

The role of digital intermediation platforms in opening up international markets

No. 386



OECD Digital Economy Papers

The role of digital intermediation platforms in opening up international markets



Disclaimers

This paper was approved and declassified by the Digital Policy Committee (DPC) on 28 July 2026.

This document, as well as any data and map included herein, are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Photo credits: © Nomad_Soul/Shutterstock.

© OECD 2026



Attribution 4.0 International (CC BY 4.0)

This work is made available under the Creative Commons Attribution 4.0 International licence. By using this work, you accept to be bound by the terms of this licence (<https://creativecommons.org/licenses/by/4.0/>).

Attribution – you must cite the work.

Translations – you must cite the original work, identify changes to the original and add the following text: *In the event of any discrepancy between the original work and the translation, only the text of the original work should be considered valid.*

Adaptations – you must cite the original work and add the following text: *This is an adaptation of an original work by the OECD. The opinions expressed and arguments employed in this adaptation should not be reported as representing the official views of the OECD or of its Member countries.*

Third-party material – the licence does not apply to third-party material in the work. If using such material, you are responsible for obtaining permission from the third party and for any claims of infringement.

You must not use the OECD logo, visual identity or cover image without express permission or suggest the OECD endorses your use of the work.

Any dispute arising under this licence shall be settled by arbitration in accordance with the Permanent Court of Arbitration (PCA) Arbitration Rules 2012. The seat of arbitration shall be Paris (France). The number of arbitrators shall be one.

Abstract

Online platforms are a defining feature of today's highly digital economy, reshaping how people access services, trade, and interact. Digital intermediation platforms (DIPs) – which connect buyers and sellers without taking ownership of goods or services – play a pivotal role in facilitating e-commerce and digital trade. This paper presents novel data about the diffusion of DIPs across three key consumer-facing sectors: travel and accommodation booking, ride-hailing and carpooling, and online marketplaces. Using website traffic data as a proxy for platform reach, it provides insights not only into the scale and scope of platform uptake, but also the degree of foreign presence in each sector studied. Building on these measures, the analysis considers how regulatory measures affecting digitally enabled services trade are associated with platform diffusion and foreign participation across markets with the aim of enhancing productivity, fostering innovation, and maximising the opportunities of digital trade.

Acknowledgements

The ongoing digital transformation of the economy and society holds significant potential to spur innovation, increase efficiency, improve services, and boost growth. Digital technologies empower people by increasing access to information and enabling new forms of social engagement. Yet such benefits come with other challenges as digital transformation changes the nature and structure of organisations, markets and communities, and raises concerns about equity and inclusion. Realising the opportunities and addressing the challenges is not automatic and may require policy action to make digital transformation boost growth and improve well-being.

The OECD-Korea Digital Society Initiative (DSI), under the auspices of the OECD Digital Policy Committee (DPC) and supported by Korea, aims to help advance the DPC's work on the societal aspects of digital transformation, including its implications for human rights, by integrating relevant expertise from across the DPC and its data infrastructures. The DSI provides insights into the impacts of digital transformation and digital technology development on society, and a venue for countries to discuss, exchange and explore policy case studies on related issues. The DSI focuses on three priority areas: digital inclusion and divides; safety; and trust. These themes were chosen as key areas to advance individual and societal well-being in today's highly digital societies.

This paper represents an output of the DSI. It contributes to a better understanding of key trends in the digital transformation of societies across OECD Member countries and partner economies and it identifies innovative policy practices to maximise the opportunities of digital technologies for people and society and to minimise the related risks.

This paper was written by Nicolas Benoit, under the guidance of Molly Leshner and Nils Adriansson, and the overall direction of Audrey Plonk and Jerry Sheehan. The author is grateful to Javier López González, Karin Gourdon, Peter Gal, Francesca Casalini and Maiko Merugo for their valuable comments and feedback, as well as to the Delegates of the Working Party on Digital Economics, Measurement and Analysis (WPDEMA) and the DPC for their comments and guidance. Editorial, communication and co-ordination support was provided by Mark Foss, Andreia Furtado, Elif Köksal-Oudot and Alice Weber.

Table of contents

Disclaimers	2
Abstract	3
Acknowledgements	4
Reader's guide	7
1.1. Acronyms	7
1.2. Abbreviations	8
Executive summary	9
Main findings	9
Introduction	11
Regulations to digitally enabled services trade and their implications for DIPs	13
Measuring the reach of DIPs and the role of foreign providers	17
DIPs are expanding, but along very different paths across sectors	19
Unpacking the relationship between restrictions to digitally enabled services trade and DIPs' diffusion	25
Towards a more open and trusted digital trade environment	28
Annex A. Data and empirical specification	29
Data overview	29
Empirical specification	30

Annex B. Regression analysis: Country structural characteristics	31
Annex C. Regression analysis: Regulatory barriers to digitally enabled services trade	35
Annex D. Competition analysis: the Herfindahl-Hirschman Index (HHI)	39
References	43
Notes	52

FIGURES

Figure 1. Global digital trade integration and openness has progressed but remains limited	15
Figure 2. Measures significantly affecting digitally enabled services trade persist in most countries	16
Figure 3. DIPs uptake has expanded rapidly with marked differences across sectors	20
Figure 4. Ride-hailing markets have become more competitive, while travel and accommodation booking and X2C marketplaces remain more concentrated	22
Figure 5. Foreign platform penetration varies widely across sectors and countries	23
Figure 6. Greater restrictions on IPR protection and enforcement are associated with lower platform diffusion in the travel and accommodation sector	26
Figure 7. Restrictions on IPR protection and enforcement are associated with lower platform diffusion in the ride-hailing and carpooling sector	26
Figure 8. Regulatory measures to payment systems and broader requirements are linked with lower penetration of foreign X2C online marketplaces	27

TABLES

Table A A.1. Number and type of DIPs by sector and area of activity, 2014-2024	29
Table A B.1. DIPs diffusion and structural characteristics: Total traffic	31
Table A B.2. DIPs diffusion and structural characteristics: Foreign firms' traffic	32
Table A B.3. DIPs diffusion and structural characteristics: Foreign firms' traffic	32
Table A B.4. DIPs diffusion and structural characteristics: Share of foreign firms' traffic	33
Table A C.1. Regulations to digitally enabled services trade and DIPs diffusion: Total traffic	35
Table A C.2. Regulations to digitally enabled services trade and DIPs diffusion: Foreign firms' traffic	36
Table A C.3. Regulations to digitally enabled services trade and DIPs diffusion: Share of foreign firms' traffic	37
Table A D.1. Market concentration and dominant platforms in digital intermediation markets	39

Reader's guide

1.1. Acronyms

Acronym	Full term
BEA	Bureau of Economic Analysis (United States)
DEPA	Digital Economy Partnership Agreement
DFFT	Data Free Flow with Trust
DIP	Digital intermediation platform
DPC	Digital Policy Committee (OECD)
DSI	Digital Society Initiative (OECD-Korea)
DSTRI	Digital Services Trade Restrictiveness Index (OECD)
GDP	Gross domestic product
HHI	Herfindahl-Hirschman Index
ICT	Information and communication technologies
IMF	International Monetary Fund
INDIGO-t	Index of Digital Trade Integration and Openness – trade component (OECD)
IPR	Intellectual property rights
ISIC	International Standard Industrial Classification
NRI	Networked Readiness Index (World Economic Forum)
OECD	Organisation for Economic Co-operation and Development
PMR	Product Market Regulation (indicators)
PPP	Purchasing power parity
PSD2	Payment Services Directive 2 (European Union)
STRI	Services Trade Restrictiveness Index (OECD)
UNCTAD	United Nations Conference on Trade and Development
USD	United States dollar
VIF	Variance inflation factor
WPDEMA	Working Party on Digital Economics, Measurement and Analysis (OECD)
WTO	World Trade Organization
X2C	Business-to-consumer or consumer-to-consumer

1.2. Abbreviations

This report uses ISO codes for countries and economies in figures.

ISO 3-letter code	Country name
AUS	Australia
AUT	Austria
BEL	Belgium
CAN	Canada
CHE	Switzerland
CHL	Chile
COL	Colombia
CRI	Costa Rica
CZE	Czechia
DEU	Germany
DNK	Denmark
ESP	Spain
EST	Estonia
FIN	Finland
FRA	France
GBR	United Kingdom
GRC	Greece
HUN	Hungary
IRL	Ireland
ISL	Iceland
ISR	Israel
ITA	Italy
JPN	Japan
KOR	Korea
LTU	Lithuania
LUX	Luxembourg
LVA	Latvia
MEX	Mexico
NLD	Netherlands
NOR	Norway
NZL	New Zealand
POL	Poland
PRT	Portugal
SVK	Slovak Republic
SVN	Slovenia
SWE	Sweden
TUR	Republic of Türkiye
USA	United States

Executive summary

Online platforms are a defining feature of today's highly digital economy, reshaping how people access services, trade, and interact. Digital intermediation platforms (DIPs) – which connect buyers and sellers without taking ownership of goods or services – play a pivotal role in facilitating e-commerce and digital trade. DIPs can be "pure", solely intermediating transactions between buyers and sellers, or "hybrid", combining intermediation with direct retail or service activity and the physical infrastructure – such as warehousing or logistics. By lowering search, matching and transaction costs, DIPs facilitate cross-border e-commerce and digital trade, expanding market access for businesses, including micro, small and medium enterprises (MSMEs). Platform diffusion across countries nonetheless differs, shaped in part by domestic regulatory environments governing trade in digitally enabled services.

This paper develops new cross-country proxy indicators of DIP uptake and foreign presence across three major consumer-facing sectors – travel and accommodation booking, ride-hailing and carpooling, and business-to-consumer or consumer-to-consumer (X2C) online marketplaces – drawing on website traffic data for close to 860 platforms. Covering OECD Member countries from 2010 to 2024, it examines how regulatory measures captured by the OECD Digital Services Trade Restrictiveness Index (DSTRI) are associated with platform diffusion and the presence of foreign-headquartered firms across markets.

Main findings

DIPs are expanding, but foreign platform penetration and market concentration vary considerably across sectors

- In 2024, foreign-headquartered platforms account for an estimated 54% of traffic in travel and accommodation booking, 46% in ride-hailing and carpooling, and between 33% (pure DIPs) and 45% (pure and hybrid DIPs) in X2C online marketplaces, on average across the OECD.
- Data suggest that competition in ride-hailing and carpooling has intensified markedly since 2014; travel and accommodation booking remain competitive with no single platform exerting dominant monopoly power; and relatively limited competitive pressures on the largest online platforms (X2C marketplaces), with smaller entrants contributing little to changes in overall market structure.

Restrictions on digitally enabled services trade are associated with lower DIP diffusion, particularly for foreign-headquartered platforms

- In travel and accommodation booking, a moderate easing of restrictions on intellectual property rights (IPR) protection and enforcement (e.g. domestic rules on copyrights and trademarks, including whether foreign firms receive equal protection and whether effective mechanisms exist to enforce these rights) is associated with an 8% increase in overall platform traffic and a near 25% increase in traffic from foreign-headquartered firms.
- A moderate easing of restrictions on IPR protection and enforcement is also associated with an even larger, approximately 90%, increase in foreign platform traffic in ride-hailing and carpooling, reflecting these platforms' strong reliance on proprietary software and data.

- In X2C online marketplaces, easing restrictions on payment systems is associated with a 200% increase in traffic to foreign-owned pure DIPs and a 4% increase in their share of traffic.
- Broader regulatory measures – including local presence requirements and advertising restrictions – are associated with a 37% increase in traffic from foreign firms and a rise of 1-2 percentage points in their market share, with effects consistently stronger for pure DIPs than for hybrid DIPs.

