



Newsletter Issue 3 / November 2021

FROM THE EDITORS

CONTENTS

From the editors	1
Technology and the “Good Jobs” Challenge in South Asia — Kunal Sen, UNU-WIDER	2
Lessons from this year’s Nobel laureates and the Great Resignation: helpful hints for UNTANGLED — Fabrizio Pompei, Cristiano Perugini and Francesco Venturini	3
Conference takeaways from our researchers	5
Get to know us	9

As the summer drew to a close, UNTANGLED researchers were getting back to work. The conference season was in full swing in September and October, and our researchers were busy organizing and attending events – some still online, but in other cases in hybrid form. IBS co-organised the Jobs for Development conference and LISER co-organised the Conference on Digital Transformation and the Future of Work. UNTANGLED researchers also presented papers at a conference put together by our friends at the Beyond 4.0 research consortium and at the International Economic Association workshop.

Autumn is also the time when the Nobel laureates are announced. This year’s winners, David Card, Joshua Angrist and Guido Imbens, have provided us with new insights about the labour market and shown what we can learn about cause and effect from natural experiments. In this issue of the Newsletter, our researchers share with us how Card’s work in particular can help us understand the current situation on the US job market, known as the Great Resignation, and also how the laureates’ discoveries inform the UNTANGLED research framework.

Finally, we would like to draw your attention to a piece by Kunal Sen on the impact of technological transformation on labour markets outside Europe. Our research is focused on the EU, but in a globalised world all economies are connected by trade flows, FDI and migration. In his contribution to this issue of the Newsletter, Professor Sen looks into automation in South Asia. He shows how in that region, there are no signs that automation is likely to lead to job and earnings polarisation or increased earnings inequality. Rather, automation has the possibility to create high skilled jobs which are complementary to modern technology. Perhaps the lesson for South Asian countries is to invest in the education of their workforce so that automation can be a win-win – delivering high-productivity growth and creating jobs in the most skilled sectors of their economies.



As we adapt to shifting pandemic-related restrictions, we’re still putting the finishing touches to our schedule of events for the coming quarter.

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TECHNOLOGY AND THE “GOOD JOBS” CHALLENGE IN SOUTH ASIA

Kunal Sen
UNU-WIDER



Kunal Sen is a leading international expert on the political economy of growth and development. He is the Director of UNU-WIDER and a member of the UNTANGLED advisory board.

Along with Sub-Saharan Africa, South Asia has the highest proportion of individuals living in poverty. Though economic growth has been strong in many South Asian countries in the past several decades, most workers are located in low-productivity agriculture. Using newly released data on sectoral employment from GGDC and UNU-WIDER's Economic Transformation Database, we find that 41% of the workforce was employed in agriculture in 2018, an astonishingly high number. In comparison, manufacturing employed only 13%. This suggests that there is a dearth of “good jobs” in South Asia, as historically, manufacturing has been the sector that has provided high-wage, high-productivity jobs in the process of development. We have already seen from the experience of East Asia that labour-intensive export-oriented industrialisation, which led to masses of workers pulled out of agriculture into manufacturing, was the major cause of the rapid economic growth and steep declines in poverty that we have seen in that region.

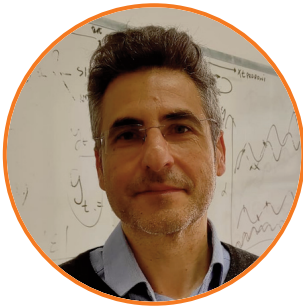
South Asia is now facing a further challenge: the possible loss of jobs among unskilled and skilled workers as automation accelerates. Automation can lead to job displacement, especially in occupations characterised by routine tasks, such as production workers in manufacturing, and clerical workers in services. These are jobs that tend to pay relatively well, and are also in the middle part of the earnings distribution. Therefore, automation can lead to job and earnings polarisation, and heighten earnings inequality in many countries. How likely is this threat to the labour markets of South Asia?

The concern that automation is likely to lead to job and earnings polarisation and increasing earnings inequality in South Asia does not tend to be supported by the available evidence. India is a case in point. Counter-intuitively, wage inequality actually declined in India in the 2000s. There is some evidence of job polarisation but not of earnings polarisation. And the changes in inequality can be mostly explained by institutional factors such as minimum wage changes and more conventional explanations of wage inequality such as the education premium, and less by changes in routine task intensity of occupations. We find a similar story in Bangladesh, where earnings inequality has also decreased. Here again, the education premium plays a more important role in explaining changes in inequality than routine task intensity does.

