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PRS NEWSLETTER

Policy Research and Statistics Department

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Dear Readers,

Welcome to the second PRS E-newsletter of 2021!

This month's newsletter covers a variety of topics, including the [circular economy](#), components of which are featured in many UNIDO projects, for example, the promotion of resource efficient and cleaner manufacturing and the use of renewable energy. The newsletter also includes contributions on the [future of manufacturing in Africa](#), specifically in Tanzania and Ethiopia, and presents an approach to [identifying opportunities for export-driven industrialization](#).

The contributions of PRS staff members to several global webinars and online workshops on a range of issues, including [advanced digital production](#) (ADP) technologies in the African context, science, technology and innovation (STI) and the [CIP methodology](#), are presented here as well.

I hope you enjoy reading the PRS E-newsletter and find it interesting and informative.

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.

We welcome any feedback, comments and suggestions for further improvements at prsnewsletter@unido.org.

PUBLICATIONS

UNIDO ISID Working Paper Series

[International trade and the circular economy in Latin America and the Caribbean](#)

By Nanno Mulder, Manuel Albaladejo (UNIDO), Macarena Mo, Ximena Olmos, Patricia Dante (UNIDO Consultant) and Paula Mirazo (UNIDO)

The circular economy model has been introduced into the public policy agenda and private sector activity in several countries in Latin America and the Caribbean. This Working Paper explores the link between the circular economy and international trade in the region, and finds that there is a need for greater mainstreaming of international trade in national strategies on the circular economy. The results also emphasize the importance of international cooperation and public-private partnerships for the transfer of knowledge and technology, as well as the need for harmonization of definitions and standards. International cooperation is key for the transfer and creation of knowledge and best practices and the development of technology. Cooperation should not only focus on the development of public and trade policies, but also on the productive and entrepreneurial level.

IAP Articles

[Africa's manufacturing puzzle: Evidence from Tanzanian and Ethiopian firms](#)

By Xinshen Diao, Mia Ellis, Margaret McMillan and Dani Rodrik

There is a sharp dichotomy in Tanzania and Ethiopia between larger firms that exhibit superior productivity performance but do not generate employment opportunities, and small firms that absorb labour but are not witnessing productivity growth. The problem might lie in the nature of technologies available to African firms, which do not necessarily match the local economy. Competing with established producers on world markets is only possible by adopting technologies that make it difficult to generate significant levels of employment. Nonetheless, the impressive productivity growth in the two countries' large manufacturing firms can indirectly create jobs, while worker training programmes associated with industrialization strategies can enhance the capabilities of smaller firms.

[Are we witnessing a manufacturing renaissance in Africa?](#)

By Hagen Kruse, Emmanuel Mensah, Kunal Sen and Gaaitzen de Vries

Sub-Saharan Africa was experiencing a renaissance of manufacturing when the COVID-19 pandemic broke out. Despite this encouraging trend, manufacturing as a share of gross domestic product (GDP) actually decreased at the same time. That is, productivity growth in manufacturing was lower than for the economy as a whole and barely improved throughout the 2010s. It seems that smaller firms have primarily been responsible for sub-Saharan Africa's industrial resurgence, but recent manufacturing growth has served mainly domestic and not export markets. The future of sub-Saharan African countries' manufacturing depends on their capacity to expand manufacturing production beyond their domestic markets to exploit economies of scale and take advantage of low wage levels.

[The circular economy: A paradigm shift for global solutions](#)

By Manuel Albaladejo (UNIDO), Laura Franco Henao and Paula Mirazo (UNIDO)

The circular economy revolutionizes how we design, produce and consume, and is based on three principles, namely (i) the elimination of waste and pollution, (ii) keeping products and materials in use, and (iii) regenerating natural systems. It promises to generate economic, environmental and social benefits by shifting to more sustainable production and consumption patterns. The transition towards a circular economy depends on several factors, such as the country's degree of industrialization, level of technological development, availability of qualified human resources and access to finance. A successful transition thus requires tailor-made, context-specific strategies, strong public sector commitment and the active participation of both the private sector and civil society.

