark not defined.
3.3	Emergence of new actors in service markets: the rise of the platform economy	Error! Bookmark not defined.
3.4	Cross-border trading of services and e-commerce	Error! Bookmark not defined.
3.5	Conclusion	Error! Bookmark not defined.
4	Service Markets in CEE (Vassil Kirov, Bulgarian Academy of Sciences)).....	Error! Bookmark not defined.
4.1	Expansion of the services sector in CEE.....	Error! Bookmark not defined.
4.2	Specific service sectors	Error! Bookmark not defined.
4.3	Platform work.....	Error! Bookmark not defined.
5	Service Markets in the Nordic countries (Anna Ilsøe, FAOS)	Error! Bookmark not defined.
5.1	The context: services in the Nordic countries	Error! Bookmark not defined.
5.2	Policy debates on digitalization and social partner responses	Error! Bookmark not defined.
5.3	Specific service sectors	Error! Bookmark not defined.
5.3.1	Retail.....	Error! Bookmark not defined.
5.3.2	Banking	Error! Bookmark not defined.

5.3.3	Cleaning	Error! Bookmark not defined.
5.4	Platforms	Error! Bookmark not defined.
6	Service Markets in Belgium (Monique Ramioul, Yennef Vereycken, HIVA/KU Leuven)	Error! Bookmark not defined.
	Bookmark not defined.	
6.1	General outline of Belgian service sector	Error! Bookmark not defined.
6.2	Recent policies shaping the service markets.....	Error! Bookmark not defined.
6.3	Service markets	Error! Bookmark not defined.
6.3.1	Small and medium enterprises (SMEs).....	Error! Bookmark not defined.
6.3.2	Sharing/platform economy	Error! Bookmark not defined.
6.3.3	E-commerce.....	Error! Bookmark not defined.
6.4	Interim conclusion	Error! Bookmark not defined.
7	Service Markets in the UK (Anita Sharma, Hertfordshire University)	5
7.1	Dominance of the service sector in UK economy.....	5
7.2	UK Government initiatives supporting a digital economy:	6
7.3	Key UK Service Sectors	7
7.3.1	Financial and Business Services.....	8
7.3.2	Consumer Services.....	9
7.4	Platforms and policy responses.....	10
8	References	Error! Bookmark not defined.

1 Introduction

The UNI Europa project „Shaping Industrial Relations in a Digitalising Services Industry - Challenges and Opportunities for Social Partners“, in cooperation with “ZSI – Zentrum für Soziale Innovation” and promoted by the European Commission, aims to identify and analyse change factors and explore new approaches for social partners on the challenges of maintaining effective industrial relations systems in a digitalising services industry. The project strives to provide policy advice for trade unions, social partners and policymakers on necessary adaptations of institutional frameworks for industrial relations, collective bargaining, social dialogue and capacity building for social partners. Challenges and opportunities are identified and analysed in particular with regard to workers’ representation at company level and collective bargaining as well as the work and organisation of trade unions in general.

Across the project, we are dividing the investigation into three aspects of services that are clearly interrelated.

- Under the heading of “**Service markets**” we look at changes in service production and delivery through digitalisation (for example, online services and self-service) and also on the impact of these changes on customers and society at large. It is one of the dimensions where rapid changes, disruptive innovations (for example platforms) need to be addressed. Here, we also address the status of services in “industrial” or economic policy in the context of your respective sector and country.
- “**Service labour markets**” addresses the development of service jobs, their quality and quantity. We focus on jobs with intermediate skill levels, and will also address atypical and precarious employment (including self-employment) in your sector/country, the development of skills and re-skilling and policies of addressing them.
- “**Company strategies and work organisation**” looks at the company level and your union’s information and experience with companies in your sector/country: We will address transnationalisation of service companies at large, outsourcing and offshoring, working conditions and ways of influencing them, interest representation and participation.

These aspects are pursued in three workshops involving trade unionists, researchers and representatives of international organisations from October 2017 to January 2018. Results of research and workshops will be integrated in two reflection workshops in 2018.

This report covering the digitalisation of the service sector in the UK will provide an overview and analysis of change in the services industries, Government initiatives that support a digital economy, the changing labour market and its wider implications in terms of changing types of employment, workers and their rights and industrial relations. Ultimately it aims to provide input for policy advice for trade unions, social partners, employers and policymakers on how to anticipate change and adapt to these transformations.

Many academics and practitioners have questioned/critiqued the fast pace of digitalization of the economy and its impact on work, employment and organizational change (Degryse 2016; Flecker & Meil 2010; Miozzo & Ramirez 2003; Grimshaw et al 2002). In the UK digital technologies have transformed the economy in conjunction with liberalisation and deregulation policies, which have allowed innovative, transformative and often questionable/destructive work and employment structures to flourish within society. Schwab (2017) states “the changes are so profound that, from the perspective of human history, there has never been a time of greater promise or potential peril”. Some of those perils he refers to include the inequality around technological advancement, potential large-scale unemployment, lack of regulation and the potential abuse of robotics, genetic engineering and cyber

weapon. Huws (2016) focuses on the dissolution of a normative model of work with some semblance of social protection systems and labour legislation, as it existed in the latter part of the twentieth century, and instead puts forward the notion of a new paradigm of work organization in the making. According to this model workers are increasingly managed and monitored by online platforms, their work is 'logged labour' – made up of quantifiable components, subject to continuous monitoring and surveillance and dependent on the worker being connected to an online platform for work. The paradox lies in work being more formalized on the one hand and less predictable and precarious on the other; a mismatch between labour and consumer regulation/legislation and social protection and welfare systems. As Huws argues the cumulative impact of neoliberal trade policies, globalisation and digitalisation combined with political, economic and technological forces has given rise to the changing character and organization of work.

2 Service Markets in the UK

2.1 *Dominance of the service sector in UK economy*

The UK has the fifth largest economy in the world with the services sector dominating the UK by contributing roughly 80 percent of the GDP. The financial services sector dominates with London being a major global financial centre. Other business services and consumer facing services however are also growing including IT, professional services, travel and hospitality, management consultancy and the creative industries. With increasing use of technology within organisations, new patterns of work have emerged over the last few decades facilitated by digitalisation, the information superhighway, global networking, online platforms, smart devices. Crowdsourcing, virtualization, disintermediation or removal of the middle-men, internetworking, use of web-based analytics, use of social media in business collaboration, online platform working, prosumption are all part and parcel of the altered digital economy of the new millennium. Alongside the networking through technology for knowledge and creativity, which can result in increasing employment, economic progress and social development, there are a number of negative aspects surrounding issues of privacy, security and a hierarchy of those who can do and those who cannot; those in the know - the computer-literates versus the non-literate, that establishes inequality and hierarchy based on skill sets.

