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Innovation and Competitiveness Policies**Building Back Better: using platforms to enable sharing and progress towards the Circular Economy****Note by the secretariat****I. Introduction**

1. This note presents good practices and policy recommendations on sharing and platform economy for sustainable development. It is based on a webinar held as part of the informal consultations of the United Nations Economic Commission for Europe Team of Specialists on Innovation and Competitiveness Policies (TOS-ICP) on 21 October 2020, “Building Back Better: Using Platforms to Enable Sharing and Progress towards the Circular Economy” in a post-COVID-19 context. The discussion and recommendations are based on the experience of national governments, experts, entrepreneurs and international organizations in the sphere of the sharing economy.

2. Digital platforms, along with technological advancement overall, are fundamentally changing our societies – from how we create and trade what we value to how we interact and govern. The rise of mobile internet, increasingly universal and affordable connectivity, complex global value chains, targeted and largely free services that we already now use daily, rapidly falling costs of technology, and the “gig economy”¹ are already high on the agenda – but many think this is only the beginning of even more profound changes to come.

3. This presents a range of opportunities for UNECE countries with economies in transition to enable sustainable development and resolve or mitigate trade-offs that many foresee when balancing economic development, inclusion, and environmental sustainability. One growing concern is balancing economic growth and poverty reduction with the imperative to move towards an increasingly circular economy – how can we provide more opportunities for consumption and raise people out of poverty and into the middle class while ensuring that we use resources in a sustainable, harmless fashion?

¹ The gig economy describes the use of short-term employment contracts used by organisations for independent workers for certain jobs, often via a digital platform. Estimates of the share of the labour force engaged in the gig economy range from less than 0.5 per cent to 4 per cent. World Bank (2019). World Development Report. The Changing Nature of Work. Washington, D.C., Roland Berger, The coronavirus crisis is shining a light on the difficult situation many gig workers face, 8 April 2020.



4. Digital platforms hold the potential to radically increase opportunities for sustainable consumption by putting excess capacity to better use – allowing us to consume more with less products and, consequently, less resource consumption and waste. Platforms remove many of the barriers that stood in the way of many exchanges to take place in the past. Known broadly as “transactions cost”, these barriers include the effort of triangulating supply and demand,² of meeting the need for trustworthiness for transactions to take place, and of guaranteeing and automating transactions among companies and consumers. While some of this is already happening, such as ride sharing, online marketplaces, co-living arrangements, and equipment rental, this falls far short of the potential: arguably, most physical assets, from power tools over spare rooms to cars, as well as many skills and potential services, are not used most of the time.

5. Making the most of this potential involves concerted action to remove or mitigate a range of constraints. One of these is network externalities: platforms in many cases only provide value if it can aggregate enough supply and demand in real time to enable people who want a service can find someone who can provide it at the right time. Another is the need to make it much easier to exchange and use massive amounts of real time data – while finding joint technical solutions to ensure privacy and security for all. The lack of unique, secure digital identities constrains digital transactions among consumers – although technical solutions abound, making them interoperable and universal, especially across countries, is challenging. Social policy will have an important role to play to mitigate the effects of and build the right skills for a transition that will see several changes in the production structure and the labour market. Perhaps most importantly, it is very difficult to predict with any certainty what will happen and what opportunities will arise – requiring us to rethink the role of public policies and governance and build the capacity to react flexibly to remove constraints and forge common solutions, also across borders.

6. This paper explores basic concepts around and the potential of digital platforms in the context of Agenda 2030 in general, and the circular economy transition in particular (SDG 12), for ECE countries with economies in transition. This policy paper provides a definition of the platform and sharing economy, elaborating on what drives their development, explores trends, consequences and challenges of platforms and proposes a set of policy recommendations to guide member States in their efforts to enable and promote innovation around the potential of the platform economy.