[Identifying opportunities for export-driven industrialization](#)

By Wim Naudé and Martin Cameron

Merchandise trade has been an important source of resilience for many countries throughout the COVID-19 pandemic. The diversification of export growth will be crucial post-pandemic for four main reasons: (i) export-driven industrialization raises aggregate demand and boosts the productivity and innovation of exporting firms, which are key for economies with limited domestic market potential; (ii) export-driven industrialization enhances domestic firm entry and entrepreneurship; (iii) diversification into new export products and markets can improve the economy's resilience and provide insurance against future shocks; and (iv) successful exporting countries tend to have highly concentrated exports, i.e. they export a few products, with which they have scored a "big hit" to a very limited number of destinations. The challenge is how to overcome informational frictions to identify realistic opportunities and narrow the field for entrepreneurs to discover new "big hits" in existing or new export markets.

Other Publications

[Switching it up: The effect of energy price reforms in Oman](#)

By Juergen Amann, Nicola Cantore (UNIDO), Massimiliano Calí, Valentin Todorov (UNIDO) and Charles Chin Cheng (UNIDO Consultant)

The debate on fossil fuel energy subsidies has been dominated by two arguments: the reduction of emissions requires a cutback in energy consumption, which drives up the cost of inputs and potentially affects firms' competitiveness. On the other hand, the environmental argument stresses the importance of cost transparency and externalities. A third strand has emerged which introduces another layer to the cost competitiveness argument, asserting that an increase in energy prices is not necessarily detrimental to economic performance. The effect of a reduction in fossil fuel subsidies on Oman's manufacturing industry, an oil-rich economy, is explored and the findings show that increases in fossil fuel energy factor prices actually lead to improvements in productivity and efficiency and to notable business upgrading. Subsidy reforms can therefore not only be used to achieve environmental goals, but may also drive upgrading and modernization processes, which will ultimately improve firms' economic performance.

[A recovery at two speeds - World Manufacturing Production Statistics for Quarter IV 2020](#)

By Nina Goltsch (UNIDO)

The majority of economies showed signs of recovery in the fourth quarter of 2020, but with uneven intensity. The latest official statistics for the fourth quarter of 2020 show a year-over-year rise in manufacturing output of 2.4 per cent. Industrialized economies continued to record a reduction in manufacturing production, and have still not fully recovered from the COVID-19 related contractions. The pandemic had a strong impact on China, the world's largest manufacturer, in the first quarter of 2020, but the country's manufacturing sector quickly bounced back, with manufacturing output increasing by 9.4 per cent in the fourth quarter of 2020 in a year-over-year comparison. Medium low-, medium high- and high-technology industries recovered faster than others. Typical medium high- and high-technology industries, such as basic pharmaceuticals, computer, electronic and optical products, and electrical equipment witnessed high growth rates in the last quarter of 2020.

[How to reactivate the manufacturing sector in Mexico: Challenges, opportunities and perspectives in 2021](#)

By Fernando Santiago (UNIDO)

This piece was published in [Mexico Industry](#), a specialized magazine on manufacturing in Mexico with a broad readership. It explores manufacturing performance to identify structural challenges the pandemic has intensified and that Mexico would need to address in post-pandemic recovery. Recommendations are provided for strategies to boost innovation, industrial competitiveness and leveraging on the country's trade agreements. Digitalization and sustainability are areas that offer potential and that Mexico could explore in the near future to kick-start its manufacturing sector (in Spanish).

RECENT AND PLANNED EVENTS

Online workshop on innovation for economic development for policymakers from Cambodia, 24–26 February

The three-day virtual workshop, which was organized by PRS's *Anders Isaksson* and *Franz Brugger* for representatives from a number of ministries and other relevant stakeholders in Cambodia, focused on how science, technology and innovation (STI) can help drive economic development. Drawing from successful development experiences around the world as well as global best practices, concrete policy recommendations for Cambodia were presented. The topics addressed ranged from the economics of innovation to the significance of a well-functioning innovation support infrastructure, to recent innovations, such as Fintech, which support SME development. An interesting dimension of the workshop related innovation to the importance of certification of innovative activities. The workshop was part of a series of training courses conducted by UNIDO under the project "[Support to the Royal Government of Cambodia in its effective implementation of](#)

[a major development strategy and policy through institutional capacity-building](#)", funded by the Republic of Korea.

