Dear Readers,

The time has come for me to return to Japan after spending five very productive and rewarding years at UNIDO Headquarters as Deputy to the Director General and later Director ad interim of PRS. The connections I have made and the relationships I have built here in Vienna, both at the professional and personal level, have been invaluable, and I will miss the challenging nature of my work and the colleagues I am leaving behind. I am fully confident that you will continue the hard work and will keep me informed of the great strides you will make in bringing the world one step closer to achieving inclusive and sustainable industrial development.

One initiative I will closely follow from abroad is the Multilateral Industrial Policy Forum (MIPF), which seeks to facilitate multilateral policy dialogue, learning and knowledge sharing on industrial policy and practical experiences. The MIPF, on the one hand, will help UNIDO integrate and scale up its industrial policy advisory services, foster partnership-building, and more systematically inform operational efforts around new approaches to industrial policies. On the other hand, the MIPF will assist Member States in addressing opportunities and challenges associated with megatrends, such as digitalization of manufacturing or the greening of industry, which are expected to shape industrial development in a post-pandemic world.

The content of this newsletter reflects the wealth of research and knowledge PRS generates to support UNIDO’s mandate as well as the far-reaching contributions the department is set to make to the MIPF. The issues presented here range from strengthening industrial resistance and firms’ capacity to withstand crises; achieving the green transition through global supply chains; advancing deep decarbonization; promoting Industry 4.0 in Least Developed Countries and the significance of digitalization across sectors and industries.

I would like to thank you once again for your interest in our newsletter. It was a great pleasure working with all of you.
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

Journal Articles

Strategic encounters in innovation and regulation: Healthcare transformation in the era of digital connectivity

By S. Mendonça, B. Damásio, F. Santiago (UNIDO) et al.

This article, which appeared in the journal International Journal of Health Policy and Management, advances the concept of “strategic encounters” to encapsulate and extend the contribution of Palm and Fischier (2021) on key enabling managerial factors for the implementation of healthcare innovations under conditions of imperfect foresight. Healthcare innovations emerge and develop in institutionally dense selective environments. New projects and propositions in healthcare sectoral ecosystems can be understood as product-service compacts, i.e. complex solutions that dynamically integrate tangible and intangible elements in close interaction with users’ needs and the evolving regulatory context under uncertainty and ambiguity. In this study, creative constructions are intertwined which influence the formation of knowledge-intensive activities at the operators’ level within the scope of sectoral level interventions to demonstrate how opportunities and constraints can enhance innovation for the common good. The case of digital data health regulatory agendas is used for illustration purposes.

Impacts of various connectivity processes in Central Asia on sustainable development of Kyrgyzstan

By N. Komendantova, E. Rovenskaya, N. Strelkovskii and F. Santiago (UNIDO)

One major issue of the Kyrgyz government’s reindustrialization ambitions is the extent to which the country can leverage three distinct regional economic connectivity processes—namely the Eurasian Economic Union (EAEU), the China-led Belt and Road Initiative (BRI), and various connectivity initiatives taking place under the umbrella of the European Union (EU)—to boost its economic revitalization plans and decarbonize its economy in line with international climate change mitigation and energy security policies, while ensuring a reliable energy supply. Perceptual heterogeneity influences the development of solutions based on compromise and participatory governance that are crucial to implementing different industrial policy options; it also impacts the nature of the economic relationship between Kyrgyzstan and other countries in the Central Asian region. This paper explores the implications of perceptual heterogeneity for the various connectivity processes in Kyrgyzstan.
Towards a firm-level technological capability framework to endorse and actualize
the Fourth Industrial Revolution in developing countries

By J. A. Peerally, F. Santiago (UNIDO), C. De Fuentes and S. Moghavvemid

An essential precondition for developing countries to engage in the Fourth Industrial Revolution (4IR) is to accelerate the creation and accumulation of firm-level technological capabilities necessary for digital transformation. Through an analysis of secondary data collected from a systematic review of the 4IR literature, the study builds on Lall's (1992) and Bell and Pavitt's (1995) frameworks to develop an updated one of firm-level technological capabilities which accounts for the refined set of human and organizational activities and resources required by firms for the uptake of 4IR technologies and processes along their digital transformation journey. The framework proposes four levels of increasingly complex technological capabilities across six thematic groups of technological and organizational functions. The analysis leads to a definition of 4IR firm-level technological capabilities which better reflects the new realities of this revolution.

IAP Articles

How multinational enterprises create value through intangible capital

By C. Cadestin, A. Jaax, S. Miroudot and C. Zürcher

Foreign affiliates of multinational enterprises (MNEs) generate more income through intangible assets than domestic-owned firms. As intangible assets are key drivers of productivity and growth, trade, investment, innovation and industrial policies that can attract and retain intangible capital need to be identified. Such policies can be grouped into three categories that jointly constitute the “ABCs of GVC-oriented policies”: Attractiveness policies aimed at strengthening the appeal of a location for intangible-intensive activities; place-based Buzz policies that intend to internally strengthen the local production and innovation ecosystem; and international Connectedness policies that strengthen the local ecosystem’s links to other locations. Attractiveness policies should target foreign firms and address regulatory barriers that might discourage them from operating in the domestic economy. Buzz policies can help domestic firms increase their “absorptive capacity” and benefit from participation in GVCs. Connectedness policies allow for knowledge spillovers through the international value chain and through interactions with global firms.