Digital trade integration has progressed, but openness remains limited and regulatory restrictiveness is on the rise

- The OECD Index of Digital Trade Integration and Openness – trade component (INDIGO-t) indicates that the world economy had reached only around 8.5% of full digital trade integration and openness in 2024.
- DSTRI evidence points to rising overall regulatory restrictiveness over the past decade, driven mainly by measures related to infrastructure and connectivity and by a quadrupling, between 2014 and 2024, of "other" restrictions such as local presence requirements, licensing obligations and advertising limits.

Introduction

Online platforms are a defining feature of the modern “digital economy,” underpinning many daily personal and professional activities. Today, their reach extends well beyond traditional information searching and social media interactions. Online platforms now play a significant role across various sectors including entertainment, media, transportation, accommodation, travel and tourism and financial services, among others. They also serve to enable the “gig economy” as new platforms for job matching, among other activities. By lowering search and matching costs, facilitating digital payments, and standardising trust mechanisms (e.g. ratings and dispute resolution mechanisms), platforms can lower certain transaction costs and expand cross-border participation in digital trade. At the same time, their rapid growth and increasing influence also raise important policy challenges – ranging from data governance and market concentration to labour conditions and consumer protection.

Among online platforms, DIPs have emerged as critical facilitators of e-commerce and digital trade. DIPs connect buyers and sellers, without ever taking economic ownership of the goods or services traded (IMF et al., 2023^[1]). Their business model relies on providing digital intermediation services – such as matching, payment processing, and reputation systems – which underpin transactions across a wide range of sectors. What sets DIPs apart is their ability to reduce traditional frictions in market transactions, including search, co-ordination, and entry costs. This makes it easier for individuals and firms – particularly micro, small and medium enterprises (MSMEs) – to engage in commercial activities. With the appropriate regulatory environment to participation in trade, DIPs help facilitate access to global markets and open new economic opportunities (Lendle et al., 2012^[2]).

DIPs also enhance market dynamism by lowering transaction costs and fostering competition, which in turn drives innovation, improves service delivery, and broadens consumer choice. Their development supports productivity growth in service sectors, partly by reallocating labour towards more productive firms (Bailin Rivaes et al., 2019^[3]). Platform use is associated with higher labour productivity growth within sectors, particularly for small and mid-productivity firms, helping to narrow performance gaps between small and medium enterprises (SMEs) and larger companies – especially in more dynamic platform markets (Costa et al., 2021^[4]). In practice, DIPs have already reshaped how people travel, shop, and access services, from booking accommodation to ride-hailing and online marketplaces.

Despite their growing importance, the global diffusion of DIPs remains uneven (Costa et al., 2021^[5]). While some countries have successfully leveraged these platforms to stimulate digital transformation, others face or create policy and regulatory measures that hinder uptake – particularly for platforms operating across borders or headquartered abroad. Regulatory impediments to digitally enabled services trade can create friction that limits the reach and impact of DIPs, potentially reducing competition, innovation, and societal gains. At the same time, the growing influence of DIPs calls for continued attention to issues such as fair competition, tax policy, and trust in online environments.

While market openness is a necessary condition for the cross-border diffusion of DIPs, it is not sufficient on its own. Equally important are users’ access to affordable, quality and ubiquitous digital infrastructure, the skills to adopt and deploy digital technologies, regulations that are not overly complex and burdensome, and other aspects of the enabling environment. Otherwise, liberalised market access will do little to ensure platform diffusion for all (Casalini, López González and Moisés, 2019^[6]).

This paper contributes to ongoing efforts to better measure the diffusion of DIPs and understand their role in digital economies and societies. It develops new cross-country indicators of platform uptake and foreign presence across three major consumer-facing sectors: travel and accommodation booking, ride-hailing and carpooling, and business-to-consumer or consumer-to-consumer (X2C) online marketplaces. Using website traffic data as a proxy for platform reach, the analysis examines how regulatory measures on digitally enabled trade in services, as captured by the OECD Digital Services Trade Restrictiveness Index (DSTRI) (Ferencz, 2019^[7]), are associated with platform diffusion across markets.

Regulations to digitally enabled services trade and their implications for DIPs

Understanding the regulatory environment is essential to assessing the global diffusion of DIPs. These platforms depend on an open, interoperable, and predictable digital ecosystem to connect users and facilitate transactions across borders. The OECD DSTRI, whose methodology is described in (Ferencz, 2019^[7]), offers a robust measurement framework to evaluate the extent to which current trade-related policies may impede cross-border provision of digitally enabled services. By systematically cataloguing regulations that affect digitally enabled services trade, the DSTRI helps identify where regulatory frictions could emerge and how they may shape market conditions for DIPs.

The DSTRI captures regulatory measures across five broad policy areas: Infrastructure and connectivity, electronic transactions, payment systems, restrictions on protection and enforcement of intellectual property rights (IPR), and other regulatory measures on trade in digitally enabled services (Ferencz, 2019^[7]). Within this framework, certain policies could hinder the ability of DIPs to scale and operate efficiently across jurisdictions. For instance, limitations on the use of communication services, regulations on cross-border data flows, or divergences from international payment security standards may increase operational complexity. Similarly, opaque licensing conditions or the absence of effective mechanisms for dispute resolution could discourage new entrants and reduce the ease of cross-border digital service delivery. In contrast, greater openness, such as in the case of open banking (Box 1), can boost trade in digitally enabled services.

Box 1. Open banking reforms under the EU PSD2

The revised EU Payment Services Directive (PSD2), adopted in 2015 and implemented in 2018, introduced a framework for open banking across EU member states. It requires banks to provide secure access to customer payment accounts through standardised application programming interfaces (APIs), enabling authorised third-party providers to initiate payments or aggregate account information.

The directive also introduced strong customer authentication requirements and clarified rules for new categories of providers such as account information service providers (AISPs) and payment initiation service providers (PISPs). By mandating access on a non-discriminatory basis, PSD2 has supported the growth of fintech providers and expanded consumer choice in payments.

National initiatives, such as the UK Open Banking programme, have operationalised PSD2 by creating common technical standards and governance arrangements. This has enabled new products such as account-to-account payments and recurring payment solutions, thus supporting greater competition in retail financial services.

Open banking reforms reduce transaction costs for DIPs, improve interoperability across payment systems, and strengthen consumer trust through enhanced security standards. They also support cross-border market openness when combined with harmonised regulatory approaches.

Sources: (European Commission, 2015^[8]; Open Banking Limited, 2025^[9]).

In fact, many regulatory measures to digitally enabled trade in services may disproportionately affect foreign providers. Requirements for local data storage, restrictions on online advertising, or obligations to establish a local presence to offer cross-border digital services can hamper entry for foreign-based providers, including DIPs that rely heavily on seamless data flows and remote service delivery. In addition, discriminatory forced, or coerced licensing conditions that are neither voluntary nor on mutually agreed terms, or, unequal, ineffective, unpredictable, protection and enforcement of IPR may further complicate access to new markets. These types of restrictions could not only influence whether and how foreign platforms enter a given market but also shape the broader pattern of DIP diffusion across countries.

As digital trade continues to expand, policy and regulatory discussions have gained momentum – at the multilateral level through the WTO Joint Initiative on E-commerce, in regional and digital economy agreements, and through domestic reforms (López González, Sorescu and Kaynak, 2023^[10]). A prominent example of recent efforts to promote coherent digital trade rules is the Digital Economy Partnership Agreement (DEPA), presented below.

Box 2. The DEPA: Advancing digital trade integration through innovative frameworks

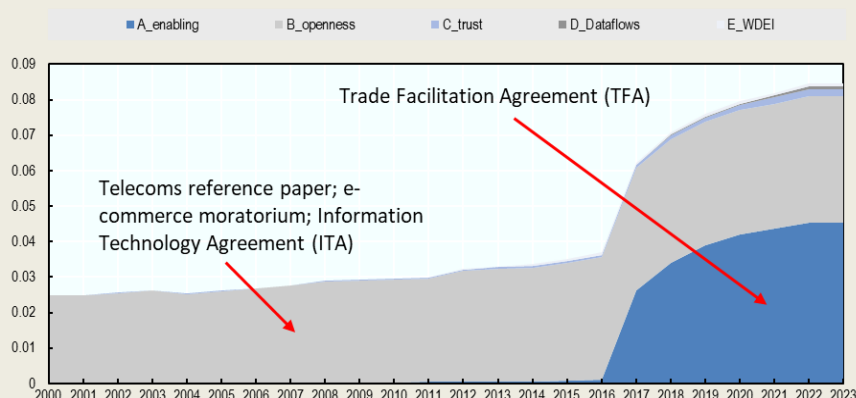
The DEPA – concluded between Chile, New Zealand, and Singapore in 2020 – is a pioneering, "digital-only" trade agreement designed to reduce regulatory fragmentation and establish coherent, high-standard rules for the digital economy. Its flexible, modular framework facilitates digital trade, particularly for SMEs and third-party market access, by enabling cross-border data flows while safeguarding legitimate public policy objectives such as consumer and personal data protection.

To lower trade frictions, DEPA promotes paperless trading, guarantees non-discriminatory treatment of digital products, and upholds the prohibition of customs duties on electronic transmissions. For the financial sector, it fosters the safety, efficiency, and interoperability of e-payment systems, encouraging regulatory collaboration on FinTech. By addressing these areas comprehensively, DEPA enhances the predictability required by DIPs to enter new markets and scale across borders.

The DEPA's high-standard, modular approach underscores the complexity of measuring digital trade openness. The OECD Index of Digital Trade Integration and Openness – trade component (INDIGO-t) provides a comprehensive measure of countries' commitments in binding trade agreements such as the DEPA. While progress continues, Figure 1 shows that global digital trade integration remains limited: the world economy is only about 8.5% of the way toward full integration and openness.

Figure 1. Global digital trade integration and openness has progressed but remains limited

OECD INDIGO-t, by type of trade agreement, 2000-2024



Notes: The figure shows the unweighted average INDIGO-t across all countries. On average, digital trade chapters in RTAs represent 10% of existing digital trade integration and openness.

Source: (OECD, 2025^[11]).

Sources: (New Zealand Foreign Affairs & Trade, 2025^[12]; OECD, 2025^[13]; OECD, 2025^[11]).

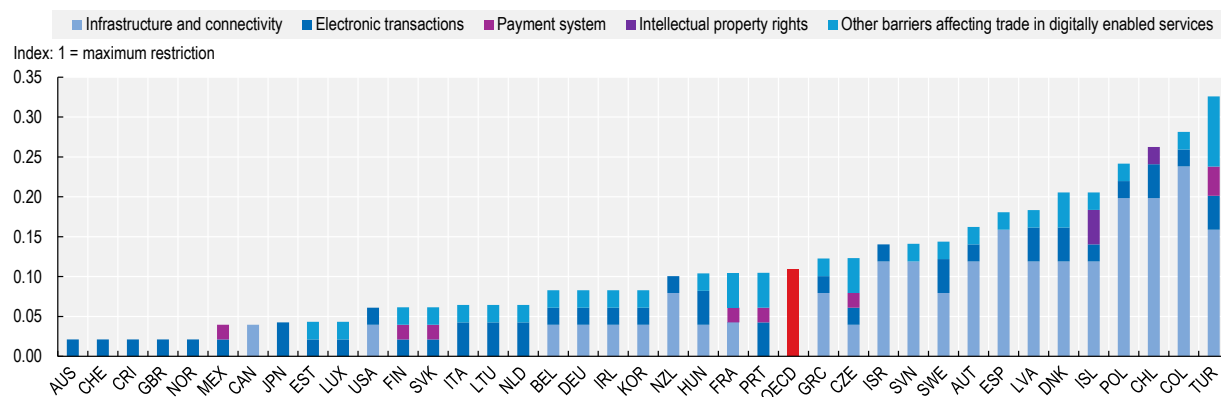
Yet, despite progress in certain areas, evidence from the DSTRI points that overall regulatory restrictiveness has increased. In particular, regulatory measures on infrastructure and connectivity – such as data localisation requirements and network security measures – have become more prominent. As shown by López González, Sorescu and Kaynak (2023^[10]), the average score for this policy area rose between 2015 and 2017 and has remained relatively stable since, standing at 0.058 in 2025 compared to 0.046 in 2014 across the OECD.¹

While infrastructure-related measures have driven much of the overall increase, all five DSTRI policy areas still show non-zero levels of restrictiveness. Restrictions on electronic transactions and payment systems have remained relatively stable over the past decade, with average scores of about 0.026 and 0.004, respectively, while some OECD Member countries continue to apply IPR-related measures. By contrast, “other barriers affecting trade in digitally enabled services” – including local presence requirements, licensing obligations, and advertising restrictions – have risen steadily, with their average score quadrupling between 2014 and 2024 (López González, Sorescu and Kaynak, 2023^[10]). This points to a growing tendency to regulate the delivery of digital services beyond infrastructure or transaction-based measures.