The Office of National Statistics (2016) has highlighted five key features of the UK service sector (which it defines as encompassing: retail, hotels, restaurants, transport, storage, IT, finance, insurance, real estate, administration and support services, professional, scientific and technical services, education, health, social work, arts, entertainment, recreation, public administration, defence etc.) that indicate its importance to the UK economy. These include:

- Seventy-nine percent of UK Gross Domestic Product (GDP) came from the service sector in 2013.
- By 2011, around 80 percent of workers were in the service industry and around 10 per cent in manufacturing.
- The service sector dominates London's economy with 91 percent, higher than all other areas of the UK.
- The UK's economy is more reliant on the service sector than any other G7 country. Although France and the US also derive a relatively high proportion of GDP from services this is in strong contrast to Germany where a lower proportion (69 percent) of GDP came from the service sector in 2014 – however, more service and administrative functions there remain located in the manufacturing sector.

- The service sector has driven the economic recovery since the downturn in 2008. Four main sectors feed into UK GDP – agriculture, construction, production and services. Out of these, the service sector was the first to recover after the economic downturn in 2008.

The service sector has been radically transformed by digitization whether the banking or insurance sector or the creative industries. With the revenue that this sector draws into the UK economy the Government is keen on greater digitalisation and being at the forefront of a global digital revolution, creating new job opportunities and skill sets for many, and placing the UK in a strong economic position on the world stage.

2.2 *UK Government initiatives supporting a digital economy:*

In a bid to keep the country at the forefront of digitalisation the UK Government is currently investing billions in various pioneering and innovative policies and initiatives.

In 2016 the Government pledged 13 million to support the creation of **The Productivity Council** to drive engagement with business and improve productivity across the economy, through use of digital technologies. Its remit is to connect, encourage and amplify the impact of existing initiatives to improve productivity, acting as the UK's productivity 'centre of excellence'. The **Productivity Leadership Group**, as it is now known, will draw on the expertise and advice of representatives from a number of businesses and industries (KPMG, Rolls-Royce, Amazon etc) and leading industry bodies such as the Confederation of British Industry (CBI) and the Institute of Directors (IoD). It will be private-sector-led with an advisory group and its own team of staff, and after the initial £13 million in seed funding over a three-year period, it will be self-funding through fee income, advertising, revenue and grant contributions. **UK Tech City UK** launched by former Prime Minister David Cameron, has a mission to accelerate the growth of London and the UK's digital economy, with a focus on areas like digital skills, smart capital investment, infrastructure, international development and leadership. It started in East London and now has tech clusters in several cities around the UK, and works in tandem with the government creating policy papers and reports such as Tech Nation. The Tech Nation 2017, the third annual report of Tech City UK, shows that the digital economy is growing twice as fast as the wider economy with an economic output of close to £100 billion per year. For this report 1000 data points were analysed, over 2700 survey responses from digital tech founders and employees and insights from community partners were taken into consideration. In 2016 the UK was shown to have secured £6.8 billion in venture capital and private equity investment, over 50 percent more than any other European country; showing that over the past five years London attracted more investment than Paris, Berlin and Amsterdam combined. The turnover of the UK digital tech industry was estimated at 170 billion in 2015 – a growth rate of 22 percent in five years. There are now estimated to be 1.64 million tech jobs in the UK, creating twice the number of jobs as the non-digital sector. These jobs are seen to be more skilled, better paid and contributing to productivity and economic growth.

Innovate UK, another Government innovation agency, focuses on science and technology and works with UK innovators to provide investment, capacity building, experiment and learning, contributing towards making the UK digital sectors successful and profitable. Mariana Mazzucato, a leading economist who works with the UK government in Innovate UK draws attention to the ways in which governments can help economies grow, by taking risks in the realm of innovation through technological R&D and mission-oriented strategic public-sector investment. She debunks 'the sectoral approach with its limitations and promotes new collaborations between public and private actors; working within an ecosystem of public, private and third sector actors across the innovation chain' (Mazzucato 2013).

The Government's Digital Strategy Policy Paper published in March 2017 (DCMS) is divided into seven strands covering connectivity, skills, digital businesses, data, digital government, cyberspace and the wider economy and provides a framework on how to build and maintain a world-class digital infrastructure and a commitment to being more entrepreneurial:

- focuses its attention on the need to boost world-leading digital sectors and overcome barriers to growth and innovation, creating more of the high-skilled, high-paid jobs of the future,
- highlights the need to deliver first-class digital infrastructure and advanced skills base so that businesses across the country are able to take advantage of the digital tools,
- seeks to close the digital divide - to ensure that everyone is able to access and use the digital services that could help them manage their lives, progress at work, improve their health and wellbeing, and connect to friends and family.

Although seen as a step in the right direction, this was met with mixed reviews from tech entrepreneurs on a number of issues ranging from cyber security, skills shortages, awareness of the rural-urban divide, encouraging overseas investors and failure to address the potential Brexit brain drain.

Some other initiatives include The **Council for Digital Inclusion** that brings senior leaders from the private and charity sectors together with government to increase collaboration and deliver initiatives to help more citizens to go online with confidence and take advantage of the Internet. In addition there are **National Health Service projects** supporting digital inclusion for the most excluded groups (such as homeless people, people with disabilities, people with mental health problems, and prisoners) providing digital skills that allow them to manage their health online, which from a service perspective seeks to make all 'users' and 'customers' more digitally-capable, although perhaps less relevant where vulnerable groups are excluded and unable to access services in the first place. **The Digital Skills Partnership** also brings Government, business, charities and voluntary organisations together to provide the right skills and the digital training to people. This Government-led proposal aims to make sure no one is left behind. The numerous schemes being put forward to some extent incorporate the triple helix concept in so far as the three major players combined with citizens/end-users come together to innovate and promote a stronger digital economy. The strategy includes new commitments - a plan by Lloyds Banking Group to give face-to-face digital skills training to 2.5 million individuals, charities and small and medium businesses by 2020; plans by Barclays Bank to teach basic coding to 45,000 more children and assist up to one million people with general digital skills and cyber awareness; and a pledge by Google, as part of the worker commitment of five hours of free digital skills for everyone, to help boost digital skills in seaside towns. **The Digital High Streets Initiative** has also been set up to help businesses become more digitally capable. This proliferation of initiatives suggests a softer neoliberalism, more socially innovative, with a push towards collaboration between the private and public sector; between financial sectors and charities and service providers, working towards greater equality. The ultimate goal however is to raise competitiveness, growth and sustainability, entrepreneurialism and investment within the country.

2.3 Key UK Service Sectors

This ever-expanding service sector in the UK needs to be considered in relation to two key areas:

Financial and business services including banking, insurance, securities, fund management, legal accounting and management consultancy;

Consumer services - public and private, incorporating retail, hospitality, real estate, tourism, the creative industries, education, health and communication.

Since the 1980s, the growth of new technologies or Information and Communication Technologies (ICTs) have transformed the global marketplace. In the UK ICTs helped firms cut costs, automate and offshore/outsource some of the low cost, low value, repetitive work, streamline their businesses and increase competitiveness. Further rapid changes due to digitalisation have again altered many aspects of the service sectors, with the use of online platforms and online access, virtual work and workers.