The effects of COVID-19 on industry in least developed countries

By F. Hartwich (UNIDO) and C. Hammer (UNIDO)

This article explores the COVID-19 pandemic’s impact on industry in least developed countries (LDCs) to inform the debate on what can be done to build industries forward differently once the pandemic winds down. While the data on industrial production in LDCs show signs of recovery, this does not seem to be reflected in LDCs’ trade data. One possible explanation for the reduction in trade could be firms’ tendency (particularly in higher income countries) to source supplies from less distant producers (i.e. to shorten supply chains) instead of using inputs from LDCs. This in turn might have partly been compensated with local production and consumption in LDCs. It seems that the pandemic has generally led to a drop in demand for manufactured goods, affecting primary materials exports. Given the importance of commodity exports for LDCs, this seems to have posed
a bigger problem for LDCs in the short run. Nevertheless, the low level of exports, especially of GVC-related goods, highlights the structural challenges LDCs seem to be facing in terms of integrating in GVCs.

**Steel and cement can drive the decade of action on climate change. This is how**

*By R. Ghoneim (UNIDO), G. Mete and A. Hobley*

Deep decarbonization of the steel and cement industries will require several parallel strategies: demand management using market creation and circular economy principles, improvements in energy efficiency through technical advancements, and major shifts in production methods and technology. Moving this goal forward calls for incremental process innovations (such as energy efficiency solutions) as well as some more radical ones. A strong demand signal is needed to incentivize the effort, cost and perceived risk involved in bringing new technologies online. One of the most promising routes would be through a commitment to green public procurement in major municipalities and among importers of construction materials. Among the biggest obstacles to the decarbonization of industrial sectors is the lack of data and standards. Hence, advances in producing accurate, high-resolution data are urgently needed as is the establishment of standardized, comprehensive calculation methods that are comparable across producers and jurisdictions.

**How can the Mexican automotive industry capitalize on data-driven global value chains?**

*By M. Stankovich and A. Filippo*

The datafication and digital transformation of Mexico’s automotive industry are prerequisites for keeping up with global competitors. The establishment and implementation of secure data-sharing mechanisms and cross-border data transfers could open up several opportunities, such as increased national gross domestic product (GDP) and private sector productivity through digital and integrated supply chain systems; the introduction of smart factories; the breaking down of data silos in manufacturing and unlocking access to meaningful data. To fully realize the commercial and social benefits of data generated across the automotive industry, industry participants need a secure and robust data market where they can come together to trade data. This will enable organizations to implement more efficient data collection processes, support their business objectives, and engage in transactions in the data marketplace. This must be underpinned by adequate data governance policies and regulations to achieve the successful integration of Industry 4.0 practices and data-driven GVCs in the Mexican economy.

**Working together on global supply chains can help prevent climate disaster**

*By UNIDO Director General Gerd Müller*

Transitioning to clean energy sources, such as green hydrogen, will be key to advancing industrial decarbonization and ensuring green(er) global supply chains (GSCs). However, replacing assets and infrastructure—often before the end of their productive life—entails substantial costs. Policymakers must therefore actively promote and de-risk investment in green energy sources and equipment. Improving resource efficiency is another key priority and can be achieved, among others, by transitioning to renewable energy and adopting
circular economy production methods. A green transition builds on new designs, new processes, new technologies and new skills – the globalization of production has created a system in which firms cooperate and share know-how and technologies, i.e. GSCs can be the means to move innovations and knowledge across the world. Yet for decarbonization to truly be effective, we need a regulatory regime that sets appropriate standards and that tracks progress and performance against those standards, and that establishes a transparent mechanism for reporting emissions and prevents “greenwashing”. The different standards that currently exist across many jurisdictions pose a challenge to compliance. Harmonizing global standards will reduce uncertainty and allow firms to sustainably plan for the long term.

**A firm-level perspective on industrial resilience in a crisis**

*By N. Cantore (UNIDO), K. Naidoo, F. Tregenna and J. Amann*

Resilience at both the government and sector levels can create conditions for countries to better withstand and recover from shocks. Manufacturing firms in countries with stronger industrial capabilities were more likely to remain in operation and experienced higher growth rates (or lower losses) in employment. Robustness to shocks hinges on a set of pre-existing firm-level conditions, which are relevant for understanding the substantial heterogeneity that exists between and within countries and sectors when analysing a country’s overall resilience. Resilience during the pandemic crisis not only depended on firms’ capacity to smooth out the negative economic impacts of the crisis, but also on their capacity to adapt their business models and, where possible, their production processes. Recent empirical analyses indicate that digitally advanced firms introduced production-related responses more frequently than non-digitally advanced ones, and were less impacted by the negative economic effects of the crisis. Empirical evidence furthermore shows that industrialization through learning, and building and deploying ‘know-how’ is key to strengthening firms’ capacity to withstand the crisis and to adapt to challenging environments.