It may be that South Asia is still quite far away from the world technology possibility frontier, given the low shares of workers in manufacturing and high value services, the two sectors where automation has made considerable inroads. Therefore, even if automation does not pose a threat to the creation of good jobs in South Asia at the moment, this may change. At the same time, automation has the possibility of creating high skilled jobs which are complementary to modern technology. Perhaps the lesson for South Asian countries is to invest in the education of their workforce so that automation can be a win-win – delivering high productivity growth and creating jobs in the most skilled sectors of their economies.

LESSONS FROM THIS YEAR'S NOBEL LAUREATES AND THE GREAT RESIGNATION: HELPFUL HINTS FOR UNTANGLED

**Fabrizio Pompei,
Cristiano Perugini
and Francesco Venturini**



Fabrizio Pompei



Cristiano Perugini



Francesco Venturini

We don't know whether the Nobel Committee was thinking about the current situation in the US when it awarded this year's Economics Prize to David Card, but we like to think so. Card, who won the prize along with Joshua Angrist and Guido Imbens, has studied the minimum wage, unemployment and inequality, and his empirical analyses of labour markets formidably anticipated and explain the ongoing phenomenon of the "Great Resignation".

According to the US Bureau of Labor Statistics, voluntary separations initiated by workers have remained abnormally high since April 2021. On average there are more than 4 million open jobs per month, with a record-breaking 10.9 million at the end of July. The expert of human resource management Ian Cook observed that, surprisingly, the highest resignation rates did not occur among young workers; it was the category aged 30-45 that was most involved.

What is it going on in the US labour market? What reasons lie behind this unexpected trend? Low unionization rates and a falling real federal minimum wage, cited by Derenoncourt, Noelke and Weil, have added to workloads, burn-out and a number of other pressures aggravated by the Covid-19 pandemic. These factors have most likely contributed to employees rethinking their work and life goals, and favoured these mass resignations.

But if we had paid more attention to Card, maybe we wouldn't be so surprised that a lower minimum wage is contributing to resignations. In a seminal 1994 paper, Card and Alan Krueger challenged the conventional wisdom based on the predictions of competitive labour market theory that a higher minimum wage adversely affects employment levels. They demonstrated that an increase in the minimum wage in New Jersey didn't negatively affect employment in fast-food restaurants in that state compared with outlets in Pennsylvania, a neighbouring state where the minimum wage didn't change.

This finding can be explained by the imperfections of the labour market and companies' monopsonistic behaviour. When labour demand is concentrated and companies use their market power to pay lower wages, in the absence of trade unions the minimum wage can pave the way to a second best equilibrium, by providing incentives to participate in the labour market rather than boosting separations.

Card paid a great deal of attention to labour market imperfections and monopsonistic behaviour in his latest studies as well, investigating how these issues shape heterogeneity in company performance, affect rent-sharing processes between workers and businesses and contribute to wider wage inequality.

> LESSONS FROM THIS YEAR'S NOBEL LAUREATES...

