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PRS NEWSLETTER

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Dear Readers,

It has now been one year since the start of the COVID-19 pandemic, which has claimed millions of lives and has reshaped life as we knew it. According to the latest data from the University of Oxford's project *Our World in Data*, over 1 billion COVID-19 vaccine doses have been administered around the globe, with 83 per cent of shots having been administered in high- and upper middle-income countries and only 0.2 per cent in low-income countries. Yet we will only win the fight against the pandemic if we ensure that no country is left behind – settling for anything less will only prolong the pandemic, further exacerbating the global health and economic crisis not only in poor, but in rich countries as well. The long road to recovery is paved with uncertainty, but UNIDO continues to be committed to overcoming this virus together and to building inclusive and sustainable economies that are resilient in the face of global challenges.

PRS plays an important supporting role in this regard by providing valuable insights into how countries can build back better and greener. One such example I would like to highlight is the project [Industrial Policies for a Circular Economy](#), which was signed on 1 March of this year and will be realized with funding from the Government of Italy. This project is based on a new capacity building programme developed by PRS, linking industrial policy with circular economy. Further details on this important project are presented in this newsletter.

COVID-19 has accelerated digital transformation and broken down barriers to digital adoption. PRS's work on Science, Technology and Innovation (STI) and the impact of the Fourth Industrial Revolution and how developing countries can benefit is therefore of particular relevance. Several contributions in this newsletter address this crucial topic.

I would also like to take this opportunity to inform you that UNIDO Statistics now has a Twitter account. You can follow UNIDO Statistics and find all the latest news [here](#).

I hope you find the content of this newsletter useful and informative, and that you enjoy reading it.

Hiroshi Kuniyoshi

Deputy to the Director General and Director ad interim of the Department of Policy Research and Statistics, EPR/PRS

Our newsletter mailings are a convenient way to stay connected and keep readers up to date on PRS's latest news. Previous editions of the newsletter are available [here](#). We welcome any feedback, comments and suggestions for further improvements at prsnewsletter@unido.org.

PUBLICATIONS

UNIDO ISID Working Paper Series

Réponses politiques au COVID-19 Soutenir l'industrie africaine face à la pandémie de COVID-19 – Basé sur une enquête auprès des décideurs politiques en Afrique

By F. Hartwich (UNIDO) and A. Isaksson (UNIDO)

A French version of this Working Paper, which was initially published in English and presented at UNIDO's Africa Industrialisation Week 2020, is now available. It presents empirical evidence on African policy makers' views about COVID-19's impacts on industrial sector firms and firms' responses to these impacts. In some cases, policy measures introduced by peers in more developed countries were copied in African countries without considering the associated substantial fiscal burden. Policy makers stated that firms—aside from receiving government support—could have done more to respond to the pandemic, e.g. modify their product mix or establish a learning mechanism amongst themselves.

IAP Articles

How developing countries can take advantage of the Fourth Industrial Revolution

By K. Lee

Although the Fourth Industrial Revolution (4IR) presents a complex set of challenges for developing countries, disruption also unlocks opportunities. Countries with a national manufacturing base show the most promise in terms of leapfrogging into smart factories with the support of appropriate industrial policies for the supply of funding and technologies. Those whose manufacturing sectors are largely based on foreign direct investment (FDI) are less likely to make such a leap, but can alternatively upgrade their level of automation by leveraging local skills and training institutions. Countries with a weak manufacturing base have few realistic prospects of industrial leapfrogging, and would benefit more from focusing on 4IR-related service start-ups with innovative business models or on businesses that tweak existing models for local specificities.

[What is driving the adoption of robots in industry?](#)

By L. Deng, V. Plümpe and J. Stegmaier

This article examines potential determinants of robot adoption in German firms to explore whether robotization premiums already existed prior to robot adoption. The empirical analysis focused on five firm-level aspects: plant size, productivity, share of low-skilled labour, exporter status and labour costs, revealing that the likelihood of a German plant to newly adopt robots between 2015 and 2018 strongly depended on its characteristics in 2014. Specifically, plant size, share of low-skilled labour and exporter status are positively associated with subsequent robot adoption. Moreover, after Germany introduced a uniform minimum wage in 2015, manufacturing plants were more likely to adopt robots. This is consistent with the theoretical prediction that when labour costs rise, plants have more incentives to automate.

[The circular economy: A driver of inclusive and sustainable industrial development](#)

By M. Albaladejo (UNIDO), L. Franco Henao and P. Mirazo (UNIDO)

The ultimate challenge to sustainable development is the decoupling of economic growth from resource use, which entails significant changes in production and consumption patterns. A shift towards sustainable production requires an understanding of how the circular economy can maximize industrial output, generate new jobs and increase overall well-being, while minimizing resource consumption. Its impact may vary from (industrial) sector to sector, and will be influenced by a country's policy and regulatory environment. The underlying principles the circular economy is built on will provide the backbone for public policy to address industrial development in the context of existing environmental and social concerns.