II. What is the platform economy?

7. The platform economy is not new at all. It operates broadly along the same parameters as physical markets since at least the times of the ancient Al-Medina Souq near the Fertile Crescent. What is new is that widely available and affordable technology and connectivity have vastly expanded where and how and for which products, services, and activities such markets could be put to work. Digital platforms are internet-based applications and business models that have been a key component to facilitating the transformation towards the digital economy in the context of Industry 4.0.³ By acting as intermediaries and by providing an infrastructure for economic transactions⁴, platforms open up manifold opportunities for

² Chen, Rong (2019). Policy and Regulatory Issues with Digital Businesses. Policy Research Working Paper. Available at: <http://documents1.worldbank.org/curated/en/675241563969185669/pdf/Policy-and-Regulatory-Issues-with-Digital-Businesses.pdf>

³ Pianta, Mario (2019). The challenge of digitalization for firms in developing countries. Department of Policy Research and Statistics. Working paper 18/2019. Vienna: UNIDO (United Nations Industrial Development Organization).

⁴ United Nations (2019). Digital and Sustainable Trade Facilitation: Global Report 2019. Based on the United Nations Global Survey on Digital and Sustainable Trade Facilitation. <https://www.unescap.org/sites/default/d8files/knowledge-products/UNtfsurvey%20global%20report%202019.pdf>

people to interact, transact, consume, and produce that were inconceivable just a decade or two ago.⁵

8. The main driver of the growth of the platform economy is the substantial reduction of transaction costs that occurs through virtual platforms. Nobel laureate Ronald Coase was among the first to note that transaction costs determine the balance between market exchanges and the use of the central control structure of organizations,⁶ i.e., whether to make-or-buy. This same tension explains why, for instance, we buy a power drill and own it, even if we only use it once or twice; or why we often drive alone to work even if many other people are heading the same way: we have no convenient way of renting the drill from our neighbour or knowing who is heading in the same direction and when – and whether we can trust the transaction with that person.⁷

9. Digital platforms reduce such transaction costs – specifically those of triangulation, transfer, and trustworthiness of the transaction (table 1).⁸ Triangulation refers to the cost of finding out who has a power drill, where it is located, its technical specifications, and whether that person is willing to rent or share and at what cost. Transfer refers to the cost of moving the product around, setting up a contracting arrangement for the rental, and payment. Trustworthiness refers to the risk involved in transacting with people you do not know. Digital platforms can take care of these costs efficiently – by aggregating potential supply and demand in real time; by guaranteeing and automating transactions; and by ensuring sufficient trustworthiness through incentives to behave well, such as ratings. The example of Airbnb, initially dismissed as an impossible idea at scale, clearly shows how even the barriers to convincing people to letting strangers stay in their own home can be overcome.

10. Exploiting this potential much more systematically could be a central driver in the transition towards an increasingly circular economy. Using excess capacity becomes more attractive and is fundamentally transforming consumption patterns as they facilitate sharing, allowing for enhanced efficiency and sustainability⁹ in line with the United N Sustainable Development Goal 12¹⁰ and the circular economy, consuming more while producing less.¹¹ For example, if power drills, a household item that is typically used only a few times, could come as a service, demand for such items could fall by as much as 90 per cent¹². Consumption would increase as transaction costs are lower, while production would also decrease, shifting the focus to producing less, but more sustainable products.¹³

11. Platforms – and technology overall – are also important for economic and social resilience in the face of events such as the COVID-19 pandemic – sustaining economic activities by lowering the need for physical interaction.¹⁴

⁵ UNCTAD (United Nations Conference on Trade and Development) (2019). Digital Economy Report 2019. Value Creation and Capture: Implications for Developing Countries. Geneva.

⁶ Coase, Ronald H. (1937). The Nature of the Firm.

⁷ Munger, Michael (2015). Coase and the “sharing economy”, pp. 187-208. Available at: <https://iea.org.uk/wp-content/uploads/2016/07/Coase-interactive.pdf>

⁸ Munger, Michael (2020), Platforms: Perils and Promise, Institute of Economic Affairs (IEA).

⁹ Rinne, April. What exactly is the sharing economy? World Economic Forum (WEF), 13 December 2017. Available at: <https://www.weforum.org/agenda/2017/12/when-is-sharing-not-really-sharing/>

¹⁰ SDG 12: ensuring sustainable consumption and production patterns.

¹¹ UNIDO (United Nations Industrial Development Organization) (2019). Industrial Development Report 2020. Industrializing in the Digital Age – Overview. Vienna.