The 2025 snapshot in Figure 2 highlights the uneven distribution of these regulatory measures across countries. While Australia, Canada and Switzerland have maintained minimal or zero measures, most OECD Members continue to enforce a mix of measures across different policy areas. The infrastructure and connectivity dimension remains the most restrictive area overall, particularly in countries such as Chile, Colombia and Poland. Regulatory measures related to electronic transactions and other service-related measures are also common, even in relatively open digital markets. All five dimensions of the index record non-zero scores across countries, highlighting that regulatory measures to digitally enabled services trade persist globally, and that full liberalisation has yet to be achieved in any policy area (OECD, 2026^[14]).

Figure 2. Measures significantly affecting digitally enabled services trade persist in most countries

DSTRI scores by type, OECD countries, 2025



Notes: The figure presents the DSTRI scores across OECD Member countries for each policy area. Higher scores indicate greater restrictiveness. The index captures regulatory measures in five key dimensions affecting digitally enabled services trade: electronic transactions, infrastructure and connectivity, intellectual property rights, payment systems, and other measures affecting digitally enabled services. The DSTRI does not reflect changes in enforcement practices or evolving approaches in some jurisdictions to the application of competition, tax, or content moderation rules, including the levy of financial penalties.

Source: (OECD, 2026^[15]), "OECD Digital Services Trade Restrictiveness Index," *OECD Going Digital Toolkit*, based on the OECD Digital Services Trade Restrictiveness Index, <https://goingdigital.oecd.org/indicator/73> (accessed on 23 January 2026).

Measuring the reach of DIPs and the role of foreign providers

Measuring the activity of DIPs remains one of the most challenging aspects of quantifying digital trade. As highlighted in the *Handbook on Measuring Digital Trade* (IMF et al., 2023^[1]), international guidance on the compilation of statistics relating to DIPs remains at an exploratory stage. Past efforts to identify and classify DIPs – particularly those operating across borders – have often relied on manual data collection and classification methods due to the absence of a standard definition. While much of the early work has focused on peer-to-peer platforms and has not systematically addressed the international trade dimension, it provided valuable methodological insights and laid the groundwork for more structured, internationally comparable approaches.

Recent work by national statistical offices and international organisations is helping to close this gap. The U.S. Bureau of Economic Analysis (BEA), for instance, has produced experimental estimates of digital intermediary services as part of its Digital Economy Satellite Account, covering sectors such as ridesharing, travel, and food delivery (Highfill and Quistorff, 2023^[16]). These estimates, which span activities not easily classified under existing industry categories, suggest that digital intermediation in these three sectors alone accounted for at least USD 31 billion in gross output in 2021. UNCTAD (2024^[17]) has also contributed to understanding the scale of DIP activity by analysing gross merchandise value and transaction value as reported by platforms in financial statements and filings. However, differences in reporting practices and data availability continue to constrain international comparability.

Building on these, this paper applies and extends the methodology developed by Costa et al. (2021^[5]) to construct indicators of DIP uptake and diffusion across OECD Member countries. The analysis focuses on three key consumer-facing sectors: Travel and accommodation booking; ride-hailing and carpooling; and X2C online marketplaces – using monthly website traffic (unique visits across devices and cleaned for known bot and automated traffic (Semrush, 2026^[18])) as a harmonised, scalable proxy for platform reach. While not a direct measure of transactions, revenue or market share – and subject to caveats such as seasonal tourism or network centrality resulting from the jurisdiction of major online platform headquarters – this traffic-based indicator effectively captures relative digital presence and enables cross-country, cross-sector, and time-series comparisons.²

The resulting dataset covers around 860 digital intermediary platforms (DIPs) operating across travel and accommodation booking, ride-hailing and carpooling, and X2C online marketplaces (see Annex A for more details). This includes both “pure” DIPs, which solely facilitate transactions between buyers and sellers, and “hybrid” DIPs, which combine intermediation with direct retail activity (IMF et al., 2023^[1]). This distinction is particularly relevant for X2C marketplaces, where hybrid platforms tend to invest more in physical infrastructure (e.g. logistics, warehousing) and face greater exposure to local regulations, while pure intermediaries can scale more readily across borders through digital-only operations.

These structural differences shape how digital trade policies affect platforms. Some measures may disproportionately restrict entry or operation for pure DIPs that rely on cross-border digital delivery, while others may encourage hybridisation as firms adapt their market access strategies. Understanding the origin of DIPs is therefore critical to analysing the interaction between digital trade policy and platform

activity. Restrictions often affect foreign service providers more than domestic ones, making it essential to distinguish between foreign and domestic DIPs. In this paper, platform origin is identified based on the location of the parent company or global headquarters, using public data from sources such as Crunchbase and Pitchbook. Although this approach does not capture complex ownership structures, it provides a transparent, scalable, and replicable classification suited to large-scale comparative analysis.³

On this basis, three novel indicators are constructed for each country, sector, platform type, and time: total website traffic from foreign-headquartered DIPs (or “foreign traffic”); total traffic from domestic-headquartered DIPs (or “domestic traffic”), and the share of total traffic attributable to foreign headquartered platforms (or “share of foreign traffic”). Together, these indicators provide new insights into the reach of foreign platforms across markets and sectors, helping assess how regulatory environments and market structures shape digital intermediation.

DIPs are expanding, but along very different paths across sectors

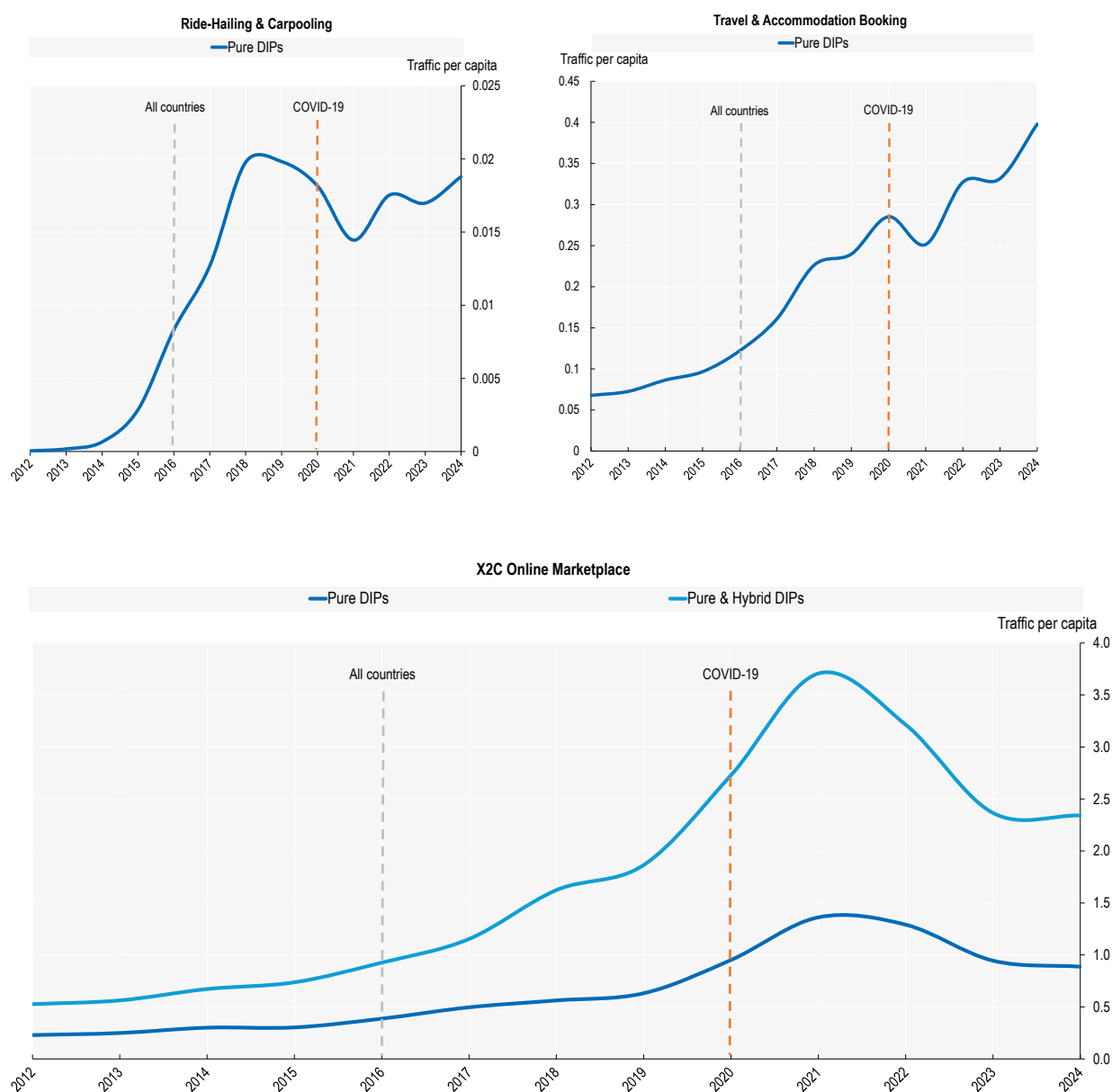
The uptake of DIPs has grown markedly in recent years, fundamentally transforming how goods and services are accessed and consumed. This expansion is reflected in a notable increase in traffic per capita across all three sectors examined, underscoring a broader societal shift towards digital intermediation. However, this growth has been uneven, shaped by sector-specific dynamics and external shocks, notably the COVID-19 pandemic, which have influenced platform uptake trajectories over time.

Figure 3 illustrates these sectoral trends in DIPs traffic per capita over the past decade, highlighting the differential impacts of the pandemic on platform usage. The travel and accommodation sector saw a sharp decline in traffic during 2020, coinciding with global lockdowns, followed by a gradual recovery, with usage returning to pre-pandemic levels by 2023. Similarly, ride-hailing and carpooling experienced a steep pandemic-induced downturn; while some recovery has been observed, traffic levels in 2024 remain below those seen in 2019. In contrast, X2C online marketplaces – particularly those with hybrid business models such as Amazon – witnessed a pronounced pandemic surge in activity, peaking around 2022 before stabilising closer to pre-pandemic levels by late 2023.

The observed patterns around the COVID-19 period for travel and accommodation as well as ride-hailing align with broader economic evidence. For example, growth estimates for related sectors such as rideshare services and travel services from the U.S. BEA corroborate the pandemic's significant impact on these industries (Highfill and Quistorff, 2023^[16]). This suggests that web traffic can serve as a reasonable proxy for consumer uptake and may provide insights into the overall evolution of digital intermediation markets. It is important to note that traffic does not necessarily reflect where value is being created. Indeed, in many instances, like accommodation or ride-sharing, DIPs point towards domestic suppliers generating important domestic value added.