[Public procurement as an industrial policy tool](#)

By B. Hoekman and M. Sanfilippo

A recent study employing firm-level data from UNIDO's Africa Investor Survey explores firms' participation in public procurement in 19 sub-Saharan African countries (SSA). The study's findings suggest that public procurement represents a significant source of demand for many firms in SSA. Typically, domestic firms sell larger shares of their output to the government than foreign-owned firms. Government contracts also account for a higher share of domestic firms' sales relative to foreign-owned ones, and are more important for larger and older firms. Moreover, a strong positive relationship between firms' sales to the government and firms' performance is also evident. Despite substantial differences across firms, this positive correlation is more evident for smaller and domestically owned firms. Finally, the results indicate that domestic environments that are more open to foreign participation in public procurement are more likely to enhance local competitiveness.

Other Publications

[Manufacturing firms shouldn't fear the true cost of fuel. Here's why](#)

By N. Cantore (UNIDO), M. Cali, J. Larsen (UNIDO), Juergen Amann, V. Todorov (UNIDO) and C. Fang Chin Chen

This piece, which appeared in the World Economic Forum's "Global Agenda" section, builds on the journal article [Switching it up: The effect of energy price reforms in Oman](#), co-authored by PRS's Nicola Cantore and Valentin Todorov, and published in [World Development](#), one of the leading peer reviewed journals (top 10 per cent in the ranking of development journals). The belief that high energy costs will hurt competitiveness continues to persist in manufacturing, in particular, where energy often represents a sizeable slice of overall production costs. In Oman, however, research finds that firms responded to fossil fuel price hikes by switching to electricity, resulting in more efficient fuel use among firms, investments in computers and electronic devices to improve energy management, and the replacement of fuel-powered electricity generators by connecting to a modern electricity grid. Axing fuel subsidies seems to encourage plant modernization and to remove price impediments against the adoption of green technologies and efficiency measures to permanently reduce CO₂ emissions. These findings suggest that policymakers need not shy away from bold action for fear of negative economic consequences.

[New perspectives on structural change – Causes and consequences of structural change in the global economy](#)

Edited by N. Foster-McGregor, L. Alcorta, B. Verspagen and A. Szirmai

PRS staff members have contributed three chapters to this recent book published by Oxford University Press, namely Chapter 2 of Part 1: 'Theoretical Contributions': "Structuralists' contribution to development thinking: Old, new, and unresolved issues", by *Nicola Cantore and Ludovico Alcorta*; and Chapters 11 and 12 of Part 2 'Empirical Trends': "Structural change as a modernization process", by *Alejandro Lavopa and Adam Szirmai* and "Sectoral dynamics", by *Nobuya Haraguchi and Jürgen Amann*, respectively. The volume, which consists of four main sections, outlines both the historical roots and state-of-the-art debates on the role of structural change in the process of economic development, including both orthodox and heterodox perspectives and contributions from prominent scholars in the field.

RECENT AND PLANNED EVENTS

[Open Virtual Meeting of the IAEG-SDGs, 25 March 2021](#)

UNIDO Statistics participated in the virtual IAEG-SDGs meeting on 25 March 2021. The meeting's theme was "Leaving no one behind: Data disaggregation for SDGs". It was open to all countries, international and regional agencies and entities, and other stakeholders. PRS's Petra Kynclova presented the IAP's SDG-9 Industry Tracker under the agenda item

“Reporting and methodological development on SDGs monitoring”. Her presentation is available [here](#).

The sixth annual Multi-Stakeholder Forum on Science, Technology and Innovation for the SDGs (STI Forum), 4–5 May 2021


The STI Forum convenes annually to discuss cooperation in STI around thematic areas for the implementation of the SDGs. The theme of the STI Forum 2021 is “Science, technology and innovation for a sustainable and resilient COVID-19 recovery, and effective pathways of inclusive action towards the Sustainable Development Goals”. UNIDO will contribute to the organization of a high-level side event on 3 May entitled “[Science, Technology and Innovation \(STI\) for SDGs Roadmaps](#)”, which aims to create political momentum for the consolidation of the crucial role STI roadmaps play in accelerating the attainment of the SDGs at the national and local level. Examples on how to use STI to achieve the SDGs to build pathways to sustainable recovery and future resilience based on the experiences of pilot countries and of international organizations will also be presented. UNIDO’s Deputy Director General Hiroshi Kuniyoshi will provide the concluding remarks to the event.