**RECENT EVENTS**

**Development Dialogue on UNIDO’s Multilateral Industrial Policy Forum (MIPF), 19 May**

A Development Dialogue was held with Member States to define the Multilateral Industrial Policy Forum’s (MIPF) objectives and strategic direction, with the aim of ensuring that the inaugural forum, to be held in November 2022, and its subsequent editions align with Member States’ industrial development priorities and the role of industrial policies therein. The Dialogue collected inputs from delegates on the structure, thematic focus, possible policymaking capacity-building activities and functions of the Forum. Participants also discussed how to establish a peer-learning mechanism around industrial policies, which will become a centrepiece of the MIPF.
Launch of the Industrial Development Report 2022 at UN Headquarters in New York, 25 May

UNIDO organized the launch of the Industrial Development Report 2022 together with the Permanent Missions to the United Nations in New York of Austria and Ethiopia in their function as co-chairs of the Group of Friends of Inclusive and Sustainable Industrial Development. During the event, PRS’s Nobuya Haraguchi and Fernando Santiago presented the main messages and key findings of the report and discussed their policy implications with representatives from various countries. The event, moderated by Ralf Bredel of UNIDO’s liaison office in New York, sparked a lively discussion with participants on different issues of resilience and possible initiatives towards post-pandemic recovery. On this occasion, UNIDO also introduced the forthcoming Multilateral Industrial Policy Forum to the UN community in New York.

Second technical workshop on nowcasting in international organizations, 25–26 May

There is growing demand for timely indicators to monitor trends in sustainable development and the impact of shocks such as the COVID-19 pandemic. Data providers have responded to this demand by using alternative new data sources and exploring the use of predictive methods, among others. Nowcasting is one such solution which estimates the current value of a target variable by exploiting the information contained in a battery of timely indicators, many of which are practically available in real time. This virtual workshop was organized by UNIDO’s Statistics Division with the objective of sharing recent and ongoing applications and discussing new methodological advances in this area. The event introduced participants to current initiatives in Eurostat, FAO, ILO, OECD, UN Women, UNCTAD, UNECLAC, UNHCR, UNIDO, UNPD, the World Bank and other organizations. UNIDO’s presentation focused on its ongoing efforts to produce a consistent system of country- and regional-level nowcasts of industrial production.


PRS’s Fernando Santiago presented the Industrial Development Report 2022 at a webinar organized by The North America and Caribbean Network on Learning, Innovation, and Competence Building Systems (NACLICS). The discussants were Jahan Peerally, Associate Professor of International Business & Innovation at HEC Montréal, Canada and Winston R. Moore, Deputy Principal of The University of the West Indies, Cave Hill Campus, Barbados, and the event was moderated by Alejandra Rosales-Soto, Assistant Professor of Business Engineering at the University of Guadalajara, Mexico.

PROGRAMMES AND PROJECTS

STATISTICS

UNIDO’s Statistics Division has finalized its major database update for 2022. The new annual data provide the latest country-level comparable statistics on production, value added, employment and other industrial sector variables, including manufacturing, mining and utilities. The updated databases are: (i) INDSTAT, providing detailed structural information on manufacturing sectors at the 2-digit (INDSTAT 2) and 4-digit (INDSTAT 4) levels; (ii) MINSTAT, providing granular information on economic activity in the mining
and utilities sectors; (iii) **IDSB**, a database linking production and international trade in manufacturing industries (4-digit level), providing insights into production, exports, imports and consumption by sector; and (iv) **National Accounts Database**, a recently expanded database with information on the industrial sector’s value added from the perspective of national accounts, providing comparative indicators of structural transformation and the global distribution of industry. These updated databases provide a wealth of information to study industrial development and structural transformation in a consistent, comparable and timely manner. All databases can be accessed free of charge in the [UNIDO data portal](https://www.unido.org).

UNIDO Statistics has completed the 2022 reporting cycle for the six [SDG-9](https://www.unido.org/sustainable-development-goals) indicators under UNIDO custodianship. This annual exercise involves the collection of official data from all countries with available information, and their compilation into harmonized internationally comparable indicators. The data and accompanied narratives are reported in the [Secretary-General Report on Progress Towards the SDGs](https://www.unido.org/sustainable-development-goals), the [Sustainable Development Goals Report](https://www.unido.org/sustainable-development-goals), the [Global SDG indicators Database](https://www.unido.org/sustainable-development-goals) and the [SDG Progress Chart](https://www.unido.org/sustainable-development-goals), as well as numerous regional- and country-level reports. Within UNIDO, the data can be downloaded through [UNIDO’s data portal](https://www.unido.org), and will soon be reflected in the [Industrial Analytics Platform](https://www.unido.org/sustainable-development-goals).