¹² Munger, Michael (2015). Coase and the “sharing economy”, pp. 187-208. Available at: <https://iea.org.uk/wp-content/uploads/2016/07/Coase-interactive.pdf>

¹³ There are also possible risks to environmental sustainability in the increased use of platform economies, including (1) the significant consumption of resources for electronic devices, (2) the subsequent increase in e-waste, (3) the increased use of energy for data collection, transmission, storage and processing, and (4) the increase in the transport of packages. These risks, however, were not discussed at the webinar and are therefore beyond the scope of this note.

¹⁴ White, Phil. How digital platforms are helping us manage through the coronavirus, Platform Value, 9 April 2020. Available at: <https://platformvaluenow.org/signals/how-digital-platforms-are-helping-us-manage-through-the-coronavirus/>

Table 1: Three components of transaction costs addressed by the platform economy¹⁵

Online platforms reduce transaction costs by:

Triangulation	Providing relevant information about the (1) location of the product or service and the (2) identity of the person offering the product or service.
Transfer	Facilitating the ease of exchange and payment for the product or service.
Trust	Ensuring honesty between actors and trust in the terms of agreement of the exchange.

Source: UNECE.

III. Trends in and implications of the platform economy

12. The platform economy is expanding rapidly in peer-to-peer (P2P), business-to-business (B2B) and business-to-consumer (B2C) transactions. They concern not only physical products or assets, such as power tools, food waste, housing or car sharing, but also intangible assets such as skills and labour, for example business process outsourcing, personal services, or distance learning, and P2P finance, such as crowdfunding.

13. The value of platform economy is growing quickly. In 2017, the total value of platform enterprises amounted to \$7 trillion, 67 per cent higher than in 2015.¹⁶ According to PwC, seven out of the top eight most valuable companies by market capitalization in 2020 provide their services via platforms, Apple Inc., Microsoft, Amazon.com, Alphabet (Google), Facebook Inc., Tencent, and Alibaba.¹⁷ The platform economy is also growing at double digit rates in, for instance, the Russian Federation, with turnover reaching \$7.8 billion in 2018, mostly in the consumer-to-consumer (C2C) segment. Car sharing and pooling services are growing exponentially in large cities, where parking spaces are scarce and pollution levels often high.¹⁸

14. In addition to the potential to drive the circular economy transition, platforms create manifold social and economic opportunities. The moderate wage levels and high levels of educational attainment in UNECE transition economies should enable their citizens to find work and experiment with entrepreneurial ideas on a much broader scale than before.

15. This will not happen automatically, however. Consumer surplus may not be fully reflected in GDP, and as demand for physical products decrease, many existing manufacturing activities will come under pressure. As the scope and nature of labour demand shifts as the economy adapts, and as the premium on skilled labour rises, reinforcing already on-going trends, inequality is likely to increase further – at least in the short-term. Inequality among countries will rise, as intangible assets tend to cluster in developing countries.

16. This makes it imperative for UNECE member States, especially those with economies in transition, to work on two fronts. The first is to build an enabling environment in which platforms can thrive – investing in ICT infrastructure to ensure universal, affordable

¹⁵ Source UNECE based on definitions provided in Munger, Michael (2020). *Platforms: Perils and Promise*, Institute of Economic Affairs (IEA).

¹⁶ UNCTAD (United Nations Conference on Trade and Development). *Global efforts needed to spread digital economy benefits*, UN report says, 4 September 2019. <https://unctad.org/news/global-efforts-needed-spread-digital-economy-benefits-un-report-says>.

¹⁷ PwC (2020). *Global Top 100 companies by market capitalisation*, July update. Available here: <https://www.pwc.com/gx/en/audit-services/publications/assets/global-top-100-companies-june-2020-update.pdf>

¹⁸ Revinova, Svetlana, Ratner, Svetlana, Lazanyuk, Inna and Konstantin Gomonov (2020). *Sharing Economy in Russia: Current Status, Barriers, Prospects and Role of Universities*, *Sustainability*, Vol. 12, No. 4855, pp.1-23.

connectivity; adjusting or simplifying the rules of the game;¹⁹ building the right skills, including for disadvantaged groups in order to overcome the digital divide; and working with stakeholders and other countries to find solutions on data exchange, service trade, payment systems, and consumer and investor protection. The second is enabling and promoting people to experiment with ideas for building or operating on platforms – in other words, innovation. Given the uncertainty involved – we simply do not know what will happen, what the right rules and standards are, and what skills we will need – countries need to move towards a significantly more flexible approach to setting the rules and supporting initiatives. The goal should be clear: play a catalytic role and ensure that more experimentation takes place than otherwise would be the case.