Figure 3. DIPs uptake has expanded rapidly with marked differences across sectors

Traffic per capita, OECD average, by sector and type, 2012-2024



Notes: The dark blue line depicts the evolution of traffic per capita across all countries for pure DIPs, while the light blue line represents hybrid DIPs. The grey dotted vertical line indicates that data before January 2016 covers 23 countries for which information is available throughout the entire period; from January 2016, the sample includes all 38 countries. The vertical orange dotted line marks the approximate start of the COVID-19 pandemic and initial lockdowns or restrictions affecting the movement of people implemented in many countries in early 2020.

Sources: Author's elaboration based on data from Semrush and Crunchbase.

The rapid growth of DIPs across sectors has not only transformed consumer engagement but also reshaped market structures. These shifts raise important questions about competition and concentration among leading platforms, explored further in Box 3.

Box 3. How competitive are digital intermediation markets?

Digital intermediation markets have expanded rapidly, but the extent to which activity is concentrated among a few dominant players varies across sectors. Analysing market concentration using the Herfindahl–Hirschman Index (HHI) (Rhoades, 1993^[19]) helps assess market power, competition resilience, and whether observed shifts in platform usage reflect structural change rather than temporary fluctuations. Balanced-panel HHIs, which include only platforms continuously active from 2014 to 2024, provide reassurance that observed trends reflect structural shifts in market power rather than transient entry or exit (Figure 4).*

In ride-hailing and carpooling, the median HHI across the OECD approaching 1.0 in 2014. Since then, competition has intensified steadily, lowering median HHI to around 0.51 by 2024, with balanced-panel HHI following a similar trajectory (0.40). This decline illustrates meaningful structural competition among the largest platforms rather than fluctuations caused by smaller, short-lived entrants.

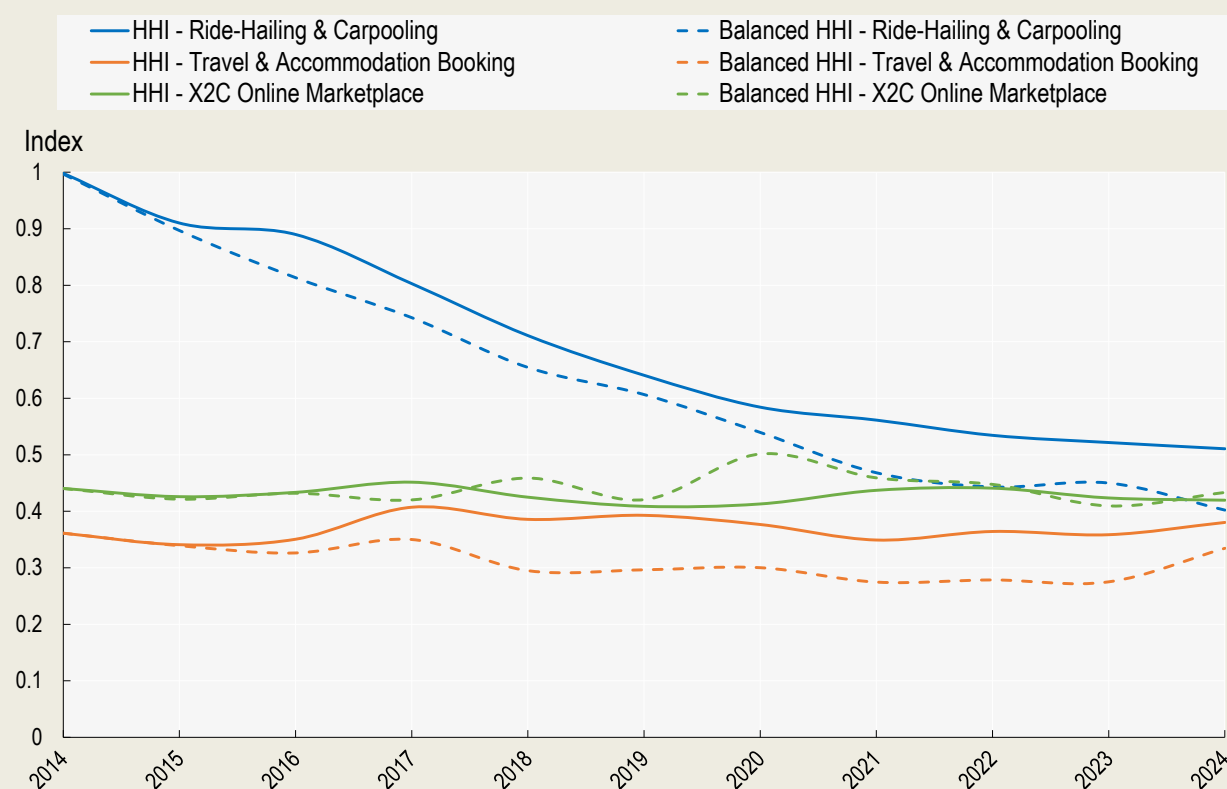
By contrast, travel and accommodation booking remains more fragmented. Multiple global platforms, including Airbnb, Booking.com, and Expedia, operate alongside numerous local intermediaries. Median HHI is relatively stable at approximately 0.36, with balanced-panel HHI closely aligned (0.33), indicating a competitive market where no single platform exerts dominant monopoly power.

X2C online marketplaces exhibit moderate concentration. A small number of global platforms, such as Amazon and eBay, retain substantial shares. Median HHI has declined modestly from 0.44 in 2014 to 0.42 in 2024, with balanced-panel HHI showing a similar pattern (0.43). These figures suggest that competitive pressures on the largest platforms remain limited, while smaller entrants contribute little to changes in overall market structure.

Note: * Please see Annex Table A.D.1. for a list of countries included in the analysis.

Figure 4. Ride-hailing markets have become more competitive, while travel and accommodation booking and X2C marketplaces remain more concentrated

Median HHI and balanced-panel HHI for DIPs across sectors, 2014-2024



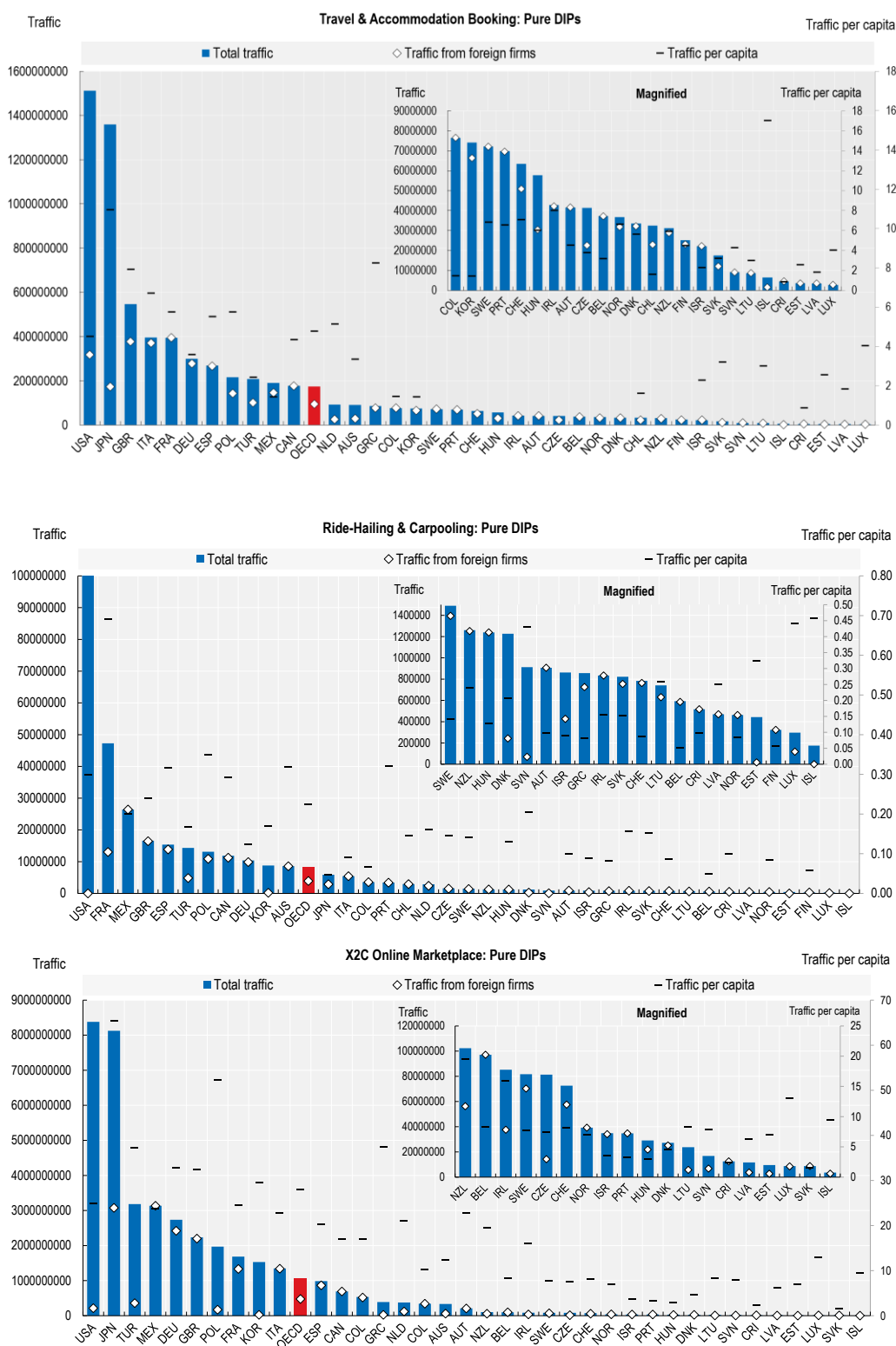
Notes: HHI refers to the Herfindahl–Hirschman Index calculated from platform traffic shares. Balanced-panel HHI includes only platforms continuously active throughout the period.

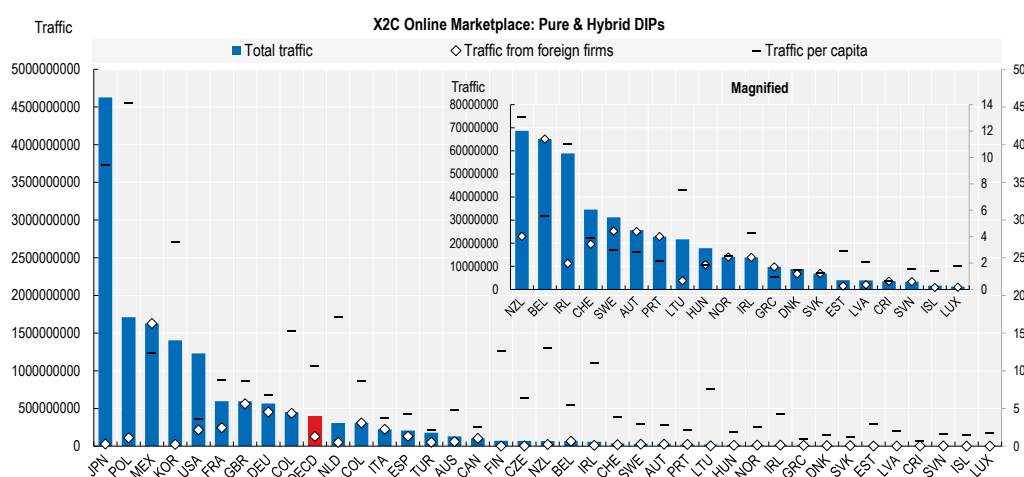
Sources: Author's elaboration based on data from Semrush and Crunchbase.