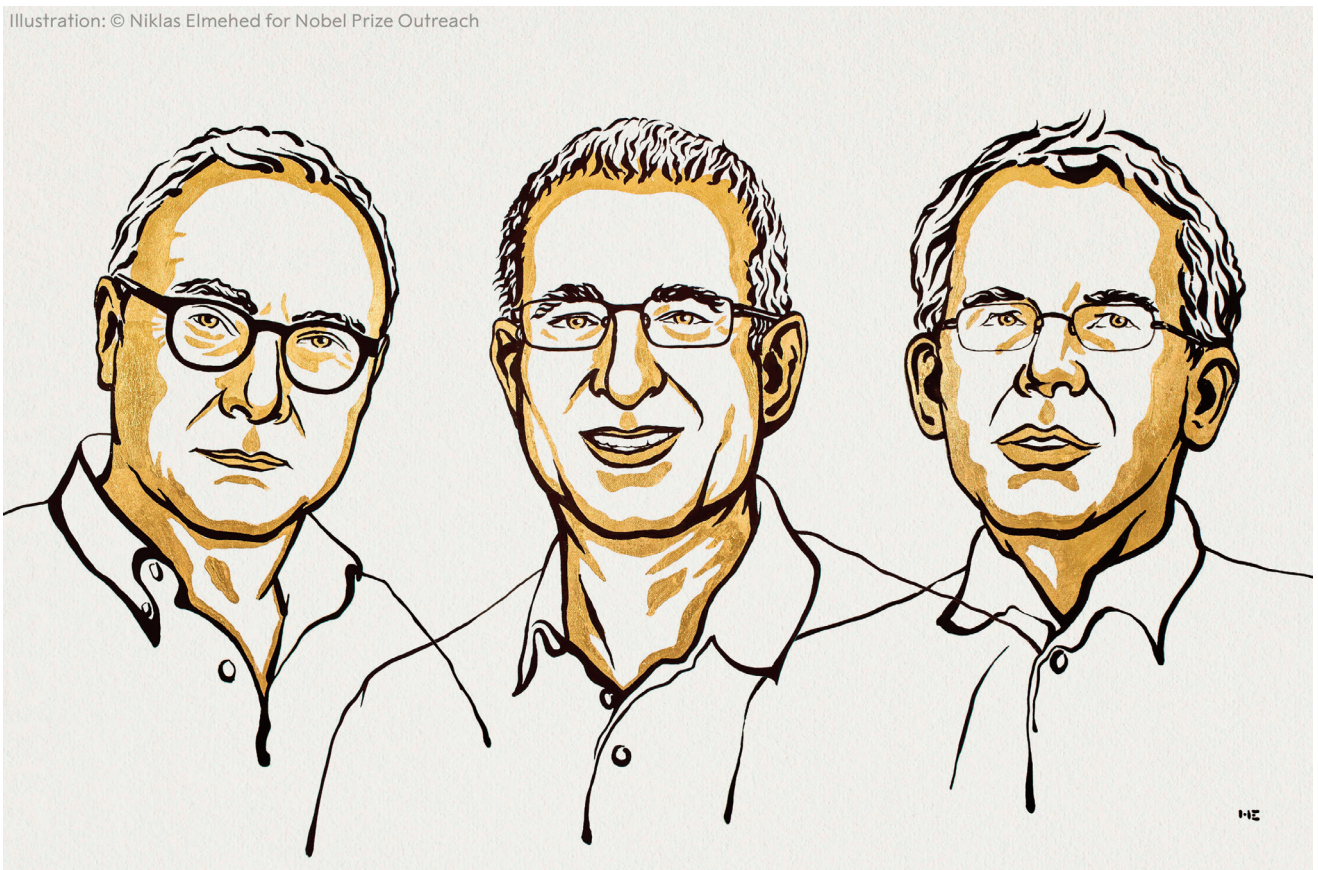
Card's work provides helpful hints for UNTANGLED, a project with the ambition to examine the impact of globalisation, technological transformation and demographic change on labour markets in the European Union, and to design policies that can boost shared prosperity. Our research architecture suggests that earnings inequality shaped by a decline of median wages may contribute to explaining the massive, unprecedented exodus of workers that the US labour market is currently experiencing.

When we propose and design inclusive policies, we will certainly bear in mind the link we see between Card's lessons and America's Great Resignation.

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CONFERENCE TAKEAWAYS FROM OUR RESEARCHERS

Adoption of robots boosts employment in developing and emerging economies

Mahdi Ghodsi



Mahdi Ghodsi

As the global economy faces a new wave of technological change with the rise of artificial intelligence and robotics, a key concern is the impact of these changes on the labour market and industrial growth. In an informal workshop on “*Digital Technologies: Limits and Opportunities for Economic Development*” organised by the International Economic Association on 12 October 2021, I presented an empirical work titled “*Robotization, Employment, and Industrial Growth Intertwined across Global Value Chains*”. It provides a comprehensive analysis of the direct and indirect effects via global value chains of the rise of industrial robots on various industrial indicators, including employment and value added, across 56 industries in 43 economies during 2000-2014.

The empirical evidence on the direct impact suggests that the installation of new robots in non-services sectors and knowledge-intensive services accelerates the growth in their employment and value added. As the Ricardo-Viner model and Heckscher-Ohlin framework explain, an increase in capital shifts employment into capital-intensive industries. Moreover, old machinery is replaced and upgraded by newer advanced robots, leading to process innovation that induces higher productivity, returns, and employment. These lead to a gain in global market share of the robotised industry, and consequently a global relocation of resources to that sector. Although at the very micro level, robots are replacing some unskilled tasks, other skilled tasks emerge, which results in larger aggregate employment.

The paper also analyses the impact on a sector’s growth of robot adoption in four channels of the sector’s domestic and international suppliers and buyers. The summation of all these indirect effects points to a positive transmission of robotisation through global value chains. The overall direct and indirect impact of adoption of robots is shown to be positive for growth in employment and value added. Differentiating the impact of robots across industries and countries indicates that much broader robot adoption by advanced economies has led to much higher employment growth in developing and emerging economies.