JVI Course on Competitiveness, Growth and Crisis (CGC), 1–12 March

Austrian authorities, the Joint Vienna Institute (JVI) and the Vienna Institute for International Economic Studies (wiiw) offered an advanced, virtual training course series to public officials from non-EU countries. The course was designed to enable participants to share their countries' competitive strengths and challenges as well as their growth potentials. PRS's *Petra Kynclova* presented the methodology of the [UNIDO Competitive Industrial Performance](#) (CIP) index, the main findings of the most recent CIP report, and how the index can be used to evaluate countries' competitive strengths and challenges. More information on the training course is available [here](#).

The 52nd session of the UN Statistical Commission, 1–3 and 5 March

The United Nations Statistical Commission is the highest decision-making body for international statistical activities, and is responsible for setting statistical standards and for developing concepts and methods, including their implementation at the national and international level. In the [52nd session of the United Nations Statistical Commission](#), an agreement on a revised "beyond GDP" approach to measuring economic well-being while accounting for natural capital was reached. The revised accounting framework aims to show how the environment affects humans and how human economic activities affect ecosystems, with the goal of achieving prosperity without harming the environment. The Commission welcomed the work of the IAEG-SDG work on SDG monitoring amid COVID-19. The Statistics Division contributed to the initiative by providing timely statistics on SDG-9 industry-related indicators.

Webinar on SDG 9.4.1 indicator, 18 March

UNIDO's Statistics Division, together with the UNIDO Country Representative in Bangladesh organized a webinar on SDG 9.4.1 indicator, which was attended by representatives of the Department of Environment (DoE), the Bangladesh Bureau of Statistics (BBS) and the UN Data Group. The meeting's objective was to share how UNIDO calculates the 9.4.1 SDG indicator to help Bangladesh identify the relevant data sources and compile the 9.4.1 indicators for the purpose of national SDG reporting. In addition, the SDG-9 Industry Index methodology was presented to explain how progress is assessed and reported to the [IAP SDG-9 Industry Tracker](#).

2nd Digital Economy Task Force Meeting, 18–19 March

The [2nd Digital Economy Task Force Meeting](#) provided an opportunity to continue the [G20 Digital Economy Task Force](#) (DETF) dialogue on the priorities proposed by the Italian Presidency, based on the results of the first meeting and on follow-up comments. PRS's *Fernando Cantu* and *Fernando Santiago* contributed talking points to "Priority B: Measurement practice and impact of the digital economy". UNIDO will share its experience on the harmonization of standards to ensure cross-border operability of blockchain technologies with the aim of simplifying international exchange and trade and to minimize risks as inputs to the proposed G10 Guidelines and to the multi-stakeholder forum on traceability in the supply chain to be held in April 2021. UNIDO is prepared to

coordinate and collaborate with other international organizations and national statistics offices to bridge existing data gaps and further improve the methodologies of digital economy measurement presented in the 2020 Roadmap.

Africa's sustainable industrialization and diversification in the digital era and in the context of COVID-19, 21 March

The [Industrial Development Report \(IDR\) 2020: Industrializing in the digital age](#) was presented at a [side event](#) of the [Fifty-third session of the UN Economic Commission for Africa Conference of African Ministers of Finance, Planning, and Economic Development](#). The challenges and opportunities the COVID-19 pandemic presents for African countries' future path of industrialization were discussed at the event, which included high-level panellists including, among others, UNIDO Director General Li Yong, Professor Célestin Monga of Harvard University, and Dr. Ahmed Kamaly, Deputy Minister of Planning and Economic Development of Egypt. In his presentation, PRS's *Nobuya Haraguchi* asserted that the emergence and diffusion of advanced digital production (ADP) technologies of the Fourth Industrial Revolution (4IR) is increasingly blurring the boundaries between physical and digital production systems. Advances in robotics, artificial intelligence, additive manufacturing and data analytics generate significant opportunities to accelerate innovation and increase the value-added content of production in manufacturing industries. The preconditions and comparative advantages of African countries will continue to play a key role in shaping the continent's industrialization process in the digital age. PRS's *Alejandro Lavopa* highlighted that the importance of aligning efforts to achieve a resilient industrial development will be at the core of the next Industrial Development Report 2022, which will focus on the impacts of the pandemic on future of industrialization.