Cross-country patterns in the presence of foreign-headquartered DIPs in 2024 reveal considerable heterogeneity across sectors and countries. As shown in Figure 5, the penetration of foreign platforms into domestic markets varies not only by country but also by sector, reflecting differences in market structure, platform business models, and consumer behaviour (Costa et al., 2021^[4]). This cross-sectoral perspective highlights that while DIPs have achieved broad global reach, their geographic footprints remain uneven – some national markets are dominated by foreign providers, while others continue to be served primarily by domestic platforms. These patterns are in part shaped by the presence of a few dominant global DIPs that operate in multiple countries, rather than by evenly distributed foreign competition across all markets.

Figure 5. Foreign platform penetration varies widely across sectors and countries

Total traffic, traffic from foreign-headquartered firms, and traffic per capita, by sector and type, 2024





Notes: "Traffic" refers to the number of unique visits to each platform, measured by country, sector, DIP type (pure or pure & hybrid), and headquarter origin (domestic or foreign). Traffic per capita for each country is calculated as total annual traffic in 2024 divided by the annual population in 2024, while the OECD value is a population-weighted average across all OECD countries. The data reflect relative platform usage across countries and sectors in 2024 and are intended as a proxy for the uptake and diffusion of DIPs.

Sources: Author's elaboration based on data from Semrush, Crunchbase and (OECD, 2026^[20]).

The travel and accommodation booking sector exhibits a diverse pattern of foreign platform penetration across countries. In 2024, platform diffusion in Canada, Colombia, France and Greece is largely attributable to foreign-headquartered firms, reflecting the global reach of major intermediaries such as Booking.com, Expedia, and Airbnb.⁴ Sweden and the United Kingdom similarly report substantial foreign platform traffic, underscoring the competitive nature and openness of these markets to cross-border DIPs. By contrast, Japan and the Netherlands show relatively lower foreign traffic shares, indicating the continued importance of domestic platforms or more limited foreign penetration in these markets. The average share of foreign platform traffic across the OECD in this sector stands at around 54%, reflecting the strong presence of global intermediaries.

In the ride-hailing and carpooling sector, foreign platforms have a pronounced presence in many countries, often accounting for most of the traffic. Austria, Belgium, Italy and Mexico exemplify markets where foreign-headquartered firms dominate, capturing virtually all platform traffic in 2024. High foreign penetration is also observed in Canada, Colombia and Portugal. By contrast, the United States represents a significant outlier, exhibiting virtually no traffic from foreign firms, likely shaped by early market entry, strong network effects, and high concentration in the domestic ride-hailing market. Japan shows a moderate foreign presence, with foreign platforms accounting for roughly half of platform traffic, while Korea reports low foreign penetration, underscoring the strength of domestic DIPs or fragmented markets in certain regions. The OECD average stands at around 46% of total ride-hailing and carpooling traffic coming from foreign platforms, indicating widespread foreign presence across countries.⁵

The X2C online marketplace sector displays complex dynamics with foreign platforms playing a pivotal role in many countries, especially in highly digitalised economies. In France, Germany and in the United Kingdom, foreign platforms account for a substantial majority of marketplace traffic in 2024, supported by global giants like Amazon and eBay. This dominance is consistent across both pure and hybrid DIPs, underscoring the strong position of foreign intermediaries. Colombia and Mexico also show nearly complete foreign platform traffic, reflecting strong international market presence. By contrast, Japan and Korea stand out as notable exceptions where foreign penetration remains relatively low, even when considering hybrid platforms, pointing to strong domestic ecosystems that continue to shape consumer behaviour and market structure. Across the OECD, foreign DIPs represent roughly 33% of traffic when considering only pure DIPs, and 45% when hybrid models are included, indicating a substantial, though somewhat more limited, foreign presence compared to other sectors.

Unpacking the relationship between restrictions to digitally enabled services trade and DIPs' diffusion

This section presents the findings of a cross-country panel analysis examining the association between regulatory measures to digitally enabled services trade – captured through the five policy areas of the DSTRI – and the diffusion of DIPs across three key sectors.⁶ Covering OECD Member countries from 2010 to 2024, the analysis assesses both the overall presence of platforms and the footprint of foreign firms by analysing total traffic, foreign firm traffic,⁷ and the foreign share of traffic.

Regulatory measures affecting digitally enabled services trade may influence DIPs diffusion by shaping the costs and complexity of operating across borders. Requirements related to cross-border data flows, payment systems, licensing, or local presence can increase compliance burdens and affect market entry decisions, particularly for foreign providers (Ferracane and van der Marel, 2020^[21]). Conversely, more open and interoperable regulatory frameworks can facilitate platform expansion by lowering operational frictions and enabling platforms to scale across markets.

To facilitate interpretation, the results are illustrated with bar plots showing marginal associations derived from regression estimates. The values in these charts represent estimated coefficients from a log-linear regression model, which are not directly interpretable as percentage changes. To provide a meaningful benchmark, a 0.01-point change in the policy score – reflecting a small domestic regulatory reform – is used to translate the coefficients into percentage changes.⁸ Further methodological details, the analytical framework, and full results can be found in Annex A and Annex C respectively.

Before detailing the key findings, it is important to highlight that the results should be interpreted as correlations, rather than causal relationships. The link between regulation and platform expansion is inherently complex. Many platforms operate across multiple sectors and evolve their business models to navigate or adapt to regulatory frameworks originally designed for traditional services (Calvino, Criscuolo and Menon, 2016^[22]). In some cases, regulation itself may be reactive – introduced in response to platform growth – raising the risk of reverse causality (Costa et al., 2021^[5]).⁹ While the following discussion focuses exclusively on observed statistical associations, further explanation of sector-specific dynamics, platform heterogeneity, and other mechanisms influencing digital platform diffusion is provided in endnote 9.

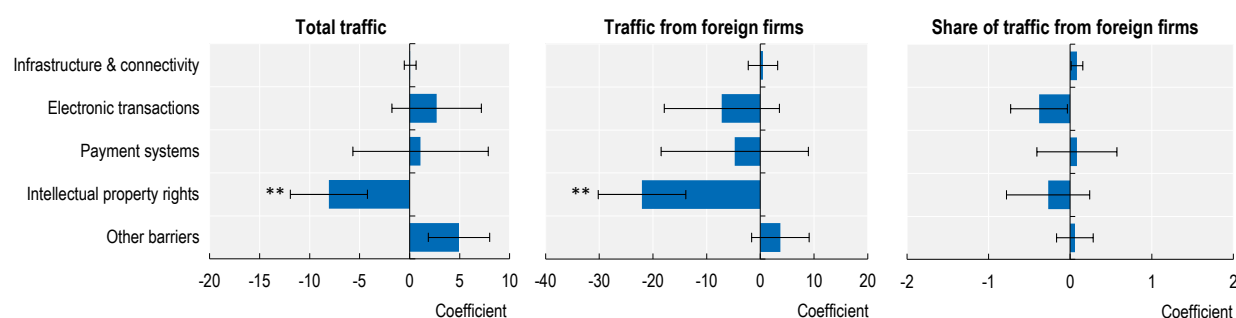
Furthermore, while the DSTRI provides valuable cross-country insights into regulatory measures of digitally enabled services trade, it does not capture sector-specific regulatory nuances relevant to the platforms studied.¹⁰ Similarly, while web traffic is a useful proxy for platform diffusion, it does not account for all dimensions of platform activity. In addition, the country-level indicators constructed for this analysis also cannot fully reflect the diversity of platform characteristics and business models, which influence how firms respond to different regulatory environments.

The results indicate that a 0.01-point decrease in restrictions on IPR protection and enforcement is associated with an 8% increase in overall DIP diffusion in the **travel and accommodation booking sector**

(Figure 6). The effect is even more pronounced for foreign-headquartered firms, where such a moderate regulatory reform corresponds to nearly a 25% increase in platform traffic, all else being equal.

Figure 6. Greater restrictions on IPR protection and enforcement are associated with lower platform diffusion in the travel and accommodation sector

Coefficients of association between DSTRI policy areas and DIP diffusion indicators, 2014-2024



Note: Please refer to endnote.¹¹

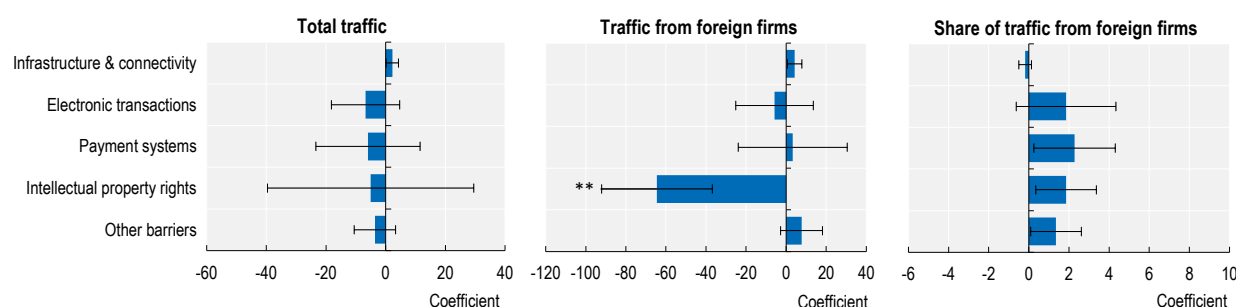
Sources: Author's elaboration based on data from Semrush and Crunchbase.

These findings suggest that strong, non-discriminatory IPR enforcement can strongly support DIPs diffusion. A predictable IPR regime not only protects intangible assets but also reduces legal uncertainty, facilitating the expansion of foreign digital platforms. This is particularly relevant in the travel and tourism sector, where competitive advantage depends on brand recognition, user-generated content, and proprietary booking algorithms.

Similarly, the diffusion of DIPs is especially sensitive to restrictions on IPR protection and enforcement within the **ride-hailing and carpooling sector** (Figure 7). The impact of IPR-related regulatory measures on foreign platforms is even more striking in this sector where a moderate policy reform would be associated with a 90% increase in traffic for foreign-headquartered ride-hailing and carpooling platforms. Given their reliance on proprietary software, real-time algorithms, and consumer data, this finding underscores the importance of a predictable IPR protection and enforcement environment for enabling cross-border platform activity and growth.

Figure 7. Restrictions on IPR protection and enforcement are associated with lower platform diffusion in the ride-hailing and carpooling sector

Coefficients of association between DSTRI policy areas and DIP diffusion indicators, 2014-2024



Notes: Please refer to endnote.¹¹

Sources: Author's elaboration based on data from Semrush and Crunchbase.

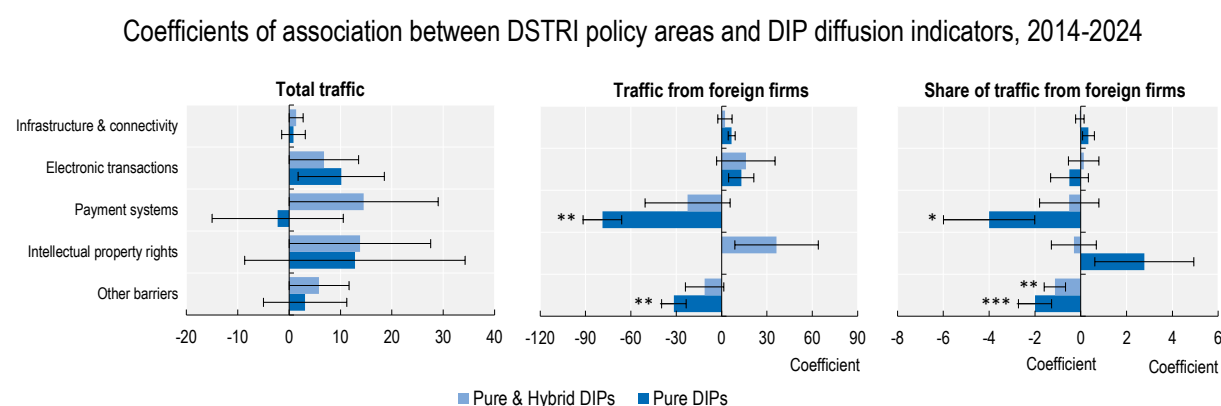
Figure 8 shows that in the **X2C online marketplace sector** restrictions to payment systems emerge as a key barrier for foreign pure DIPs (e.g., eBay). A moderate policy reform that reduces payment restrictions by 0.01 is associated with a 200% increase in traffic to these platforms, all else being equal. The foreign share of traffic also increases by 4%, implying that such restrictions hinder both market presence and competition.