UNIDO will furthermore contribute to the organization of a side event on 4 May “[Capacity Building in Science, Technology and Innovation \(STI\) for SDGs](#)”, which aims to raise awareness of the importance of capacity building in STI policy for SDGs and to present the work of UN IATT’s Workstream 6 on Capacity Building in STI for SDGs, including its training activities, achievements, and findings from previous training workshops. The event will also discuss new partnerships and views of development partners and government officials on their expectations and recommendations for future STI training activities.

CONCORDi 2021: Industrial innovation for competitive sustainability

CONCORDi 2021, the biennial European conference on corporate R&D and innovation, will take place on 22-25 November 2021. The focus of this 8th edition is on “**Industrial innovation for competitive sustainability**”. The conference is organised by the Joint Research Centre of the European Commission (EC-JRC) in association with the [European Association for Research and Technology Organisations \(EARTO\)](#), the [Organisation for Economic Co-operation and Development \(OECD\)](#) and **UNIDO**. The main themes to be covered are “Industrial transition in times of recovery”; “Industrial innovation for sustainable transformations”; “Industrial strategy in a post-pandemic world: Focus on developing countries”, and “Technology infrastructures, technology sovereignty”. PRS’s Fernando Santiago is a member of the Scientific Committee.

A call for papers on the above mentioned themes has been launched. Submissions open as of 30 April and will close on 30 June 2021 (see [Call for papers - CONCORDi 2021](#)).



PROGRAMMES AND PROJECTS

Industrial policies for a Circular Economy

PRS was approached by the Italian Development Cooperation to organize the next edition of a training programme on circular economy first piloted in Ferrara in 2019. PRS's Nico Cantore will lead the project. The [project](#)'s objective is to raise awareness among mid- to high-level policymakers from Egypt, Lebanon, Morocco and Tunisia on issues related to industrial policy and the circular economy through a dedicated training course conducted jointly with the University of Roma 3 and the University of Ferrara. The 9-day intensive course will entail a dynamic mix of lecture-based and participatory teaching methods. Course participants will learn about core concepts of industrial policy and innovation, and the main strategies for achieving circularity.

Science, Technology and Innovation (STI)

UN Expert Group Meeting on emerging science and technologies for the SDGs – Updating the “TFM findings on the impacts of rapid technology change on the SDGs” for the STI Forum 2021, 8 April 2020

This EGM was organized by the UN Interagency Task Team on STI for the SDGs ([IATT Workstream 10](#)) in preparation for the [STI Forum 2021](#). PRS's Fernando Santiago contributed a presentation to Session 4 “Frontier technologies – what were their impacts in the pandemic year and what is needed for closing global technology divides post-COVID?” In *Digital transformation of manufacturing beyond COVID-19*, Santiago discussed the key findings of the [IDR 2020](#) and presented an update of UNIDO's recent work during the pandemic. The dynamics of development and the use of advanced digital production technologies (ADPTs) is heavily concentrated by country and firm type. Policy action is needed on at least four fronts: 1) Developing framework conditions for the dissemination and uptake of ADPTs; 2) Fostering demand and leveraging on initiatives to support the uptake of ADPTs by manufacturing firms; 3) Strengthening skills and research capabilities needed to endorse ADPTs, and 4) Identifying and addressing possible negative effects on employment and other parts of the economy.

Online training sessions on STI policy and policy instruments for SDGs in Latin America, 19–21 April 2021

This training session, which consisted of three virtual workshops on STI policy capacity development, was organized by IATT [Workstream 6](#) “Capacity building in science, technology and innovation (STI) for SDGs”. Session 1 on 19 April focused on ‘Current approaches to STI policy-making in the context of the SDGs’, Session 2 on 20 April on ‘STI policy instruments’ and Session 3 on 21 April on ‘Promoting innovation and entrepreneurship’. The event was a replica of the pilot sessions organized in December 2020, but were tailored to the LAC region in collaboration with ECLAC. PRS's Fernando Santiago contributed to Session 3 on fostering innovative entrepreneurship. PRS collaborated with Marco Kamiya from the Division of Innovation Strategies and Digitalization (DTA/DTI), who also made a presentation at the event.

PCP Peru

Within the framework of PRS's collaboration with PCP Peru and the Ministry of Production (PRODUCE) of Peru, PRODUCE has invited the ILO and UNIDO to co-organize a high-level industrial policy event in May. The opening of the event will be headed by H.E. José Luis Chicoma, Minister of Production. The programme's details are still being worked out, but UNIDO will contribute by participating in the opening session (opening remarks by Cristiano Pasini); a presentation by PRS's Nobuya Haraguchi "Transformations and trends in global manufacturing: Effects of COVID-19"; a presentation of a case study on greening the economy in Uruguay (Manuel Albaladejo), and contracts between ECLAC, Colombia and the Basque Country will be facilitated.