Global Pilot Programme on Science, Technology and Innovation (STI) for SDGs Roadmaps, 26 March

Within the scope of the [Inter-Agency Task Team \(IATT\) on STI for the SDGs' Work Stream 9: STI policy frameworks, action plan and roadmaps](#), UNIDO will be partnering with EU-JRC to produce an STI Roadmap for the SDGs for Ukraine. PRS's *Smeeta Fokeer* and *Fernando Santiago* contributed to a technical expert meeting entitled "[Global Pilot Programme on STI for SDGs Roadmaps](#)", which included participation of EU-JRC and Ukrainian counterparts. The focus of their presentation was on UNIDO's experience on green industrial transformation for the development of STI for SDGs roadmaps. The meeting presented the STI for SDGs Roadmaps approach, discuss possible institutional arrangements, governance, the next steps of the development of the STI for SDGs Roadmap in Ukraine and support needed.

UN Expert Group Meeting on emerging science and technologies for the SDGs - Updating the Technology Facilitation Mechanism's (TFM) findings on the impacts of rapid technology change on the SDGs, 8 April

Within the scope of the IATT on STI for the SDGs' [Work Stream 10: Analytical work on emerging technologies and the SDGs](#), PRS's *Fernando Santiago* will contribute to the "UN Expert Group Meeting on emerging science and technologies for the SDGs - Updating the Technology Facilitation Mechanism's (TFM) findings on the impacts of rapid technology

change on the SDGs” on 8 April. The meeting is being organized by IATT WS 10 in preparation for the [STI Forum 2021](#) and aims to explore new elements to be included in the 2021 TFM findings update. The technology clusters covered in the past included biotechnology, nanotechnology, artificial intelligence, automation and quantum technologies. Fernando will be moderating Session 2 “Direct conversation on biotechnology, vaccines, and health technologies – what is needed for closing global divides post-COVID?”

Work Stream 6: UN capacity building programme on technology facilitation for SDGs, 19–21 April

In collaboration with the [Economic Commission for Latin America and the Caribbean](#) (ECLAC), a series of three virtual workshops for policymakers on STI policies for the SDGs will be held within the scope of [Work Stream 6](#). The topics will include overall strategy design, examples of policy instruments as well as a session on policies to foster entrepreneurship organized by PRS’s *Fernando Santiago*. The target audience are working level policymakers from the Latin America and Caribbean region, including representatives from the Ministry of Production of Peru as a contribution to [Programme for Country Partnership \(PCP\) Peru](#).

PROGRAMMES AND PROJECTS

Programme for Country Partnership Rwanda

The **Industrial Diagnostic Study Rwanda 2020** published within the scope of the [PCP Rwanda](#) has been approved. The study identifies thematic components, priority sectors and bottlenecks. It finds that many of the prerequisites for industries, including natural endowment, human skills and technologies, are available in Rwanda, but the development of value chains linking primary activities with downstream activities appear to be incomplete. The strengthening of value addition to strengthen manufacturing and the necessary skills and capabilities is thus a necessary strategic direction for the country to capture the opportunities provided by Industry 4.0. Other thematic components highlighted are the development of sustainable energy, circular economy for value addition and governance development. The priority industries identified are food and beverages, textile, wearing apparel, leather, paper, coke and refined petroleum, chemicals, non-metallic minerals, basic metals, motor vehicles and other transport equipment. The challenges that remain for firms include access to finance, electricity, skilled labour, tax rate and the competition from the informal sector.

Science, Technology and Innovation

In the current context of rapid trends towards digitalization, innovation and building resilience, it is essential to understand the changing interplay of STI policies and industrial policy. The kick-off meeting for the STI project “[Development of a strategic programme for UNIDO’s approach to science, technology and innovation for the achievement of Sustainable Development Goal 9](#)” took place on 8 March with STEPI (Science and Technology Policy Institute) of the Republic of Korea. The project will contribute to

UNIDO's efforts to develop a new STI-related policy service package. STEPI will conduct (i) a theoretical review on linkages between STI and industrial development to provide a comprehensive conceptual framework for developing UNIDO's strategy towards STI, and carry out (ii) case studies to empirically support the importance of leveraging on STI policies for ISID, including a review of recent policy initiatives.