These findings highlight the key role of secure, interoperable payment systems in facilitating cross-border X2C online marketplace activity. Restrictions such as inconsistent security requirements or regulatory measures to non-resident payment processing impede the scalability of foreign platforms and their ability to provide seamless payment solutions.

Broader restrictions to trade in digitally enabled services – such as local presence requirements, limits on digital advertising, and anti-competitive practices – are also associated with reduced traffic and market share for foreign platforms. A reduction of 0.01 points would lead to a 37% increase in traffic from foreign firms and a rise in their market share ranging from 1% for pure and hybrid DIPs to 2% for strictly pure DIPs. Notably, these restrictions seem to have a much stronger effect on pure DIPs than on hybrid ones.

This divergence may reflect structural differences in business models discussed earlier. Pure DIPs typically scale through digital-only channels and avoid heavy physical infrastructure, making them more exposed to local presence rules. Hybrid platforms, in contrast, often invest in local warehouses or logistics networks, enabling greater compliance with domestic regulations. Consequently, stringent local presence requirements can represent a higher hurdle for foreign pure DIPs, potentially forcing localisation or market exit.

Figure 8. Regulatory measures to payment systems and broader requirements are linked with lower penetration of foreign X2C online marketplaces



Notes: Please refer to endnote.¹¹

Sources: Author's elaboration based on data from Semrush and Crunchbase.

Overall, while the type and level of regulatory measures to trade in digitally enabled services vary, the analysis reveals consistent and statistically significant effects on platform participation. Taken together, these restrictions can raise entry costs, dampen competition, and limit the availability and diversity of digital services for consumers. While the analysis identifies statistical associations between DSTRI components and the diffusion of DIPs, unpacking the precise causal mechanisms remains beyond the scope of this paper. Future research could explore these dynamics using quasi-experimental or instrumental-variable approaches to better identify how specific regulatory shocks affect cross-border platform penetration and market contestability.

Towards a more open and trusted digital trade environment

DIPs are playing an increasingly important role in the global economy, acting as facilitators of more efficient and competitive markets. By expanding access to goods and services, lowering transaction costs, and enabling the participation of MSMEs in domestic and cross-border trade, DIPs contribute meaningfully to broader digital transformation and productivity growth (Costa et al., 2021^[4]).

This paper provides new insights into the global footprint and evolution of DIPs by building a comprehensive cross-country database of their diffusion across three key consumer-facing sectors. It highlights not only the scale and scope of platform uptake over the past year but also the degree of foreign presence in each country and sector. These findings offer a valuable evidence base for assessing how regulatory environments could shape the availability, diversity and origin of online platform services.

The analysis suggests that restrictions to digitally enabled services trade significantly influence the diffusion of DIPs. Complementary evidence from López González, Sorescu and Kaynak (2023^[10]) indicates that even modest easing of those restrictions can stimulate substantial growth in exports, particularly in digitally deliverable services. While cross-border data flows and data localisation remain central concerns, persistent regulatory measures – such as restrictions on payment systems, local presence requirements, and IPR constraints – continue to affect platform uptake and competitiveness.

While online platforms can empower MSMEs, expand market access, and support more dynamic service delivery, they also raise policy challenges. The ability to achieve economies of scope, characteristic of many platforms, can lead to market concentration and winner-takes-most dynamics. This is especially evident in ride-hailing and carpooling, where a small number of firms dominate in many countries.

Promoting openness in digital markets must also carefully balance the need for a trusted, transparent, and predictable regulatory and policy environment as well as their alignment with technical capabilities to enforce them. The core challenge for governments lies in enabling the flow of (or access) to data across borders while ensuring protection and oversight. This is the foundation of the DFFT agenda, which aims to combine economic openness with safeguards that preserve public trust (OECD, 2022^[23]; OECD, 2022^[24]). Evidence suggests that both excessive restrictions and a lack of governance can result in significant economic and social costs, while balanced approaches like Data Free Flow with Trust (DFFT) can deliver substantial gains, especially for developing economies (OECD/WTO, 2025^[25]).

Ultimately, fostering an economy that enables digital intermediation while managing its risks will be critical to harness the benefits of market openness. This includes reducing unnecessary regulatory frictions and ensuring high standards of transparency, trust, and consumer protection. As concerns about risks from technology solutions from untrusted vendors grow, supply chain risk management that incorporates guidance and other tools is also important to identify, assess and mitigate risks related to untrusted vendors. This applies to the incorporation of new technologies in business operations, as well as to technologies already in place that may contain security vulnerabilities. Continued multilateral co-operation will also be vital to building a more open, trusted, and inclusive digital ecosystem.

Annex A. Data and empirical specification

Data overview

The analysis draws on a dataset of around 860 digital intermediary platforms (DIPs) operating across three consumer-facing sectors: travel and accommodation booking, ride-hailing and carpooling, and X2C online marketplaces. Platforms are classified as “pure” DIPs, which act solely as intermediaries facilitating transactions for a fee, or “hybrid” DIPs, which combine intermediation with direct retail activity (IMF et al., 2023^[1]). Platform identification and screening were conducted in accordance with the definitional framework set out in the *Handbook on Measuring Digital Trade*, which characterises DIPs by their role in enabling transactions between multiple distinct parties via an online interface. Platforms were systematically identified using public databases (Crunchbase, Pitchbook) and cross-checked with company websites, focusing on platforms with measurable web presence between 2014 and 2024. The sample retains platforms throughout their full period of activity, including those that entered or exited the market, ceased operations, or were subject to mergers and acquisitions during the studied period, to capture platform entry and exit dynamics over time. Platform origin is assigned based on the ownership structure under which the platform operated for the greatest amount of time during the period covered. Table 1.A.1 presents a detailed breakdown of the number and type of platforms by sector, distinguishing between those with a presence in multiple countries and those operating in one or a few countries.

Table A A.1. Number and type of DIPs by sector and area of activity, 2014-2024

Area of activity	Main sectors affected (ISIC Rev. 4)	DIP type	Number of platforms	Examples	
				Present in many countries	Present in one or a few countries
Travel & Accommodation Booking	Travel agency, tour operator, reservation service and related activities (N79) Accommodation (I55) Air transport (H51)	Pure	337	airbnb.com, booking.com, expedia.com, agoda.com	stayz.com.au, szallas.hu, travel.rakuten.co.jp
Ride-Hailing & Carpooling	Land transport and transport via pipelines (H49)	Pure	191	uber.com, bolt.eu, free-now.com, blablacar.com	didiglobal.com, gett.com, liftago.cz, gomore.dk
X2C Online Marketplace	Retail trade (G47)	Pure	256	ebay.com, aliexpress.com, etsy.com, vinted.com, temu.com	onbuy.com, mydeal.com.au, joom.com
		Hybrid	75	amazon.com	kogan.com, linio.falabella.com, bol.com, coupang.com
Total			859		

Notes: Pure DIPs act solely as intermediaries, facilitating transactions between buyers and sellers without taking economic ownership of goods or services. Hybrid DIPs combine this role with direct retail operations. Data reflect platforms’ operational presence across OECD Member countries between 2014 and 2024.

Sources: Author’s elaboration based on data from Crunchbase.

Empirical specification

To examine how regulatory environments shape the uptake and diffusion of DIPs, the analysis builds on the framework developed by Costa et al. (2021^[5]) and is adapted to a sector-specific context. Regressions are estimated at the country-sector-year level using a log-linear panel model, in which the dependent variable – expressed in natural logarithms – captures platform traffic as a proxy for diffusion. Three traffic metrics are used: total traffic, traffic from foreign firms, and the share of traffic from foreign firms, providing a comprehensive view of both the scale and international dimension of platform use.

$$\ln(Traffic)_{c,s,t} = \beta_0 + \beta_1 Characteristics_{c,t} + \beta_2 Policy_{c,t} + \theta_t + \epsilon_{c,s,t} \quad (1)$$

Where $\ln(Traffic)_{c,s,t}$ denotes the natural logarithm of a given traffic metric in country c , sector s , and year t . The vector $Characteristics_{c,t}$ includes structural country-level factors that may influence DIP uptake – namely, GDP per capita (log-transformed), total population (log-transformed), self-employment rates, fixed broadband subscriptions per 100 inhabitants, and the Network Readiness Index (NRI). These controls are included in all regressions to isolate the specific effect of policy environments on platform diffusion.

The variable $Policy_{c,t}$ captures the regulatory environment affecting digital services. The focus is on the DSTRI, introduced one component at a time to mitigate multicollinearity among highly correlated measures. Both the overall DSTRI score and its sub-components – covering infrastructure restrictions, electronic transactions, payment systems, intellectual property rights, and other relevant policy areas – are examined. For broader context, two additional structural indicators are also included in separate regressions: the overall OECD Product Market Regulation (PMR) indicator (OECD, 2025^[26]) and World Bank's indicator on the cost of enforcing contracts (World Bank, 2025^[27]).

The estimation proceeds in two steps for each combination of dependent variable and DIP type. First, a baseline regression is run with only structural characteristics and year fixed effects. Second, policy indicators are added individually to this baseline to assess their association with DIP diffusion, while controlling for structural characteristics to online platform diffusion (Costa et al., 2021^[5]). Country fixed effects are not included in the main specification, as many of the explanatory variables – particularly the regulatory indicators – exhibit limited within-country variation over time. Year fixed effects are included to control for common shocks and global trends (e.g., COVID-19). Robust standard errors are clustered at the country level to account for potential serial correlation within countries over time. The regressions are estimated using data from 2014 to 2024, corresponding to the availability of DSTRI data to date.

Annex B. Regression analysis: Country structural characteristics

The regression results presented above broadly align with the findings from Costa et al., (2021^[5]) for online platforms across the total economy. In both cases, structural factors such as income levels and population size consistently emerge as strong predictors of platform diffusion, with higher GDP per capita and larger populations associated with greater platform traffic across sectors. This supports the idea that demand-side market characteristics play a fundamental role in shaping the uptake of digital platforms. The influence of broadband infrastructure and skills readiness appears more nuanced, showing significance only in certain models and sectors. Moreover, the negative association between domestic and foreign platform traffic in Table 1.B.2 echoes the findings from Costa et al., (2021^[5]) on competitive crowding effects, reinforcing the notion that strong local platform presence can constrain foreign platform diffusion, especially when competition is intense.