17. Responding to this challenge, the Russian “Digital Economy 2024”²⁰ programme fosters infrastructure investment, digital entrepreneurship, and e-governance. Finland pioneered a dedicated roadmap for the platform economy as part of its broader Digitalisation Strategy²¹ and its approach to urban economic development.²² The approach takes concerted steps to clarify data ownership and facilitate data exchange, security, and privacy and to support a range of platforms across sectors and society. Sweden has taken important steps towards adapting social and education policy to the dynamics and needs of the platform economy – in particular to decouple social security from specific employers to respond to the growing gig economy²³ and protect vulnerable workers.

Table 2: Two imperatives for supporting the development of the platform economy²⁴

To support the growth of platform economy, the focus should be on:

Building an enabling environment	To ensure universal, affordable connectivity by adjusting regulatory constraints.
Encouraging experimentation among stakeholders	To enable and promote innovation, the experimentation with platform ideas for creating new value.

Source: UNECE.

IV. Harnessing the platform economy for Sustainable Development – key challenges

18. Some of the challenges that may hold countries back from benefiting from the potential of the platform economy and ensuring that it contributes broadly to the goals of Agenda 2030 include:

(a) **Platforms require a critical mass of both supply and demand at a given time, as well as digital inclusion.** Network externalities, or the “chicken-and-egg” problem, refers to the need of a critical mass for platforms to properly function and provide the benefits of sharing, while the attraction of consumers to a platform usually requires initial demonstrated success. This is difficult to set up for individual entrepreneurs, and often limits the scope to densely populated areas, largely limiting the market for platforms to larger urban areas.

¹⁹ Inclusive regulation, which uses broad definitions for the gig and sharing economies, can encourage business formalisation while leaving scope for innovation and change. Business registration and formal recognition helps new businesses in emerging economies establish legitimacy and thereby facilitates access to finance and insurance. Speaker Dr. Monique Retamal, Research Principal at the Institute for Sustainable Futures, University of Technology Sydney.

²⁰ Russian Federation Digital Economy 2024: <https://digital.ac.gov.ru/>

²¹ <https://www.businessfinland.fi/globalassets/finnish-customers/news/events/2018/zhejiang-seminar-presentations/3.-klemettinen-mika-digitalization.pdf>

²² Anttiroiko, Ari-Veikko, Laine, Markus, and Henrik Lönnqvist (2020). City as a Growth Platform: Responses of the Cities of Helsinki Metropolitan Area to Global Digital Economy. Urban Science.

²³ The gig economy describes the use of short-term employment contracts used by organisations for independent workers for certain jobs, often via a digital platform.

²⁴ Source UNECE.

(b) **Closing the “digital divide” is an essential component for the inclusive development of the platform economy.** There are significant differences, both within and between countries in incomes, gender equality, in the quality and prices for internet connectivity, and in levels of education and digital literacy. These factors give rise to a digital divide - significant inequalities in access to Information and Communication Technologies (ICTs) and the services they enable, and these impede the development of platform economy.

²⁵ For example, 87 per cent of individuals in developed countries in 2019 reportedly used the Internet, compared to only 19 per cent in the least developed countries²⁶, leaving half of the world population unconnected²⁷. Closing the digital divide by ensuring equal access and use of ICTs and digital technologies would equip individuals with the necessary resources and capacities to innovate and create in the platform economy.

(c) **Regulations often reflect the status quo and inhibit or prevent innovation.**

Legacy regulation and entrenched economic interests often prevent the experimentation that is necessary to innovate with new processes and business models. The driving force of platforms is innovative entrepreneurship – individuals who try things out to see what works. This is quite a complex task as innovation is not only risky, but depends on essential elements that are often not yet in place, even in advanced countries, such as rules, habits, and (digital) infrastructure, which provide resources for computing and networking for creating platforms and within which they operate²⁸. Such elements do not only create jobs and value, but also demonstrate new ways of creating value to other entrepreneurs. Regulatory constraints are often derived from a lack of understanding of the concrete needs of platform entrepreneurs and require consultations that include all relevant stakeholders to adequately formulate policies to foster their growth.