2.3.1 Financial and Business Services

London forms one of the three major financial/economic hubs on the globe alongside New York and Tokyo, with other cities like Edinburgh creating one of the largest financial centres in Europe. Nearly 2.2 million people are employed in the financial and related professional services across the UK, which accounts for over 7 per cent of the country's total employment. Across domestic and international activities, financial and related professional services contributed £190 billion to the UK economy in 2014 (TheCity UK 2016). According to a Commons briefing in March 2017 the financial and insurance services in 2016 contributed £124.2 billion in gross value added (GVA) to the UK economy, 7.2 percent of the UK's total GVA. London accounted for 51 percent of the total financial/insurance sector GVA in the UK in 2015. In 2015-16 the banking sector alone contributed 24.4 billion to the UK tax receipts through corporation tax, income tax, national insurance and the bank levy.

Following the 2008 financial crisis the UK has become the global hub for financial technology or 'fintech' leading the way with innovative approaches on how consumers use money and transact with businesses. Fintech, seen as another digital disrupter, has shaken up the financial status quo, making significant changes through mobile transactions, peer-to-peer platforms and digital banks. In 2015 London based fintech companies attracted £357m of venture capital investment in the first nine months, surpassing the total figure for 2014 with high profile deals for Funding Circle and TransferWise (City AM). Innovate Finance, a fintech trade organization already has over 200 members from startups to global financial institutions like Barclays and Aviva.

The financial sector has always been one of the early adopters of technology because of its reliance on IT to optimize business functions and client interactions. Over the last few decades marked technological and digital advances within the financial sector from self-service ATM machines, online and telephone banking, contactless payments to fintech start-ups ranging from GoCardless to mobile-focused banks like Atom and Mondo are continually changing the structure of the financial sector. Mobile banking in the UK is reported to double from 17.8 million in 2015 to 32.6 million by 2020 according to Fiserv. Mobile focused banks such as Mondo will provide innovative, personalised services entirely via a mobile app and cash card, incorporating biometrics, geolocation services and detailed notifications about spending, using real time data to communicate. All of this is made possible through the use of a bespoke banking technology platform.

Within the UK Fintech plays a major role in the banking and online payments markets. Contactless, digital payments, whether in the supermarket or elsewhere, are mainly processed through Worldpay, a technology focused company, which provides the technology to allow payments in-store and online based in the City, working at the heart of e-commerce. This payments processing company's largest competitor in the UK is Barclaycard, and together they account for 90 percent of the market; on a global scale its rivals include Adyen, Stripe and Paypal. The newest contenders on the market include ApplePay and GooglePay. Challenger banks and the advent of Open Banking is the next phase of the UK's retail and commercial banking; a diverse, modularized marketplace where fintech start ups or 'digital value chain players' provide specific components of banking services or products. The Second Payments

Services Directive (PSD2) is the next piece of legislation that will accelerate Open Banking and transform the payments industry.

Long established banks are also constantly collaborating with technological advancements and innovation to stay relevant, for example, Barclays Bank have embraced wearables, launching a bPay product range in the UK consisting of a digital wallet linked to a wristband, fob or sticker, which can be used at more than 300,000 locations across the UK. Royal Bank of Scotland are now using biometrics by enabling Touch ID on its banking app, and a number of banks have signed up to Apple Pay.

Within insurance there is growing peer-to-peer insurance, with billions going into insurtech start ups challenging the big companies such as So-sure, Friend-surance, Lemonade, Trov and Brolly. Other changes lie in telematic policies to keep premiums down. With year on year increases of almost 20 percent, the use of a black box or in-car telematics such as Insure the Box and Carrot could be beneficial to the motorist and to road safety. These devices measure how well a driver drives, creates a driving score and sets insurance premiums in accordance. There are however a range of barriers preventing the widespread roll out of such telematics with people wary of being continuously watched and monitored and suspicions around how the data will be used.

Banks and insurance companies favour digital, real time networked technologies to increase profitability, efficiency, long-term agility and high margin products and services. Outsourcing has long been used to improve efficiency, simplify business and operating models and to reduce the physical footprint. Some of the effects of digitalization can be seen in closure of bank branches, less face to face interactions, online banking, contactless payments by phone apps or card, and crypto-currencies like Bitcoin.

Since the 1980s, the liberal market economy in the UK has included the light touch regulation of commerce and free competition, openness to trade, greater labour market flexibility, lower income tax and control over trade union activity, thus providing the perfect landscape for the growth of financial services, banking insurance, tech startups and the big digital disruptors to enter the field and compete.

2.3.2 Consumer Services

The public services industry in the UK is a mature and well-established sector. A review carried out by Julius (2008) for the Department of Business Enterprise and Regulatory Reform defined the 'public services industry' and attempted to assess the size of the industry across all sectors – local and central government and service functions. The report showed that the PSI in the UK was the most developed in the world and is second in size only to that of the US. In 2007/8 its revenues totalled £79bn, generating £45bn in value added and employing over 1.2 million people. Under the Coalition and Conservative Governments, private sector involvement in public services has also grown exponentially. Within the public services digitalisation has allowed easier online access to tax, benefits and local government matters through the use of a range of ICTs to create more efficiency and meet citizens' needs and expectations eg. **DirectGov**, the Government Digital Service (GDS), and single **gov.uk** domains for access to government departments.

As with the financial and business sectors, the consumer sector has been impacted in every area, with nearly 4 out of 5 adults in possession of a smart phone, with many people connected at all times. As Total Retail Survey (2016) showed consumers are becoming more demanding through use of social media and the use of digital technology; they want convenience, variety and personalization. Price and quality are a given but most important is ease of use (PwC 2016). With this connectivity comes access to online retail purchases (ASOS, Amazon, eBay), online banking, instant ordering of food from

Deliveroo/Just Eat, booking of health appointments, travel (airline tickets, comparison websites for flights, accommodation car hire), theatre, restaurant selections and reservations (TopTable, Hot dinners, Square Meal, Time Out) insurance and parking. Many high street retailers are missing the footfall previously experienced and many shops are shutting and focusing on the online presence. Contactless payments make everything instant and purchasing seamless. Within the UK global digitalization of information has impacted on every sector of the service economy –

a) development of new products/sectors: Cloud technologies – smart phones, laptops, smart watches and wearable technologies, to smart meters, PSD2, bio tech, nano technology, block chain technologies – bitcoin;

b) Labour displacement: Artificial intelligence (AI), algorithms and robotics, Internet of Things (IoT);

c) New consumerism/labour cheapening: for eg. online platforms like Uber, Airbnb.

Even within home entertainment public service broadcasters such as the BBC with their linear broadcasting, face becoming increasingly redundant with the growth of digital broadcasting whether iPlayer, Netflix, YouTube or Spotify, allowing viewers and listeners freedom to consume at their convenience. A survey by Ofcom (July 2017) showed the popularity of Netflix and increase of its ratings with younger viewers - a shift to online video in place of linear channels. The BBC has through its iPlayer provided on-demand access to its programming; but with a licence fee and long-established remit to inform, educate and entertain, it may in the future find it difficult to maintain its *raison d'être* and be unable to reach a large enough audience due to prevalence of multiple specialist and niche digital channels, individualization, use of other digital interfaces for personal services, which will ultimately reduce ratings and the viability of public service broadcasting.