Table A B.1. DIPs diffusion and structural characteristics: Total traffic

By sector, 2014-2024

		Log of Total Traffic			
Sector		Travel & Accommodation Booking	Ride-Hailing & Carpooling	X2C Online Marketplace	
DIP type		Pure	Pure	Pure	Pure & Hybrid
Income per capita	Log of GDP per capita (2015 USD PPP)	1.0168*** (0.3112)	0.8672 (0.6229)	0.4683 (0.5751)	1.4190*** (0.3116)
Demographics	Log of total population (millions)	1.1495*** (0.0560)	1.2162*** (0.1329)	1.3114*** (0.1088)	1.4308*** (0.0735)
Level of entrepreneurship	Share of self-employed (% total employment)	-0.0138 (0.0178)	-0.0320 (0.0252)	0.0278 (0.0204)	0.0177 (0.0187)
Infrastructure availability/use	Fixed broadband subscriptions (per 100 inhabitants)	0.0186 (0.0132)	0.0071 (0.0312)	-0.0310 (0.0244)	-0.0120 (0.0210)
Ability to leverage ICT technologies	Skills readiness (Index)	-0.0205 (0.0167)	-0.0537* (0.0301)	0.0491* (0.0247)	-0.0041 (0.0266)
	Time fixed effects (year)	Yes	Yes	Yes	Yes
	Intercept	-12.6737*** (3.1918)	-15.6190** (6.2282)	-12.4786** (6.0600)	-20.9202*** (3.7611)
	Observations	346	346	346	346
	R-squared	0.8873	0.7692	0.8180	0.8840
	Highest VIF value	3.1730	3.1730	3.1730	3.5907

Notes: Dependent variables are the log of total traffic per country year and sector. Log of GDP per capita (OECD ind.) is expressed in 2015 USD PPP; log of population in millions (World Bank ind.); share of self-employed (OECD ind.) is expressed as a percentage of total employment; fixed broadband penetration measures the number of broadband subscriptions per ten inhabitants (OECD ind.); skills readiness comes from the Networked Readiness (WEF ind.), ranging from 1 to 100 (from lower to higher skills). VIF (Variance Inflation Factor) measures multicollinearity among variables. Values below 5 indicate low collinearity; above 10 suggest problematic collinearity. Clustered standard errors at the country level are in parentheses.

Sources: Author's elaboration based on data from Semrush and Crunchbase.

Table A B.2. DIPs diffusion and structural characteristics: Foreign firms' traffic

Domestic market competition controlled, by sector, 2014-2024

		Log of Foreign Firms Traffic			
Sector		Travel & Accommodation Booking	Ride-Hailing & Carpooling	X2C Online Marketplace	
DIP type		Pure	Pure	Pure	Pure & Hybrid
Income per capita	Log of GDP per capita (2015 USD PPP)	1.5597*** (0.5191)	2.0674** (0.9230)	2.1445 (1.3865)	0.9183 (0.6327)
Demographics	Log of total population (millions)	0.9047*** (0.1178)	1.3445*** (0.2757)	1.3709*** (0.3140)	1.4346*** (0.2510)
Level of entrepreneurship	Share of self-employed (% total employment)	0.0138 (0.0250)	-0.0267 (0.0508)	0.0042 (0.0459)	-0.0253 (0.0483)
Infrastructure availability/use	Fixed broadband subscriptions (per 100 inhabitants)	0.0272* (0.0150)	-0.0166 (0.0374)	0.0773 (0.0619)	0.0180 (0.0351)
Ability to leverage ICT technologies	Skills readiness (Index)	-0.0437 (0.0292)	-0.0761 (0.0581)	-0.1464 (0.1039)	-0.0403 (0.0477)
Domestic market competition	Log of domestic firms' traffic	-0.0822** (0.0337)	-0.1416 (0.0858)	-0.1929 (0.1146)	-0.2434*** (0.0875)
	Time fixed effects (year)	Yes	Yes	Yes	Yes
	Intercept	-12.8612** (5.8253)	-27.6797** (10.4491)	-19.7341 (12.9706)	-10.5433 (7.5182)
	Observations	243	226	231	269
	R-squared	0.7321	0.6964	0.5672	0.6174
	Highest VIF value	3.1014	3.8290	2.6898	3.2014

Notes: Dependent variables are the log of total traffic per country year and sector. Log of GDP per capita (OECD ind.) is expressed in 2015 USD PPP; log of population in millions (World Bank ind.); share of self-employed (OECD ind.) is expressed as a percentage of total employment; fixed broadband penetration measures the number of broadband subscriptions per ten inhabitants (OECD ind.); skills readiness comes from the Networked Readiness (WEF ind.), ranging from 1 to 100 (from lower to higher skills). VIF (Variance Inflation Factor) measures multicollinearity among variables. Values below 5 indicate low collinearity; above 10 suggest problematic collinearity. Clustered standard errors at the country level are in parentheses.

Sources: Author's elaboration based on data from Semrush and Crunchbase.

Table A B.3. DIPs diffusion and structural characteristics: Foreign firms' traffic

Domestic market competition uncontrolled, by sector, 2014-2024

		Log of Foreign Firms Traffic			
Sector		Travel & Accommodation Booking	Ride-Hailing & Carpooling	X2C Online Marketplace	
DIP type		Pure	Pure	Pure	Pure & Hybrid

Income per capita	Log of GDP per capita (2015 USD PPP)	1.4839** (0.5350)	1.9605* (1.0868)	2.1346 (1.3593)	0.8305 (0.6791)
Demographics	Log of total population (millions)	0.7975*** (0.0998)	1.2458*** (0.2951)	1.1144*** (0.2387)	1.0724*** (0.2313)
Level of entrepreneurship	Share of self-employed (% total employment)	0.0127 (0.0257)	-0.0286 (0.0557)	0.0034 (0.0512)	-0.0209 (0.0508)
Infrastructure availability/use	Fixed broadband subscriptions (per 100 inhabitants)	0.0328* (0.0167)	-0.0165 (0.0356)	0.0829 (0.0661)	0.0075 (0.0384)
Ability to leverage ICT technologies	Skills readiness (Index)	-0.0480 (0.0301)	-0.0837 (0.0606)	-0.1609 (0.1121)	-0.0369 (0.0495)
	Time fixed effects (year)	Yes	Yes	Yes	Yes
	Intercept	-11.2876* (5.8709)	-25.6731* (14.2212)	-17.6040 (12.4239)	-7.6815 (8.2158)
	Observations	243	226	231	269
	R-squared	0.7170	0.6728	0.5455	0.5799
	Highest VIF value	3.0954	3.7430	2.6737	3.1865

Notes: Dependent variables are the log of total traffic per country year and sector. Log of GDP per capita (OECD ind.) is expressed in 2015 USD PPP; log of population in millions (World Bank ind.) is expressed as a percentage of total employment; fixed broadband penetration measures the number of broadband subscriptions per ten inhabitants (OECD ind.); skills readiness comes from the Networked Readiness (WEF ind.), ranging from 1 to 100 (from lower to higher skills). VIF (Variance Inflation Factor) measures multicollinearity among variables. Values below 5 indicate low collinearity; above 10 suggest problematic collinearity. Clustered standard errors at the country level are in parentheses.

Source: Author's elaboration based on data from Semrush and Crunchbase.

Table A B.4. DIPs diffusion and structural characteristics: Share of foreign firms' traffic

By sector, 2014-2024

		Share of Foreign Firms' Traffic			
Sector		Travel & Accommodation Booking	Ride-Hailing & Carpooling	X2C Online Marketplace	
DIP type		Pure	Pure	Pure	Pure & Hybrid
Income per capita	Log of GDP per capita (2015 USD PPP)	-0.0054 (0.0154)	-0.0443 (0.1002)	0.0601 (0.0618)	-0.0253 (0.0296)
Demographics	Log of total population (millions)	-0.0130*** (0.0092)	-0.0527 (0.0490)	-0.0046 (0.0119)	-0.0118 (0.0087)
Level of entrepreneurship	Share of self-employed (% total employment)	0.0013 (0.0008)	0.0055 (0.0050)	-0.0026 (0.0026)	-0.0020 (0.0023)
Infrastructure availability/use	Fixed broadband subscriptions (per 100 inhabitants)	0.0011 (0.0007)	0.0030 (0.0049)	0.0034 (0.0026)	0.0005 (0.0018)
Ability to leverage ICT technologies	Skills readiness (Index)	-0.0003 (0.0009)	-0.0025 (0.0034)	-0.0093 (0.0056)	-0.0015 (0.0022)
	Time fixed effects (year)	Yes	Yes	Yes	Yes
	Intercept	1.2069*** (0.1461)	2.2691 (1.6520)	0.9214* (0.5365)	1.5167*** (0.3510)
	Observations	346	346	346	346
	R-squared	0.3382	0.1984	0.2306	0.1276
	Highest VIF value	3.1730	3.1730	3.1730	3.1730

Notes: Dependent variables are the log of total traffic per country year and sector. Log of GDP per capita (OECD ind.) is expressed in 2015 USD PPP; log of population in millions (World Bank ind.); share of self-employed (OECD ind.) is expressed as a percentage of total employment; fixed broadband penetration measures the number of broadband subscriptions per ten inhabitants (OECD ind.); skills readiness comes from the Networked Readiness (WEF ind.), ranging from 1 to 100 (from lower to higher skills). VIF (Variance Inflation Factor) measures multicollinearity among variables. Values below 5 indicate low collinearity; above 10 suggest problematic collinearity. Clustered standard errors at the country level are in parentheses.

Sources: Author's elaboration based on data from Semrush and Crunchbase.

Annex C. Regression analysis: Regulatory barriers to digitally enabled services trade

Table A C.1. Regulations to digitally enabled services trade and DIPs diffusion: Total traffic

By DIP type and sector, 2014-2024

	Log of Total Traffic			
	Travel & Accommodation Booking	Ride-Hailing & Carpooling	X2C Online Marketplace	
DIP type	Pure	Pure	Pure	Pure & Hybrid
DSTRI score	0.5946 (1.0493)	1.4604 (2.1130)	1.7977 (2.2120)	2.2889 (2.5557)
Observations	346	346	346	346
R-squared	0.8876	0.7703	0.8201	0.8872
Highest VIF	3.2694	3.2694	3.2694	3.6567
Infrastructure & connectivity	0.0495 (1.1933)	2.2291 (2.0861)	0.8609 (2.2979)	2.0166 (1.3636)
Observations	346	346	346	346
R-squared	0.8873	0.7718	0.8185	0.8865
Highest VIF	3.1743	3.1743	3.1743	3.5989
Electronic transactions	2.7026 (4.4610)	-6.7563 (11.4469)	10.1394 (8.3887)	1.0994 (6.7688)
Observations	346	346	346	346
R-squared	0.8877	0.7706	0.8220	0.8840
Highest VIF	3.1813	3.1813	3.1813	3.5912
Payment systems	1.0906 (6.7652)	-5.9411 (17.4127)	-2.2483 (12.7559)	-13.7098 (14.5029)
Observations	346	346	346	346
R-squared	0.8873	0.7696	0.8181	0.8863
Highest VIF	3.1814	3.1814	3.1814	3.7808
Intellectual property rights	-8.0818** (3.8484)	-5.0628 (34.5847)	12.8054 (21.4491)	-4.5191 (13.7841)
Observations	346	346	346	346
R-squared	0.8876	0.7693	0.8186	0.8840
Highest VIF	3.1753	3.1753	3.1753	3.5910
Other barriers	4.9418 (3.0679)	-3.6298 (6.9620)	3.0975 (8.1134)	6.7720 (5.8192)
Observations	346	346	346	346
R-squared	0.8891	0.7697	0.8185	0.8860
Highest VIF	3.8347	3.8347	3.8347	4.6202
Cost to enforce contracts (%)	0.0198 (0.0192)	-0.0186 (0.0226)	-0.0123 (0.0201)	-0.0237 (0.0162)
Observations	346	346	346	346
R-squared	0.8914	0.7712	0.8191	0.8876
Highest VIF	3.2962	3.2962	3.2962	3.8810

PMR (Index, 0-6)	-0.3364* (0.1711)	-0.3485 (0.3361)	-0.8733*** (0.3071)	-0.1977 (0.2365)
Observations	346	346	346	346
R-squared	0.8909	0.7713	0.8350	0.8848
Highest VIF	3.1846	3.1846	3.1846	3.5910

Notes: All specifications include the country characteristics set out in Annex A as well as time fixed effects, using equation (1). VIF (Variance Inflation Factor) measures multicollinearity among variables. Values below 5 indicate low collinearity; above 10 suggest problematic collinearity. Robust standard errors are in parentheses.