(d) **For the platform economy to thrive, data security, data standards and data privacy need to be ensured.** Being able to collect, trade, and access useful, real-time data is essential to all business models based on the platform economy. At the same time, who to trust with one’s data, specifically how to use innovative digital processes and systems, such as smart contracts, to become more efficient in the transfer of data is a critical question.

(e) **The platform economy will often involve the emergence of dominant platforms and partial monopolies to operate effectively – requiring new approaches to ensuring adequate competition.** With platforms making up large parts of stock market valuations, the problem of dealing with the power these companies have looms. This is in the nature of platform dynamics: Google, for example, is successful because of its dominance in search and several other markets and its access to vast amounts of valuable data. At the same time, traditional approaches such as price regulation and anti-monopoly rules would undermine the social return that Google brings, such as efficient search algorithms and platforms for entrepreneurship – in fact, many attempts to subdue such monopolies have proven ineffective or harmful.

(f) **Platforms boost the importance of intangible assets, often accumulated in developed countries – raising concerns around equality and inclusion.** The platform economy is highly concentrated in two countries: the United States (US) and China account for 90 per cent of the market capitalization of the world’s 70 largest digital platforms. In many digital technological developments, the rest of the world (including advanced countries in the EU), and especially Africa and Latin America, are trailing far behind, and there is a

²⁵ Stoiciu, Andreea, The Role of e-Governance in Bridging the Digital Divide, United Nations. <https://www.un.org/en/chronicle/article/role-e-governance-bridging-digital-divide>

²⁶ United Nations, Digital Divide ‘a Matter of Life and Death’ amid COVID-19 Crisis, Secretary-General Warns Virtual Meeting, Stressing Universal Connectivity Key for Health, Development, 11 June 2020. <https://www.un.org/press/en/2020/sgsm20118.doc.htm>

²⁷ UNESCAP (United Nations Economic and Social Commission for Asia and the Pacific). Measuring the Digital Divide in the Asia Pacific Region for the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP). Asia-Pacific Information Superhighway (AP-IS) Working Paper Series.

²⁸ Constantinides, Panos, Ola Henfridsson and Geoffrey Parker (2018). Digital Infrastructure and Platforms. *Information Systems Research*. <https://ide.mit.edu/sites/default/files/publications/ISR%202018%20Constantinides%20Henfridsson%20Parker%20Editorial.pdf>

huge market concentration in just a few global digital platforms. While the sharing economy can bring benefits to consumers in countries with different levels of development, developing countries and countries with economies in transition need to give extra care to create the right regulatory and policy environment and to invest in the physical infrastructure that allows the platform economy to flourish and deliver societal and environmental benefits, while addressing potentially negative implications^{29,30}.

V. Good practices and policy recommendations

19. Given the dynamics of and barriers to the platform economy, innovation is not only important in the private sector, but in government policy and approaches to setting the rules of the game. Some of the recommendations emerging from UNECE policy dialogue on this topic include:

(a) **Move towards agile governance with the flexibility and incentives to enable and promote innovation systematically.** A central element is regulatory flexibility that allows for experimentation with different ways of meeting underlying regulatory objectives rather than laying down technical standards that would constrain innovation. This should allow, within some constraints, more flexibility to try out solutions to problems which may lie outside of existing solutions and the rules set up on that basis. Generally, allowing for more innovation while creating the means to adapt rules and compensate the short-term losers will yield better results in the long-term.

(b) **Support and guide businesses in using platforms as an element in adapting to and benefiting from the transition towards an increasingly circular economy in line with SDG 12.** Economic circularity and sustainable consumption are dependent on existing business practices, that need to be modified to effectively shape new and emerging sustainable business processes. Of particular importance are platform-based systems to increase efficiency in logistics, minimising waste throughout the value chain.³¹

(c) **Foster investment into digital infrastructure to ensure universal, affordable and reliable connectivity and interoperable standards, such as secure digital identities.** Ensuring universal, affordable, high-speed internet access is essential – and achievable given current trends and 5G and other technologies. E-governance is important, not only to improve public services and create demonstration effects, but also to develop central enabling elements such as secure digital identities that can be used for platform transactions to validate contracts and transactions. Governments could explore and pilot different technical solutions, such as block-chain, for standardizing, trading, and anonymizing data and using smart contracts. This is important for transition economies, who may otherwise fall behind.

