UNTANGLED

Newsletter Issue 6 / August 2022

FROM THE EDITORS

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As we cross the halfway point in our three-year endeavour, Project UNTANGLED is in full swing, with a number of papers being finalised. Three were published over the past three months, and more are in the pipeline.

The past three months also brought the first opportunity for us to meet in person: we held our General Assembly on 16 May to discuss our progress on researching the impact of technological innovations, globalisation & demographics on various aspects of the labour market. We also talked about our plans for the future.

In addition to this meeting in the physical world, we also continued our series of virtual expert cafés. The third session, on 21 June, attracted 22 participants.

Looking forward to the August-October period, we have another busy quarter in store, with one more virtual café and two workshops. We'll also be gearing up for our UNTANGLED Conference in November. We're calling for papers with a submission deadline of 10 September, so if you're working on the impact of technology, globalisation and demographics on labour markets, we sincerely hope you'll consider sharing your findings with other experts in our forum.

Upcoming events

31 August – next UNTANGLED Open Virtual Expert Café (2-3:30 pm CEST)

10 September – deadline for submission of papers and extended abstracts for UNTANGLED Conference: *Labour market effects and social impact of technological transformation, globalisation and demographic change*

21-22 September – UNTANGLED Expert workshop: *Data and knowledge sources: how to put the evidence to work?*

20 October – UNTANGLED Expert workshop: *Mutations d'un marché du travail en tension*

9 November – UNTANGLED Conference: *Labour market effects and social impact of technological transformation, globalisation and demographic change*

Follow us on social media or check **projectuntangled.eu** to make sure you don't miss out!

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101004776

CAPELLO, LENZI AND PANZERA PUBLISH PAPER ON THE RISE OF THE DIGITAL SERVICE ECONOMY IN EUROPEAN REGIONS

In their recent paper *"The rise of the digital service economy in European regions"*, part of Project UNTANGLED, Roberta Capello, Camilla Lenzi and Elisa Panzera provide a comprehensive conceptualisation of the digital service economy and document how this new way of doing business is gaining ground across Europe.

Roberta Capello

Camilla Lenzi

Elisa Panzera

The authors argue that the digital service economy entails an extensive range of businesses enabled by digital platforms. These businesses blur the boundaries between products and services, with the latter not only complementing the former but also substituting them. The digital service economy generates new benefits for users, creates new economic actors and new value creation models. The authors identify three value creation models within the digital service economy:

- product-service economy – a strategy through which manufacturers offer services to their customers along with the products they buy. Such services could include technological training or consultancy
- sharing economy – the creation of new online markets for underutilised assets (e.g. a spare seat in a car, a spare bedroom, spare time) which are made temporarily accessible to other users upon payment on the basis of a peer-to-peer exchange (BlaBlaCar, TaskRabbit, Airbnb)
- online service economy – a situation in which digital platforms provide services, products or content (e.g. mobility solutions, food and beverage services, payment) without owning the assets necessary to produce or deliver such services and goods. This value creation model rests on the dematerialisation of assets or products enabled by the unbundling of products from the service a product can provide (Deliveroo, Uber)

The authors mapped the spread of different value creation models across Europe and found that:

- in most European regions a specific value creation model is pervasive. All forms of digital service economy are present only in the largest urban areas
- the sharing economy model is present in both advanced and relatively marginal regions
- the product-service economy is widely diffused in regions with a strong industrial specialisation profile
- the online service economy is well distributed across European countries and includes several intermediate areas
- marginal and less-developed regions are not affected by the new value creation models

The identification and assessment of the effects of the different digital service economy value creation models is extremely important for policymakers. The regions most exposed to the digital service economy are more likely to face important trade-offs between the economic opportunities it creates and the costs it can generate, in terms of widening inequalities and labour market problems. For these regions, the rise in inequalities can be an urgent and immediate issue requiring timely policy intervention.

Roberta Capello, Camilla Lenzi & Elisa Panzera (2022) The rise of the digital service economy in European regions, Industry and Innovation, DOI: 10.1080/13662716.2022.2082924

PERUGINI AND POMPEI PUBLISH STUDY ON INCENTIVE PAY, INVESTMENTS AND GENDER PAY GAP

In their recent study Cristiano Perugini and Fabrizio Pompei show that incentive pay schemes, which an increasing number of companies are adopting to boost performance, generally narrow the gender pay gap, though the effect is absent in companies that invest heavily in technology and intangible assets.

Companies that have IPS show a narrower gender pay gap than those that don't, so IPS tend to narrow the gender gap

A closer look at the companies with IPS reveals that the positive effect is smaller for firms that invest heavily in certain types of intangible assets

Incentive pay schemes (IPS) are remuneration policies that tie an employee's salary to their performance. Companies adopt these policies to elicit more effort from workers, improving the organisation's performance. As employers strive to boost productivity, the adoption of IPS intensifies, and because IPS tend to increase intra-firm wage disparities, many scholars and policy makers have feared that their growing popularity may fuel a further widening of the gender pay gap.