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Workshop on Digital Technologies: Limits and Opportunities for Economic Development

October 12, 9:00 am – 10:30 am EDT | 3:00 pm – 4:30 pm SAST (UCT+2)

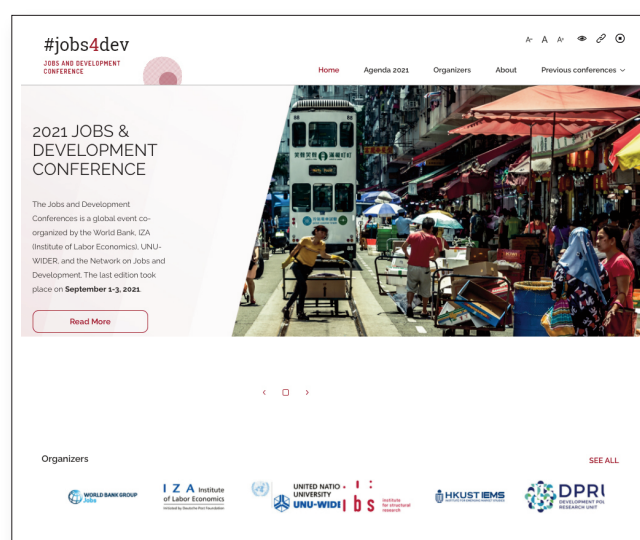
> CONFERENCE TAKEAWAYS FROM OUR RESEARCHERS

Jobs and Development conference highlights challenges of Covid, climate, gender, poverty

UNTANGLED consortium member the Institute for Structural Research (IBS), together with the World Bank, IZA, the Network on Jobs and Development and UNU-WIDER, organised the fifth Jobs and Development Conference. The event focused on “good jobs transitions for post-pandemic development”, and featured a wide range of the latest research on the subject, including the differential impacts of COVID-19 on workers, migration and remittances, and gender gaps on the labour market. The three-day virtual conference in early September showcased over 50 papers from economists, policymakers, and development experts, spanning 22 countries, and attracted more than 1,600 online participants.

This year’s conference sent a strong message that as the world emerges from the pandemic, policymakers will have to focus on creating better, more resilient jobs and managing job transitions in the context of global challenges including climate change, gender inequality and extreme poverty. In his keynote address, Dani Rodrik of the Harvard Kennedy School explained why the “traditional” model of development, with informal agricultural workers moving into formal, organized manufacturing jobs, is no longer creating enough good-quality, productive jobs for low-skilled workers in many lower- and middle-income countries. David Autor of MIT highlighted how technological advancement has changed the nature of work in the United States. Machines can substitute for jobs, but at the same time, “new work” arises from machinery that complements labour.

The Policymakers’ Panel on Migration in Latin America and the Caribbean, chaired by Michał Rutkowski, the World Bank’s Global Director for Social Protection, Labor and Jobs, discussed how low-quality jobs, insecurity, natural disasters and climate change influence migration in the region, and how the pandemic has exacerbated migratory pressures. The ILO-World Bank Special Session on Measuring Women’s and Men’s Work featured findings from The latest ILO Labour Force Survey pilot studies, including evidence from Sub-Saharan Africa on redefining employment, as well as findings from a joint ILO-World Bank study in Sri Lanka.



> CONFERENCE TAKEAWAYS FROM OUR RESEARCHERS

Economists, sociologists and researchers in management discuss digital transformation and the future of work at 2nd LISER-IAB Conference

Ludivine Martin, LISER



More than 70 participants attended a two-day virtual conference organized jointly by UNTANGLED consortium member LISER and the Institute for Employment Research (IAB) on September 20-21. Researchers from various disciplines shared their most recent findings on how digital transformation impacts work. A total of 29 papers, based on empirical research and case studies, were presented during eight thematic sessions: Inequalities, Working from home and well-being, Working conditions and well-being, Digital skills, Gig economy, Robots and AI, Employment dynamics 1 & 2. Participants then had the opportunity to share their work and to exchange the results of their recent research on digital transformation.

Gloria Mark (University of California, Irvine) and Guy Michaels (London School of Economics and Political Science) shared the results of their most recent studies in their keynote lectures. Mark talked about *"The future of work and the future of attention"* and Michaels addressed *"Individual consequences of occupational decline."*

Key takeaways:

- From research conducted within the framework of UNTANGLED, we learned that robot adoption has increased employment in most European countries, through higher job stability (lower job separations) and the increase in non-routine manual jobs.
- Country-specific results were also revealed. In France, the adoption of automation and AI appears in spikes and tends to increase pay equally across wage percentiles and for both male and female workers. However, the German data showed IT-related expert jobs with non-routine analytical tasks were those that benefited the most from firms' technological upgrading in terms of employment stability and wage growth.
- The results gathered from platform workers of Central and Eastern Europe reveal that they fully or partially achieve satisfactory work-life balance and are able to generate decent incomes.
- Finally we discovered that the most required digital skills on the labour market are not basic (e.g. starting up a computer, using a mouse, or creating files) or expert (such as coding in Python) skills but generic ones (e.g. using MS office, or online search), as shown both in training curricula data and in online job offers. Demand on the labour market for expert skills such as the ones requested in artificial intelligence-related jobs remains low.