(d) **Provide targeted support to innovative, potentially high-growth entrepreneurs with potentially large demonstration effects.** The first entrepreneur to try out offering IT services for export in Belarus, EPAM, created enormous social return – leading to the rise of a new, dynamic sector across the country and Belarus becoming one of the leading centres for outsourcing in Europe within a few years. Supporting ideas that might trigger similar dynamics is important, as otherwise the immense risk that the first mover faces will in most cases prevent experimentation from taking place at all.³²

²⁹ UNCTAD (United Nations Conference on Trade and Development). Global efforts needed to spread digital economy benefits, UN report says, 4 September 2019. <https://unctad.org/news/global-efforts-needed-spread-digital-economy-benefits-un-report-says>.

³⁰ UNDESA (United Nations Department of Economic and Social Affairs). Frontier Technology Quarterly: Does the sharing economy share or concentrate?. 18 February 2020.

³¹ Retamal, Monique (2017). Product-service systems in Southeast Asia: Business practices and factors influencing environmental sustainability. *Journal of Cleaner Production*. No. 143, pp. 894–903. <https://doi.org/10.1016/j.jclepro.2016.12.032>

³² UNECE is currently developing a handbook on Supporting Innovative High-Growth Enterprises for Eastern Europe and the South Caucasus (EESC), identifying best practices and recommendations for

(e) **Build up the right skills and capacities systematically.** This can be implemented by increasing entrepreneurship training in university curricula, adult retraining, especially of those that may face unemployment, and promote and subsidize, where necessary, workforce training to overcome learning externalities.

(f) **Try out different approaches to competition policy, ensuring adequate constraints without inhibiting innovation.** Network externalities will lead to monopolies and duopolies to provide the aggregation that the sharing economy needs. But these platforms also provide a range of opportunities that would not have been possible without them, as seen over the past decades.

(g) **Reform social policy to support those vulnerable to economic changes, such as low-skilled workers in the “gig economy”.** As the skills premium will continue to rise, social policy needs to enable experimentation while still providing a safety net for the most vulnerable and to make social security less dependent on fixed employment. Measures should be tied to investment into retraining to reorient workers displaced by economic changes towards the emerging needs of the labour market.

(h) **Monitor the development of the sharing economy in government statistics and research continuously and adapt policies and support accordingly.** Many UNECE countries do not systematically collect and use data on the platform economy to back up policy decisions. Basing public support and regulation on sound and continuously updated evidence on trends, constraints, and opportunities are central for the agile governance approach. Collecting and, even more importantly, using such data are essential to know whether that public interventions are efficient and catalytic and meet their objectives – and what could be done if not.

(i) **Engage, through intergovernmental mechanisms and other networks, with other countries to try out and set up effective solutions and standards.** Policy areas that may need attention include e-readiness, strengthening innovation and entrepreneurship, digitalization of SMEs, data-related policies, competition, taxation and labour market policies as well as international cooperation support policies. Since digitalization is a global phenomenon that goes beyond national borders, policies are needed at all levels, national, regional and international.³³ Finland is a pioneer in this regard, following the countries good practices in the establishment of the Strategic Roadmap for Platforms and Sharing Economy.

designing effective policy mechanisms in support of SMEs. Findings outlined in the handbook are based on webinars held with government officials, stakeholders and experts from the sub-region in September 2020. In March 2021, ECE conducted online trainings for EESC stakeholders to further support capacity building and to inform innovation and entrepreneurship policies. <https://unece.org/innovation/news/innovative-high-growth-enterprises-are-key-sustainable-economic-development-and>

³³ UNCTAD (United Nations Conference on Trade and Development) (2019). Digital Economy Report 2019. Value Creation and Capture: Implications for Developing Countries. Geneva.