2.4 Platforms and policy responses

A joint research report commissioned by FEPS and UNI-Europa from University of Hertfordshire on Crowd Work in Europe (Huws et al. 2017) provided an overview of the platform-based labour market in five European countries (UK, Sweden Germany, Austria and the Netherlands), highlighting the diversity of new types of labour and associated labour conditions in the EU, with an aim to provide policy proposals for better rights for crowd workers in the future. Through online surveys of roughly 10,000 people from the five countries it was concluded that there was very little difference between the UK (which is a 'liberal market economy') Sweden (which is 'social democratic'), Germany and Austria ('corporatist') and the Netherlands (normally seen as a hybrid type). Crowd work generally is used to supplement total income – it is rarely an active career choice, there is little gender difference in propensity to do crowd work, more likely to be people from younger age groups (Huws et al. 2017).

Sharing Economy UK launched in March 2015 was set up to champion and represent the shared economy businesses in the UK, working with the Government and policymakers to protect consumers and shared businesses alike; a trade body championing the UK sharing economy and ensuring best practice. It has created the Trust Seal, a code of conduct, which are a series of principles that businesses in the UK economy should abide by in terms of data protection, security, identity verification and ensuring clarity of communication between the platforms and users. Some of its members include Airbnb, Ticket exchange StubHub and petsitting/travel website Trusted Housesitters. As of 2017 it has become part of the Confederation of British Industry (CBI).

Most recently, a Government review was commissioned examining employment laws, and how to provide workers with access to their rights. Matthew Taylor, Chief Executive of the Royal Society of Arts, set out his blueprint for a UK economy, **Good Work: The Taylor Review of Modern Working Practices**

(2017). The report investigates the changing nature of employment – freelance, flexible, short-term, part-time, casual work and draws a comparison between ‘good’ work and ‘bad’ work. The former means work that boosts the nation’s earning power and productivity, and enhances workers’ well-being and happiness; the latter focuses on the one-sided flexibility in favour of the employer, and the risk and instability resting with the workers. Unions and employment lawyers criticised the report as feeble and not doing enough to end insecurity and exploitation for workers. The creation of the new worker category of ‘dependent contractor’ was seen by lawyers as further complicating existing categories of how workers are defined in law.

For many critics, the long-awaited Taylor Review was seen to be leaning towards gig economy employers and not shifting the balance of power in the modern workplace. The new category of the ‘dependent contractor’ was seen to be bowing to the new platform owners’ demands. Unite criticised the report for failing to address the growth of forced self-employment, unacceptable use of zero hours contracts and agency work that deny workers permanent full time work; critical of it suggesting that insecurity is the inevitable new norm. The GMB and the TUC were similarly critical. The CBI and Institute of Directors, on the other hand, felt the Review could equally benefit or hinder businesses: CBI felt that the minimum wage, rewriting of employment status and altering of agency work rules could restrict job growth; the IoD felt this report would reassure employers by removing ambiguity around definitions of employment status in the UK and also recognised the value of flexible working to the labour market and individuals.

3 Service Labour Markets

3.1 *The changing job market*

The ‘gig economy’, ‘sharing or shared economy’, ‘collaborative economy’ are all used interchangeably to describe the changing landscape of the employment market, over the last decade (Huws & Joyce 2016; De Stefano 2015; Sundararajan 2016). Some differences have been made stating ‘gig economy’ focuses just on work through online platforms whereas ‘sharing economy’ includes market and non-market activities namely trading of goods and services with or without employment relationships. According to a briefing paper released by the UK Office for National Statistics (2016), the lack of a common definition and understanding of the ‘sharing economy’, together with certain features such as transactions among individuals, are the main obstacles to measuring the ‘sharing economy’ in terms of either its economic value or the number of individuals involved as users or providers.

In the UK, the gap between the earnings of skilled and unskilled workers has risen in recent years, mainly for two reasons: the changing economy arising from technological change has increased the productivity of many skilled workers, with application of IT often easier within skilled occupations compared with unskilled ones. International trade and globalisation have had a significant downward impact on the pay of the unskilled. By contrast, the skilled, especially in the service sector, are generally less adversely affected by global competition. The recent financial crisis has meant that the financial services sector has experienced difficulties but the skills gap and resultant pay gap is unlikely to narrow in any significant way (ONS 2016).

Jobs are also often outsourced or offshored to keep costs down, often impacting on UK employees and workers. The ‘sharing economy’ companies such as Uber and Deliveroo services, with their quick, efficient and often cheaper services have allowed the growth of low-amount, high-volume payments by phone. This rise in easier to use, quicker payment to meet customer demands is posing a challenge for the more traditional banking and credit card sector, for example with block chain technology, the ‘bitcoin’ and biometrics.

With rapid technological change and the growth of digitalisation, this new 'revolution' has forced global change; welcomed by some and a cause for dissent in others. The Big Five 'digital disrupters' Facebook, Google, Amazon, Apple and Microsoft and their control of the most valuable platforms is often commented on. As Parker et al (2016) explain 'these Five rode that perfect wave of technological change – decrease in cost of I.T., greater network connectivity and the rise of the mobile phone'. New global platforms, however, are joining as major forces to be reckoned with: Uber taking control of the transportation industry, Airbnb ruling hospitality and Netflix dominating the entertainment industry. Debates continuously revolve around the approach of the old and new disrupters – for example, with The Big Five on grounds of antitrust and privacy, Uber's promise of flexibility and big salaries for its workers, and Airbnb's promise of empowering ordinary people through its online platform, of connecting people and creating an open society and working on the side of the little people. Both Uber and Airbnb have faced legal battles resulting from their pushing of barriers in terms of work, workers, harassment, taxation and employment legislation. Blockchain, seen as the meta-platform of the future, the new wave of technological change, has the potential for being the newest disrupter with the ability to disrupt the sector/function-specific platforms – from finance (Bitcoin and cryptocurrencies), industry, banking, payments, identity and privacy, security, smart contracts and AI, robotics and the Internet of Things.

3.2 *Composition of the platform workforce in terms of gender, ethnicity and education:*

The paradox of utopia versus dystopia; between those in the know with the skills and those outside of that knowledge; the haves and have-nots; is creating a dissonance, a 'digital divide' (Huws 2001). With the demise of manufacturing industries, and exponential growth of the services industry impacted by digitalization, greater labour market flexibility has led to a growth in self-employment, part-time jobs, zero-hour contracts. For many it allows a chosen flexibility particularly for young people with less responsibilities and commitments and hopes to gather experience and increase their chances to enter more secure segments of the labour market. For others however, although flexible, it provides very little sustainable income.

The precarious, zero-hours-contract existences of marginalised service and platform workers highlights the risks that exist around workers' rights, taxation and consumer rights; platform owners versus the rights of crowd workers who should enjoy the same rights as other workers in more traditional employment. Questions are often raised around the sustainability of this type of economic model.