> CONFERENCE TAKEAWAYS FROM OUR RESEARCHERS

UNTANGLED researchers discuss impact of digital disruption on work at Beyond 4.0 conference



A strong representation of UNTANGLED researchers from LISER presented papers at a conference devoted to the consequences of digital transformation for work and employment. The event was organized by colleagues from the Beyond 4.0 research consortium and took place on 30 September and 1 October, in a hybrid format – in Sofia and online.

Patrick Thill (LISER) presented two papers. In *“The digitalization of service work: A comparative study of restructuring of the banking sector in the United Kingdom and Luxembourg”*, written together with Vassil Kirov (Bulgarian Academy of Sciences) and Andreas Kornelakis (King’s College London), he and his co-authors show that responses to digitalisation diverge. While digitalisation in UK banks led to job losses, the situation looked quite different in Luxembourg. The authors argue that these differences can be explained by the different institutional set-up related to employment relations in both countries.

In the second paper, co-authored with Gabrielle Wolff (University of Applied Science, Koblenz), Thill looked into how employees in the industrial sector react to the implementation of digital tools such as exoskeletons or 3D glasses, both when the workforce is hostile and when it’s open to the new technologies. The authors argue that proactive introduction of digital tools and an anthropocentric approach increase employee welfare. Hence, companies should cultivate employees’ willingness to adopt new technologies.

Ludivine Martin (LISER) presented a paper written together with Laetitia Hauret and Nicolas Poussing on the impact of COVID-19 on employees’ level of digital skills. Based on a survey collected in Luxembourg and cross-bordering countries, the authors were able to show that an intensive use of new digital tools and the more frequent use of digital tools during remote work improved workers’ generic digital skills.

Martin and Hauret also contributed to a paper co-authored by Chantal Fuhrer (Université de la Réunion). This study looked into various types of digital tools that compensate for the lack of face-to-face contact during the pandemic. The authors were interested in which tools generated stress and affected job satisfaction and job productivity. They found that (1) the profile that generates an increase in job productivity is the one with a combined mastered daily or weekly use of all of the studied digital tools but at the expense of their job satisfaction. On the contrary, (2) the use of the digital tools both before and during the lockdown, associated with an increase in the frequency of use, appears to generate too much information flow to deal with and the teleworkers saw an increase in their stress and a reduction of their job satisfaction and job productivity. (3) The habit of using the digital tools on a daily basis before the lockdown appears to protect teleworkers from most of the adverse effects, except for an increase in their job stress.

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THE DEPARTMENT OF ECONOMICS OF THE UNIVERSITY OF PERUGIA

The Department of Economics of the University of Perugia (UNIPG) is a research and teaching institution in the fields of economics, business and statistics. It offers undergraduate, master and post-graduate courses. Research activity is committed to attaining the highest international standards and is organised into four areas: economics; statistics; business and management; and law. Fruitful cooperation between researchers active in the areas of economics and statistics makes the department highly specialised in studies of applied economics and quantitative methods.

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The core fields of the research are: the labour market; economic and social inequality; innovation; growth; and institutional change. The Department of Economics advises regional governments and local authorities by conducting numerous research policy analyses and evaluation studies, especially in the field of local development, labour markets, education and social inclusion policies.

At UNTANGLED
UNIPG is involved
in all work packages



Cecilia Jona Lasinio
Researcher



Cristiano Perugini
Researcher



Fabrizio Pompei
Researcher



Francesco Venturini
Researcher

GET TO KNOW US



FEDESARROLLO

Fedesarrollo is a Colombian think tank founded in 1970. Fedesarrollo promotes economic and social development through studies, publications and debates in various areas of public policy. The studies are financed in a balanced way, by the private sector, the public sector, multilateral entities and domestic and international foundations. Fedesarrollo has been ranked as the #1 think tank in Latin America by the University of Pennsylvania.

Expertise

Its research fields include demographics; labour markets; inequality and poverty; institutions; social and economic development; public policy impact evaluations; and fiscal, monetary, financial and trade policy. A notable example of Fedesarrollo's influence on policies was a recent reduction in labour taxes.

At UNTANGLED Fedesarrollo

is involved in WPs 2, 3, 7 and 8.

People



Cristina Fernandez
Researcher



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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