As part of Project UNTANGLED, Perugini and Pompei compared the wages of men and women in the same company, occupation or position to see whether IPS affect salary disparities. Using data from the Structure of Earnings Surveys (SES), they analysed the wages of more than 6 million workers employed in 142,251 companies in Germany, France, Italy, Spain and the UK. They found that female workers, who accounted for 47% of their sample, on average earned 12.5% less than their male counterparts. The firm-level gender gap was the broadest in the UK, at 16%, and the narrowest in Italy (9.5%). Combining these data with information on adoption of IPS they found that a greater prevalence of IPS in a company narrows the gender pay gap.

"There are a number of factors that can trigger a wage gap, and in our analysis we controlled for their impact," said Perugini. "In companies with performance-based remuneration the pay gap shrinks. This is probably because these companies attract a specific type of female worker, that is women who have similar skills, potential, ambitions to men and who are less constrained by household workloads. At the same time, these employers have better screening and monitoring tools to prevent discrimination."

> PERUGINI AND POMPEI PUBLISH STUDY ON INCENTIVE PAY, INVESTMENTS AND GENDER PAY GAP

Cristiano Perugini

Fabrizio Pompei

Cristiano Perugini, Fabrizio Pompei (2022). *What drives the wage gap of vulnerable workers? Pay incentives, intangibles and gender wage inequality* (Deliverable 4.2). Leuven: UNTANGLED project 1001004776 – H2020.

The authors also found that IPS are more often adopted by innovative organisations, where incentivising workers' performance is vital to success. However, the positive effect of IPS on narrowing the gender pay gap varies between industries and, as the study finds, is related to investments in ICT and intangible assets. The gap shrinks only in firms that invest less in technology.

Perugini and Pompei point out that more intensive investments in ICT, R&D, and brand development result in unpredictable working time, which make it more difficult for women to reconcile work and household responsibilities and thus reduce their chances to reach their targets. As a result, female employees earn less than their male counterparts.

"Our study shows that it is not the IPS per se that exacerbate gender pay inequality, but the specific technological context in which they are implemented," Pompei said. "This calls for policy arrangements aimed at changing the allocation across genders of unpaid work, as suggested by the Work-Life Balance Directive."

The Directive, which EU member states must implement by 2 August 2022, introduces a set of legislative measures to support work-life balance for parents and carers, encourage a more equal sharing of parental leave between men and women and address women's underrepresentation in the labour market.

DIGITALISATION IS NOT KILLING JOBS IN EU, STEHRER PAPER FINDS

Contrary to popular fears, acceleration in digitalisation of European economies is not destroying jobs or slashing the share of labour income in GDP, a recent paper by UNTANGLED researcher **Robert Stehrer** found. In some cases, investment in new technological advances may even create new positions.

Robert Stehrer

The impact of technology on employment levels has attracted a great deal of attention in recent years, and various studies suggested that automation led to job losses. Robert Stehrer of the Vienna Institute for International Economic Studies (wiiw) rebuts these claims. Stehrer analysed labour data from 27 European economies in the period from 2010 to 2018, using inputs from the EU KLEMS database and national accounts, and found that investments in information and communication technologies (ICT) and in automation did not eliminate jobs or lead to a decline in the share of labour in total income.

"The threat of a robocalypse is unfounded, at least in Europe," Stehrer said. "Overall, the impact of digitalisation on the employment level in Europe is insignificant or even slightly positive. So technology is not killing jobs, and is not driving the share of labour income down."

More detailed analysis shows that certain groups of workers can in fact benefit from digitalisation, as demand for their skills has increased. In particular, middle-aged persons and those with secondary education may benefit.

Stehrer also looked at how different types of investments affect demand for labour and wages. He found that outlays on software and databases increase income, while demand for jobs is also correlated with investments in more traditional asset types, such as transport equipment and other machinery, and non-intangible assets, particularly advertising and market research.

Robert Stehrer (2022). *The impact of ICT and intangible capital accumulation on labour demand growth and functional income shares* (Deliverable 4.1). Leuven: UNTANGLED project 1001004776 – H2020.

UNTANGLED SEEKS PAPERS FOR 9 NOVEMBER CONFERENCE FEATURING ANNA SALOMONS

On 9 November 2022, we are organising a conference on *Labour market effects and social impact of technological transformation, globalisation and demographic change*. The event will feature a keynote address from Anna Salomons, Professor of Employment and Inequality at Utrecht University, and will take place in Brussels.