For women and ethnic minorities, it becomes easier to enter the job market within the service sector but the quality of employment is both precarious and unreliable. In terms of gender, a survey (2017) conducted by Ipsos Mori and the Royal Society of Arts (RSA) shows that of the 1.1 million workers in the gig economy 69 percent are male. Men account for 95 percent of Uber drivers and 94 percent of Deliveroo drivers. The RSA definition of 'gig workers' related to those completing tasks via online platforms, which included not only driving and delivery services but more white-collar online platforms such as Upwork and Talmix.

Women are often employed in 'microwork' which is at the lower end of the skill hierarchy and low paid; microwork or 'click work' breaks down complex tasks into tiny tasks requiring data entry, tagging or checking people ratings, which are completed through a series of clicks. Within Europe the UK has the most microworkers, roughly 8 million adults aged 16-75 working at home through platforms like Upwork, Clickworker and Peopleperhour. The majority are female and under 35. This style of microwork, crowdsourced through online platforms is seen to render the physical collectivity of the traditional workplace as obsolete; this atomization of microworkers through online crowdsourcing is the logical outcome of a long-term process of work fragmentation and physical disconnection of workers

(Webster 2016). The individualisation of work contracts is also seen as a deterrent to collective organizing

Analysis by the Trades Union Congress (2017) shows that the 'gig economy' which includes not just platform working but zero-hour contracts, freelancing, short term contracts, often exploitative and insecure, has led to increased racial disparities in the labour market, with many more ethnic minority workers facing insecurity and precariousness in the employment market. It found that the proportion of black workers in temporary jobs jumped 58 percent between 2011 and 2016; over seven times the 8 percent increase for white workers. The number of black women on temporary contracts rose by 82 percent in that time, compared with 37 percent increase for black men. Ethnic minority workers are a third more likely to be in temporary or zero-hours contracts that do not guarantee a minimum number of hours a week. There is disagreement between unions and employers over the types of jobs – the former talk about precarity whereas employers say they provide flexibility for their workers. To tackle the problem the TUC are pushing for all employers to publish ethnic minority reports on recruitment, pay and employment types.

3.3 *Precarious working*

The major drawback with growth of the 'gig economy' is greater informalisation of the economy which makes it harder to enforce employment laws. This has resulted in many workers finding themselves exploited, under-paid and devoid of basic workers' rights in terms of minimum wage, holiday, sickness benefits and good quality working conditions. 'Flexibility' of work often cited as positive needs to be looked at in conjunction with 'choice' or lack of it. According to a survey of 2000 people by Glasdoor with One Poll (2017) only 13 percent of people in their survey across all types of employment wanted to work in the gig economy, 76 percent favoured full time permanent employment. 35 percent said the biggest draw of the gig economy was the flexibility.

The impact of digitalization has led to a number of changes within the employment sector. Huws (2016) points out that across the economy, "work on demand" is becoming a new norm for jobs as varied as supply teachers, agency nurses, supermarket checkout operators and call centre workers. As mentioned earlier, in a recent survey of 2,238 people in the UK carried out at Hertfordshire Business School(2016), it was found that 3% of the adult population in Britain work for online platforms "at least weekly" with many more (11%) doing so more occasionally. An estimated 2.5% of employees are on zero-hours contracts and 6% are on temporary contracts. The latest UK government figures show that more than a million people have second jobs and nearly 5m are self-employed. Huws (2016) concludes that unless there are radical changes in labour and social protection regulation, it looks as if uberisation is here to stay.

4 **Company Strategies and Work Organization**

4.1 *Offshoring, Outsourcing and Offshore Outsourcing*

The UK now has a mature public services outsourcing market, with 30 years' experience of contracting public services out to the private and voluntary sectors. For greater efficiency and cutting costs over the decades, public sector services have been outsourced; 'contracting out' or outsourcing is seen as the way to reform public services and improving value for money. Some of the most well-known private providers of public services in the UK include Atos, Capita (call centre services for British Gas, RSPCA), Serco (Defence Business Services/Prisons) and G4S (Prisons). The side effect of outsourcing on the public sector has created a greater demand for standardisation, speed and efficiency and performance monitoring measures and pressures on workers across a wide range of professions – from surgeons to

cleaners, university professors to care workers (Huws 2016). The experience of moving from public to private sector is seen to bring about a significant change in working culture – from one that works to meet the need of clients, to one where the goal is meeting targets and maximising profitability (Dahlmann 2008)

Within the private sector, from the late 1990s with an IT skills shortage in the UK, ‘offshore outsourcing’ was carried out by many companies to countries like India, China, Philippines, South Africa, looking for cheaper and efficient IT-enabled services in both public and private sectors. Some of the business functions included data processing, sales, customer service, financial functions. The issues surrounding the growth of offshore outsourcing have always been job losses at home and data protection issues. The growth within the public sector has remained much slower with government departments torn between cutting costs to make savings and keeping jobs local. Other implications for employment from outsourcing include increasing precariousness for workers arising from substitutability and a decrease in bargaining power which emerges from standardisation (of tasks, processes, qualifications), especially if work is on project-by-project basis (Whitley 2006).

4.2 *Service value chains*

Another area worth considering is that of external restructuring of companies and public organisations in service sectors and emergence of cross-organisational value chains, and the impact on employment conditions and work organisations e.g. contracts, wages, hours and organisation of work. In terms of organisational restructuring, financial market- and shareholder-driven company strategies along with digitalisation have brought about the dispersion of work tasks and functions across company boundaries. The concept of ‘value chains’ is useful in understanding power relations and looking at the disintegration that occurs from outsourcing and relocation of tasks, functions and units across all those involved in the chain – customers, producers, suppliers and service providers ((Huws 2009; Gereffi and Korzeniewicz, 1994; Henderson et al 2002). Whereas in the past outsourcing processes and value chain analysis focused on manufacturing, these concepts are now very relevant to the service sectors in the UK and elsewhere. There is a growing trend in financial services and the public sector relying on externalisation and outsourcing of service functions namely specialised accounting, IT services, R&D, human resource management, through call centres and the use of suppliers and service providers across many organisations (Grimshaw et al 2007; Huws 2003).

In terms of the impact on organisations there are opposing viewpoints – the positive view is that organisational fragmentation offers opportunities of self development and removes the hierarchy within organisations; the opposition describe extended value chains as ‘risk and flexibility’ transfer chains, and identify risks and lack of skills development (Rubery 2005; Frade and Damon 2005)

4.3 *New forms of work and industrial relations – issues, debates and policies*

Digitalisation has brought another dimension to the global, liberal market economy in the UK and led to further transformation of organisations’ structure, organisation and management of work. As stated earlier the practicalities and challenges of platform technologies draw one’s attention back to the gig economy, shared economy and platform working and its contradictory nature. Some of the many phenomena and work trends linked to digitalisation of the service sectors include: a) different forms of work organization – online platforms, crowdwork, virtual work beyond spatial and temporal boundaries; (b) different forms of contract - including self-employment, independent contractors, zero hour contracts, flexible hours; (c) the social impacts of these such as precarity, exploitation of workers eg. women and ethnic minorities, lack of skills/training.

The Government, Trade unions and policymakers alike question the changing labour market and its long-term ramifications on society (Field and Forsey 2016). The TUC published a report **Living on the Edge – the Rise of Job insecurity in Modern Britain** (2016) where the focus is on the changing world of work, and the impact of technology on the workforce. By concentrating on the relationship between employers and employees it highlights the growing insecurity in the workforce. By looking specifically at online platforms, it showed improved flexibility for employers, at the expense of a huge increase of numbers of contract workers on a piece-work basis, the increase of zero-hour contracts, agency workers and the growing band of self-employed. The report showed how insecure workers lack workers' rights, benefits, protection at work and access to pensions.

In February 2017, the Trade Union Advisory Committee (TUAC) held a Trade Union Forum on **Digitalisation and the Digital economy** in Paris, starting with an internal trade union exchange with over 80 national sector level and global union representatives. This led to panel discussions with OECD, other experts and stakeholders on the impact of digitalization on economies. The focus was on ensuring that policies are in place to ensure that technology positively improves the working conditions and quality of life of workers; digitalisation and innovation contributing to more equal societies. The key principles of The Just Transition Framework, previously developed by trade unions in the context of climate change was seen as relevant and pertinent for the digitalisation of economy. What was derived from this was: a) the need for sustainable industrial policy, b) robust social protection for workers and c) creative labour adjustments that address the needs and aspirations of the workers. The recommendations included: research and early assessment of social and employment impacts, active labour market policies and regulation, training and skills development and social protection, and the securing of pensions. These key recommendations drawn from the meeting are due to be fed into a new two-year OECD project "Seizing the Benefits of Digitalisation for Growth & Well Being" (2017-18) which will provide deeper understanding of the impact of technology on economies. Unions feel that there is a crucial need for collective bargaining to share out the wealth created by digital technology.

The conflictual rhetoric and ambiguity underscores the level of difficulty around regulatory and policy issues affecting the digital economy. There are problems with defining the 'sharing economy' because it does not fall within standard classifications used in business and economic statistics, since businesses in any industry may contribute to it. A report carried out in conjunction with the **Sharing Economy UK (SEUK)** calls for a radical overhaul of statistics to incorporate the sharing economy and take into account peer-to-peer lenders, crowdfunding sites, outsourcing sites and transport services. For example, many people would not consider renting out a room as 'work' in the traditional sense, partly because it does not fit into an existing employment category. An update of employment statuses is seen as imperative, along with perhaps the use of a Time Use Survey to identify how long people engage with platforms. 'Traditional measures of productivity cannot adequately capture the economic impact of the sharing economy, in part because GDP figures do not take into account economic benefits such as time saved, increased choice and lower cost of products – all of which are key consumer benefits of using the sharing economy' (Coyle 2016).

4.4 Disruptive Innovators and 'self-employment'

The biggest online platform employers, often described as icons of disruptive tech or disruptive innovators, Airbnb and Uber (and other larger players) are seen to follow monopolistic, aggressive market growth strategies, with many believing they exploit the 'sharing' and collaborative rhetoric to promote their activities. They have achieved rapid global expansion through a user-friendly technology, use of the 'sharing economy' and by means of outmanoeuvring governments, regulators and competitors (Dudley, Banister Schwanen 2017). 'Uberisation, this new people-people share economy is

focused on centralisation, cost reduction and enforcement whereby the worker carries the risk in the 'just in time' workforce (Nurvala 2015); Uber is a global business engaged in outsourcing its workforce and offshoring its payments and profits; a 'just in time' solution to consumer demand for the immediate provision of goods and services' (Fitzgerald and Gunter 2017). Both Uber and Airbnb are in constant global conflict about permits and employment lawsuits, regularly participating in official hearings and releasing their own reports on the positive social impacts they have.

One of the main controversies around Uber has always been whether its drivers are 'independent contractors' or employees. The company claims they are the former allowing them to avoid workers' rights such as minimum pay, sick or holiday pay, and pensions. Uber began operations in London in 2012 and was officially registered by Transport for London (TfL), and although it faced and continually faces opposition from the Black Cab Drivers and its representative body LTDA it continues to grow - with its ride sharing service UberPool and its food delivery service UberEats. In 2016 there were 30,000 Uber vehicles. In 2017 however TfL have decided not to renew Uber's London licence to operate, which expires September 2017 stating it felt it was not a 'fit and proper' private car hire operator; also stating it did not report criminal offences by its drivers or do proper background clearance checks. Over the last few years increasingly hostile relations have been heightened by legal action brought by Uber.

Uber's greatest problem in London is with its drivers, their treatment and their status. The fundamental 'sharing economy' ethos of Uber is that its drivers are called 'registered partners' rather than 'company employees'. However, although drivers use and maintain their own vehicles they pay twenty five percent commission on each ride and provide no benefits, causing discontent among the workforce. An employment tribunal ruling, in a landmark legal case in October 2016 stated that Uber drivers in Britain are 'workers' and not 'self-employed contractors' and therefore entitled to basic workers' rights - minimum wages and holiday pay. This has huge implications for over 40,000 drivers and more broadly for the gig economy. The case was brought by the UK's GMB union on behalf of two drivers: James Farrar and Yassen Aslam state that this case has set a precedent for reviewing similar contracts where exploitation is seen to exist in the gig economy under the guise of self-employment. This judgment acknowledges the central contribution that Uber's drivers have made to the company's success, by confirming that its drivers are not self-employed but work as part of the company's business, quashing the debate: are Uber drivers self-employed or workers for the company. Uber, the taxi-hailing company however has said it considers its drivers to be self-employed "partners" and most drivers are happy with the arrangement, and is currently appealing the Employment Tribunal decision (autumn 2017) claiming that Uber operates an agency business similar to traditional minicab firms with self-employed drivers, claiming that the agency model is recognized by case law. Just over three-quarters of 1000 Uber drivers polled preferred being self-employed and choosing their own hours (ORB). The GMB Union states that the company should "conform to employment law" and give its drivers' rights, such as minimum wage, mandatory breaks and paid leave. This judgment could have a ripple effect on other cases relating to the company - and also in setting a precedent for similar situations that occur in the gig economy (Deliveroo riders and their employment status) where people opt for flexible work arrangements.

Airbnb has tried to cultivate the more collaborative approach because the business relies on trust and intimacy. It however has also met with sanctions and restrictions from cities around the world like Berlin, Barcelona and London around their hosts letting their homes too often, avoiding registration of properties and affecting rents in cities. From 2018 in London, Airbnb will block hosts from overstepping the legal limit for letting their property.