We are waiting for contributions addressing the implications of technological transformation, globalisation and demographic change for:

- Heterogenous impacts of mega trends on labour market outcomes
- Work-related migration and skills
- Education and future skill needs, productivity growth
- (Regional/Rural-urban) convergence/divergence, EU economic governance, trade
- Technology and human capital
- (Wage/regional) inequality, social policy

Please submit full papers or extended abstracts by 10 September 2022 to Ilse Tobback at: ilse.tobback@kuleuven.be.

THIRD VIRTUAL EXPERT CAFÉ DISCUSSES AI, ROBOTS, CARBON AND MORE

The third edition of the UNTANGLED OPEN VIRTUAL EXPERT CAFÉ held on 21 June brought together 22 participants from academia, research institutes and social partners. Each of the presentations was followed by a lively discussion.

The June meet-up hosted eight presentations:

Bagryan Malamin of the Bulgarian Academy of Sciences presented a recently published paper on the attitudes of Bulgarian translators to artificial intelligence.

Giorgio Brunello of the University of Padova and Patricia Wruuck of the European Investment Bank presented preliminary results of their research showing that as companies invest in advanced digital technologies (ADT), spending on training decreases.

Christoph Weiss & Désirée Rückert of the European Investment Bank discussed the policy implications of the EIB report on the adoption of digital technologies which shows that a substantial share of EU SMEs did not invest in digitalisation compared to US firms.

Fabrizio Pompei of the University of Perugia presented tentative results of a qualitative case study on Machinery Manufacturing and Food Industry in Italy. In line with existing empirical evidence from other EU countries, the study supports the finding that robots so far have not harmed employment levels.

Roberta Capello of the Politecnico di Milano talked about a paper on the digital service economy in Europe and the different value creation models it produces.

Arthur Apostel of HIVA-KU Leuven presented the LAMARTRA project, which aims to assess the impact of the transition to a low-carbon economy on the Belgian labour market

Mikkel Barslund of HIVA-KU Leuven talked about ongoing work dealing with the measurement of digital skills in labour force surveys, and presented a methodological multi-step approach to the issue.

Zaakhir Asmal of the University of Cape Town (Development Policy Research Unit, DPRU) advertised a call for papers for the 6th IZA/World Bank/NJD/UNU-WIDER Jobs and Development Conference, to be held in Cape Town in December 2022.

GET TO KNOW US

POLITECNICO MILANO 1863

POLITECNICO DI MILANO

Politecnico di Milano is a scientific-technological university which trains engineers, architects and industrial designers. The Department of Architecture, Built Environment and Construction Engineering includes the Regional and Urban Economics research group, which has developed an international reputation in its field over many years, particularly for its work on issues related to technological development. The group is recognised in various areas, such as: economic analysis of diffusion processes of advanced technologies and sectors, including the current Industry 4.0 technological transformation; the impact of innovation on regional development and productivity; scenario building through the development of the MASST (Macroeconomic Social Sectoral and Territorial) model, now in its 4th version.

At UNTANGLED POLIMI is the leader of WP 6: Scenarios for Europe and its territory, and is involved in WPs: 1, 2, 4, 7, 8 and 9.

POLIMI's team at UNTANGLED:

Roberta Capello

Andrea Caragliu

Silvia Cerisola

Camilla Lenzi

Giovanni Perucca

GET TO KNOW US

ESRI

The Economic and Social Research Institute (ESRI) produces independent research with the objective of informing policies that support a healthy economy and promote social progress. ESRI aims to provide policymakers with robust, objective evidence that can translate into effective policy solutions. Together with its independence and dedication to the highest academic standards, this means the institute is never distracted from its vision: informed policy for a better Ireland.

ESRI's tax, welfare and pensions department examines the design of these systems, with a focus on the effects they have on individuals, redistribution and incentives to work. Much of this work uses SWITCH, the ESRI tax and benefit model, to simulate the impact of actual or proposed reforms on households. The labour market and skills department explores how workers are faring in the labour market and what skills they need to succeed in an evolving economy. Research topics include pay, unemployment, training and skills.

At UNTANGLED ESRI is involved in all work packages.

ESRI'S team at UNTANGLED

Karina Doorley

Konstantina Maragkou

Seamus McGuinness

UNTANGLED PARTNERS

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LUXEMBOURG INSTITUTE OF SOCIO-ECONOMIC RESEARCH

ibs institute for structural research

wiiw

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ALDGATE STRATEGY GROUP

UNTANGLED is a three-year interdisciplinary Horizon 2020 research project that seeks to examine the interconnected trends of globalisation, demographic change and technological transformation, and their effects on labour markets in the European Union and beyond. By engaging a broad range of stakeholders, including companies and civil society organisations, we will develop practical policy proposals to help governments cushion the negative impacts of these trends and ensure their benefits are enjoyed fairly across regions and sectors.

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