4.5 *Legal definitions of Employment and its regulation in the 'Shared Economy'*

The 'sharing economy' or 'crowd sourced' work opens up a wealth of policy/ legal debates and analysis around facts, values and stakes - in terms of what constitutes the 'sharing' and 'collaborative economy' and the notion of 'social utopianism', for the consumers, employers, and workers who are responsible for selling, renting, lending and provision of services (Prassl & Risak 2016). Discussions revolve around the virtues and drawbacks of the new dynamics of work, questioning its long-term effects on employment and the rights and welfare of workers. The legal concept of 'employee' is seen to pre-date the Internet era and new organizational possibilities arising from digitalisation, outsourcing, 'on-demand economy' and the 'gig economy' are seen to have culminated in 'the escape from employment law' (Baylos Grau 2000:44)

The implication of the 'gig economy' is that on the one hand it allows demand and supply of working activities online and via apps, with flexibility or 'a just-in-time workforce', but on the other hand 'severe commodification of work' arising from casualization, informalisation of work and spread of non-standard forms of employment that often overlook the fundamental labour rights of workers (De Stefano 2016). Aloisi (2016) similarly assesses how the 'sharing economy', despite creating new peer marketplaces and increasing productivity, is simultaneously promoting a new version of Taylorism or 'fragmentation of labour into hyper temporary jobs or 'microtasks' as commonly known, on a virtual assembly line – all as a result of globalization and computerization'. He highlights how extreme flexibility comes at a price, with uncertainty and insecurity for workers who are burdened with all the risks, no benefits such as holiday or sick pay or minimum wage. His conclusion is that in order for a truly 'shared/sharing' economy and 'decent crowdwork' there needs to be an equitable split in wealth and responsibility among platforms and workers.

Other conflictual debates and issues around the new digitalised economy and online platforms of services include the lack of regulation of services, workers rights, liability and insurance, confidentiality, cybersecurity and tax violations. Liability and insurance are also two sides of a 'sharing' transaction, which often pose problems. Many platforms argue that they are only intermediaries and therefore not direct providers of services. For example, Airbnb by using the 'collaborative' description claims it only facilitates contact between host and traveller and ensures payment. Without clear guidelines that fit around platform working, the loopholes allow the online platforms to escape fitting into either commercial or individual insurance. Reliability of ratings and reviews on online platforms also have shortcomings, such as low response rates, an unwillingness to provide negative ratings and incomplete information. Todoli-Signes (2017) examines the new business models and how they impact on labour relationships – the scope of employment contracts and new types of workers, in relation to online platforms. By considering controls and monitoring, control and dependency of employer-worker, bargaining powers, inclusion in an organization, lack of entrepreneurial opportunities and the irrelevancy of certain signs in order to determine the existence of an employment relationship, it is concluded that a different kind of protection is required for this new type of employee. One of the key reasons for a need for change in legal policy is around working time flexibility; fixed salaries and minimum wages are seen as difficult to fit into a business model where a worker chooses how long they will work (Fisher 2015; Weber and Turcios 2015:12).

5 Conclusion

With the altered landscape of the service industry, and the types of organizations and forms of work that have arisen from digitalisation and globalisation, a digital revolution is in progress. The structure of 'employment' as it was known in the twentieth century has changed. There needs to be recognition that

online platform working, logged labour, the gig economy, crowdworking, zero hour contracts, temporary/part-time contracts and self employment can be both positive and negative - allowing flexibility and choice on the one hand, by providing jobs for those previously unable to be employed in the traditional workplace; and on the other hand, often exploitative, risky and precarious. There is no 'normative' or homogeneous form of work, but fragmentation, segmentation and inequality – to quote Huws (2016:22), 'we are now witnessing the emergence of a new paradigm of work ... the implication is then that we also need a new political and institutional architecture within which labour can be framed and (re)regulated'. Although increasingly difficult to monitor, it is imperative, however, that even in a liberal market economy like the UK, controls and regulations are put in place to prevent monopolistic, uncontrolled power of the new disrupters in the UK economy and to protect the welfare of the workers and consumers.

All the institutions within the economy have a role to play - the Government needs to ensure clarification and protection of individuals' employment rights in light of the new and changing employment structures. There needs to be collaboration between organisations such as trade unions and Institute of Directors and CBI to help improve working practices of businesses and employers, consumer and labour protection and workers' rights. Better clarity on legal definitions of 'employee' 'worker' 'self-employed' and removal of some of the grey areas that lead to conflict and legal disputes, particularly with new disrupters in the global marketplace, would be a positive move towards enhancing industrial relations in a growing digital service economy.

Acknowledgements:

My thanks and appreciation go to my new colleagues Professors Ursula Huws and Jane Hardy of University of Hertfordshire's Business School for their kind support and willingness to share their expertise and provide invaluable feedback, while preparing this report.

6 References

- Aloisi, A. (2016) 'Commoditized Workers: Case Study Research on Labour Law Issues Arising from a Set of 'On-Demand/Gig Economy' Platforms'. *Comparative Labor Law & Policy Journal*, Vol. 37, No. 3, 653
- Batt, R., Holman, D., & Holtgrewe, U. (2009). The Globalization of Service Work: Comparative Institutional Perspectives on Call Centers: Introduction to a Special Issue of the Industrial & Labor Relations Review. *ILR Review*, 62(4), 453-488.
- Baylos Grau, A. (2000). La huida del derecho del trabajo. AAVV., El trabajo ante el cambio de siglo: un tratamiento multidisciplinar:(aspectos laborales, fiscales, penales y procesales), Marcial Pons, Madrid.
- Coyle, D/Sharing Economy UK (2016) 'The Sharing Economy in the UK'
- Dahlmann, S (2008) 'The end of the road, no more walking in dead man's shoes: IT professionals' experience of being outsourced to the private sector' *Work, Organisation, Labour and Globalisation*, 2 (2):148-61
- DCMS (March 2017) The UK Digital Strategy Policy Paper. The UK Digital Strategy, <https://www.gov.uk/government/publications/uk-digital-strategy>
- Degryse, C. (2016) Digitalisation of the Economy and its impact on labour. *ETUI*.
- De Stefano V (2016) 'The Rise of the "Just-in-Time" Workforce: On-Demand Work, Crowd Work and Labour Protection in the "Gig-Economy". *ILO Conditions of Work and Employment Series* no. 71, Geneva: International Labour Office.
- Dudley, G, Banister, D & Schwanen, T. (2017) The Rise of Uber and Regulating the Disruptive Innovator *The Political Quarterly* Volume 88, Issue 3: 492-499
- Field, F., and Forcey, A., Wild West Workplace: self-employment in Britain's 'gig economy' (London: *The Stationery Office*, 2016)
- Field, F. & Forcey, A. (2016) 'Sweated Labour: Uber and the 'Gig Economy' (London: *The Stationery Office*, 2016)
- Fisher, D (2015) Uber say drivers oppose lawsuit that would make them employees. Forbes. Available at: <http://www.forbes.com/sites/danielfisher/2015/07/09/uber-says-its-drivers-want-no-part-of-lawsuit-to-make-them-employees/#1e45d4b1387d>
- Fitzgerald, T & Gunter, H.M (2017) 'Debating the agenda: the incremental uberisation of the field' *Journal of Educational Administration and History* Vol. 49, Issue 4, 2017
- Flecker, J. & Meil, P (2010) Organisational restructuring and emerging service value chains: implications for work and employment *Work, Employment and Society* Volume 24(4): 680-698
- Frade, C and Damon, I. (2005) 'New modes of business organization and precarious employment: towards the recommodification of labour?' *Journal of European Social Policy*, Vol.15. Issue 2:107-121
- 'FT Big Read. 'Fintech' *FT Weekend* 8/9 July 2017 p.7
- Financial Times, February 25, 2017 'The big data tech revolution set to shake up insurance' *FT Money*.
- Gereffi, G., & Korzeniewicz, M. (Eds.). (1994) *Commodity chains and global capitalism* No. 149. ABC-CLIO.

- Glover, P and Beck, H./UK Commission for Employment and Skills (UKCES) (2014) *The Future of Work: Jobs and skills in 2030: Evidence Report 84*, February 2014. Centre for Research in Futures and Innovation, University of South Wales www.ukces.org.uk/thefutureofwork. February 2014
- Grimshaw, D., & Rubery, J. (2007). Economics and HRM. *Oxford Handbook of Human Resource Management*,
- Grimshaw, D. et al (2002), New technology and changing organisational forms: implications for managerial control and skills. *New Technology, Work and Employment*, 17: 186–203.
- Henderson, J., Dicken P., Hess M., Coe N. and Yeung, H.W.-C. (2002) 'Global production networks and the analysis of economic development', *Review of International Political Economy* 9(3): 436–64.
- Huws, U. (2016). Logged In: The New Economy Makes It Harder Than Ever to Untangle Capitalism from Our Daily Lives. *Jacobin*. <https://www.jacobinmag.com/2016/01/huws-sharing-economy-crowdsourcing-precarity-uber-workers/>
- Huws, U., Spencer, N. H., Syrdal, D. S., & Holts, K. (2017). Work in the European Gig Economy – Research results from the UK, Sweden, Germany, Austria, the Netherlands, Switzerland and Italy. Brussels: UNI Europa/FEPS. Retrieved from <http://www.uni-europa.org/wp-content/uploads/2017/11/europeagigeconomy-longversionpdf.pdf>
- Huws, U. (2016) 'Logged Labour: a new paradigm of work organisation?' *Work organisation, labour and Globalisation* Volume 10, Number 1, Spring 2016
- Huws, U., Dahlmann, S., Flecker, J., Holtgrewe, U., Schönauer, A., Ramioul, M. and Geurts, K. (2009) *Value Chain Restructuring in Europe in a Global Economy*. Leuven: HIVA.
- Huws,U. (2009) 'Working at the interface: call centre labour in a global economy', *Work Organisation, Labour and Globalisation*, 3(1):1-8
- Huws, U. (2003). *The making of a Cybertariat: Collected essays*.
- Ipsos Mori and the Royal Society of Arts (RSA) (2017) Survey <https://www.thersa.org/discover/...and-articles/rsa.../2017/07/what-is-the-gig-economy>
- Julius, D (2008) 'Public Services Industry Review. Understanding the Public Services Industry: How big, how good, where next?' webarchive.nationalarchives.gov.uk/20121212135622/http://www.../file46965.pdf
- Mazzucato, M. (2015). *The entrepreneurial state: Debunking public vs. private sector myths* (Vol. 1). Anthem Press.
- Miozzo, M. and Ramirez, M. (2003), Services innovation and the transformation of work: the case of UK telecommunications. *New Technology, Work and Employment*, 18: 62–79. doi:10.1111/1468-005X.00111
- Nurvala, J-P. (2015). 'Uberisation' is the future of the digitalised labour market. *European View*, 14, 231–239
- OECD (2017-18) "Seizing the Benefits of Digitalisation for Growth & Well -Being", <http://www.oecd.org/sti/goingdigital.htm>
- Ofcom (2017) Communications Market UK. August 2017 <https://www.ofcom.org.uk/research-and-data/multi-sector-research/cmr/cmr-2017>

Office for National Statistics (2016) 'Tech disrupter do battle with regulators'

ONS (Sept 2016) 'Five Facts about The UK Service Sector ' visual.ons.gov.uk/five-facts-about-the-uk-service-sector/

Parker, G. G., Van Alstyne, M. W., & Choudary, S. P. (2016). *Platform revolution. How networked markets are transforming the economy and how to make them work for you.*

Prassl, J & Risak, M. (2016) 'Uber Taskrabbit and Co: Platforms as Employers? Rethinking the legal analysis of Crowdwork'. *Comparative Labor Law and Policy Journal*, Forthcoming; *Oxford Legal Studies Research Paper* No8/2016

PwC (2016) Total Retail Survey. London: PriceWaterhouseCoopers, <https://www.pwc.com/gx/en/retail-consumer/.../assets/total-retail-global-report.pdf>

PwC (2015) Future of Work. London: PriceWaterhouseCoopers

Raconteur.net 04/12/16 'How vulnerable are 'freelancers' in the gig economy? Future of Work. <https://www.raconteur.net/business/problems-with-the-growing-gig-economy>

Schwab, K. (2017) *Fourth Industrial Revolution*. Portfolio Penguin

Scholz, T. (2016) *Uberworked and Underpaid: How Workers Are Disrupting the Digital Economy*. Polity

Sundararajan, A. (2016). *The sharing economy: The end of employment and the rise of crowd-based capitalism*. Mit Press.

Taylor, M /RSA. (2017) 'Good Work: The Taylor Review of Modern Working Practices' Independent Report. Department of Business, Energy and Industrial Strategy. July 2017 <https://www.gov.uk/.../good-work-the-taylor-review-of-modern-working-practices>

The Tech Nation 2017, <http://technation.techcityuk.com>

Todolí-Signes, A. (2017) The 'gig economy': employee, self-employed or the need for a special employment regulation? *Transfer: European Review of Labour and Research* Vol.23, Issue 2, pp.193-205

TUAC (2017) 'Digitalisation and the Digital Economy' <https://www.ituc-csi.org/digitalisation-and-the-digital>

TUC (2016) 'Living on the Edge – the Rise of Job insecurity in Modern Britain' <https://www.tuc.org.uk/sites/default/files/Living%20on%20the%20Edge%202016.pdf>

Whitley, R (2006) Project-based firms: New organisational form or variations on a theme? *Industrial and Corporate Change*, 15 (1): 77-99

Webster, J (2016) 'Microworkers of the Gig Economy: Separate and Precarious', *New Labor Forum*, Vol. 25 (3), pp.56-64

Webster, J. and Leung, W.F. (2017) 'Introduction: creativity, knowledge and innovation in virtual work. *New Technology, Work and Employment*, Vol. 32, issue 1: 1–11.

Weber PM, & Turcios EN (2015) 'Uber hits a speed bump in California: labor commissioner rules driver is an employee'. *Employee Benefit Plan Review*, 70(3): 3–13.