Sources: Author's elaboration based on data from Semrush and Crunchbase.

Table A C.2. Regulations to digitally enabled services trade and DIPs diffusion: Foreign firms' traffic

By DIP type and sector, 2014-2024

DIP type	Log of Foreign Firms Traffic							
	Controlling for domestic market competition: Yes				Controlling for domestic market competition: No			
	Travel & Accommodation Booking	Ride-Hailing & Carpooling	X2C Online Marketplace		Travel & Accommodation Booking	Ride-Hailing & Carpooling	X2C Online Marketplace	
	Pure	Pure	Pure	Pure & Hybrid	Pure	Pure	Pure	Pure & Hybrid
DSTRI score	0.1841 (2.2788)	4.9905 (3.7901)	6.7302 (4.5447)	1.9891 (3.9948)	-0.2630 (2.3742)	1.7965 (3.7274)	8.8870 (6.8987)	2.7625 (4.7854)
Observations	243	226	231	269	243	226	231	269
R-squared	0.7322	0.7053	0.5800	0.6190	0.7171	0.6741	0.5648	0.5830
Highest VIF	3.3397	3.8348	3.1155	3.3269	3.3049	3.7442	3.1091	3.3130
Infrastructure & connectivity	0.4775 (2.7436)	4.2263 (3.6104)	4.9723 (8.1191)	0.9872 (3.9279)	0.3870 (2.8668)	2.7972 (3.8665)	6.5848 (5.2671)	2.2402 (4.7315)
Observations	243	226	231	269	243	226	231	269
R-squared	0.7324	0.7038	0.6009	0.6179	0.7172	0.6761	0.5949	0.5824
Highest VIF	3.1540	3.8350	2.7615	3.2031	3.1462	3.7434	2.7583	3.1891
Electronic transactions	-7.1687 (10.7226)	-5.7638 (19.3695)	20.0144 (25.4872)	14.9301 (16.7133)	-10.7053 (10.5840)	-9.5452 (20.3275)	13.0188 (25.7595)	16.0477 (19.2727)
Observations	243	226	231	269	243	226	231	269
R-squared	0.7360	0.6974	0.5763	0.6260	0.7265	0.6755	0.5496	0.5898
Highest VIF	3.1140	3.8839	2.7076	3.2030	3.1025	3.7831	2.6850	3.1877
Payment systems	-4.7607 (13.7048)	3.2514 (27.1784)	-73.7321** (32.4131)	-10.7300 (27.3043)	-4.1602 (14.7529)	-1.0809 (28.0138)	-78.8191** (31.8610)	-22.4783 (28.1633)
Observations	243	226	231	269	243	226	231	269
R-squared	0.7329	0.6966	0.6400	0.6189	0.7176	0.6728	0.6333	0.5867
Highest VIF	3.1315	3.8451	2.6995	3.2744	3.1257	3.7653	2.6785	3.2709
Intellectual property rights	-22.0417** (8.1545)	-64.5058** (27.6337)	N/A	15.6858 (12.8321)	-24.1740*** (8.3864)	-34.2818** (15.4755)	N/A	36.3531 (27.5385)
Observations	243	226	N/A	269	243	226	N/A	269
R-squared	0.7362	0.7003	N/A	0.6204	0.7219	0.6739	N/A	0.5988
Highest VIF	3.1043	3.8426	N/A	3.2269	3.0977	3.7754	N/A	3.2047
Other barriers	3.7528 (5.3556)	7.7176 (10.4630)	-27.3026* (14.7886)	-5.0289 (12.7025)	2.8990 (5.9288)	-3.2773 (10.8420)	-31.5702** (14.5017)	-11.2028 (12.7461)
Observations	235	226	231	269	243	226	231	269
R-squared	0.7339	0.6983	0.5930	0.6184	0.7180	0.6732	0.5822	0.5852
Highest VIF	3.6798	3.8652	3.5349	4.4530	3.6486	4.1197	3.3815	4.4280

Cost to enforce contracts (%)	-0.0081 (0.0260)	0.0708 (0.0358)	0.0624 (0.0624)	-0.0057 (0.0645)	-0.0114 (0.0274)	0.0853** (0.0386)	0.0676 (0.0649)	0.0005 (0.0687)
Observations	243	226	231	269	243	226	231	269
R-squared	0.7330	0.7185	0.5941	0.6177	0.7188	0.7076	0.5775	0.5799
Highest VIF	3.1015	3.9891	2.8936	3.5095	3.0954	3.9453	2.7325	3.5024
PMR (Index, 0-6)	-0.5780 (0.3746)	-1.4504*** (0.4021)	-1.6443*** (0.4932)	-0.5282 (0.3760)	-0.6019 (0.4056)	-1.4902*** (0.3950)	-1.3890*** (0.4778)	-0.5038 (0.4860)
Observations	243	226	231	269	243	226	231	269
R-squared	0.7429	0.7290	0.6073	0.6238	0.7287	0.7072	0.5751	0.5857
Highest VIF	3.1124	3.9632	2.7267	3.2067	3.1056	3.8810	2.7191	3.1920

Notes: All specifications include the country characteristic set out in Annex A. as well as time fixed effects, using equation (1). VIF (Variance Inflation Factor) measures multicollinearity among variables. Values below 5 indicate low collinearity; above 10 suggest problematic collinearity. Robust standard errors are in parentheses. Please refer to the endnotes for missing coefficients (N/A).

Sources: Author's elaboration based on data from Semrush and Crunchbase.

Table A C.3. Regulations to digitally enabled services trade and DIPs diffusion: Share of foreign firms' traffic

By DIP type and sector, 2014-2024

DIP type	Share of Foreign Firms' Traffic			
	Travel & Accommodation Booking	Ride-Hailing & Carpooling	X2C Online Marketplace	
	Pure	Pure	Pure	Pure & Hybrid
DSTRI score	0.0694 (0.0796)	0.0978 (0.3092)	0.0817 (0.2138)	-0.1132 (0.1560)
Observations	346	346	346	346
R-squared	0.3467	0.1991	0.2325	0.1047
Highest VIF	3.2694	3.2694	3.2694	3.2694
Infrastructure & connectivity	0.0834 (0.0714)	-0.1834 (0.3095)	0.3375 (0.2554)	-0.0414 (0.1812)
Observations	346	346	346	346
R-squared	0.3528	0.2009	0.2640	0.1288
Highest VIF	3.1743	3.1743	3.1743	3.1743
Electronic transactions	-0.3813 (0.3471)	1.8575 (2.4863)	-0.4912 (0.8215)	0.1298 (0.6653)
Observations	346	346	346	346
R-squared	0.3566	0.2133	0.2347	0.1283
Highest VIF	3.1813	3.1813	3.1813	3.1813
Payment systems	0.0836 (0.4900)	2.2815 (2.0278)	-3.9974* (1.9917)	-0.5049 (1.2946)
Observations	346	346	346	346
R-squared	0.3354	0.2074	0.3405	0.1312
Highest VIF	3.1814	3.1814	3.1814	3.1814
Intellectual property rights	-0.2700 (0.5102)	1.8569 (1.5088)	2.7771 (2.1577)	-0.3015 (0.9769)
Observations	346	346	346	346
R-squared	0.3361	0.1999	0.2436	0.1443
Highest VIF	3.1753	3.1753	3.1753	3.1753
Other barriers	0.0575 (0.2232)	1.3562 (1.2627)	-1.9975*** (0.7264)	-1.1289** (0.4693)
Observations	346	346	346	346

R-squared	0.3357	0.2089	0.3205	0.1924
Highest VIF	3.8347	3.8347	3.8347	3.8347
Cost to enforce contracts (%)	-0.0006 (0.0006)	-0.0031 (0.0065)	0.0035 (0.0036)	0.0014 (0.0027)
Observations	346	346	346	346
R-squared	0.3456	0.2063	0.2699	0.1416
Highest VIF	3.2962	3.2962	3.2962	3.2962
PMR (Index, 0-6)	-0.0083 (0.0108)	-0.1033* (0.0604)	0.0196 (0.0361)	-0.0056 (0.0261)
Observations	346	346	346	346
R-squared	0.3409	0.2246	0.2344	0.1284
Highest VIF	3.1846	3.1846	3.1846	3.1846

Notes: All specifications include the country characteristic set out in Annex A. as well as time fixed effects, using equation (1). Values below 5 indicate low collinearity; above 10 suggest problematic collinearity. Robust standard errors are in parentheses.

Sources: Author's elaboration based on data from Semrush and Crunchbase.

Annex D. Competition analysis: the Herfindahl-Hirschman Index (HHI)

Table A D.1. Market concentration and dominant platforms in digital intermediation markets

By sector, 2014-2024

Sector	Year	Num Countries Leading	Dominant Platform	Countries	Median HHI	Median Balanced HHI	Total Countries in Sample
Ride-Hailing & Carpooling	2014	14	Uber	Australia, Belgium, Canada, Finland, France, Israel, Italy, Mexico, Norway, Sweden, Switzerland, Türkiye, United Kingdom, United States	0.981496	0.981496	20
Ride-Hailing & Carpooling	2015	9	Uber	Australia, Belgium, Canada, Finland, Norway, Sweden, Switzerland, United Kingdom, United States	0.862275	0.862275	22
Ride-Hailing & Carpooling	2016	15	Uber	Australia, Belgium, Canada, Chile, Colombia, Costa Rica, Estonia, Finland, Greece, New Zealand, Norway, Sweden, Switzerland, United Kingdom, United States	0.834608	0.834608	38
Ride-Hailing & Carpooling	2017	18	Uber	Australia, Belgium, Canada, Chile, Colombia, Costa Rica, Estonia, Finland, Greece, Ireland, Mexico, Netherlands, New Zealand, Norway, Portugal, Sweden, United Kingdom, United States	0.799396	0.799396	38
Ride-Hailing & Carpooling	2018	19	Uber	Australia, Belgium, Canada, Chile, Colombia, Costa Rica, Estonia, Finland, Greece, Ireland, Japan, Mexico, Netherlands, New Zealand, Norway, Slovak Republic, Sweden, United Kingdom, United States	0.707542	0.707542	38
Ride-Hailing & Carpooling	2019	16	Uber	Australia, Belgium, Canada, Chile, Colombia, Costa Rica, Finland, Greece, Ireland, Mexico, Netherlands, New Zealand, Slovak Republic, Sweden, United Kingdom, United States	0.626171	0.626171	38
Ride-Hailing & Carpooling	2020	17	Uber	Australia, Austria, Belgium, Canada, Chile, Colombia, Costa Rica, Finland, Greece, Mexico, Netherlands, New Zealand, Portugal, Sweden, Switzerland, United Kingdom, United States	0.575195	0.575195	38
Ride-Hailing & Carpooling	2021	18	Uber	Australia, Austria, Belgium, Canada, Chile, Colombia, Costa Rica, Finland, Greece, Japan, Mexico, Netherlands, New Zealand, Portugal, Sweden, Switzerland, United Kingdom, United States	0.547662	0.547662	38
Ride-Hailing & Carpooling	2022	19	Uber	Australia, Austria, Belgium, Canada, Chile, Colombia, Costa Rica, Finland, Greece, Japan, Mexico, Netherlands, New Zealand, Norway, Portugal,	0.512872	0.512872	38

				Sweden, Switzerland, United Kingdom, United States			
Ride-Hailing & Carpooling	2023	17	Uber	Australia, Belgium, Canada, Chile, Colombia, Costa Rica, Finland, Greece, Mexico, Netherlands, New Zealand, Norway, Portugal, Sweden, Switzerland, United Kingdom, United States	0.519535	0.519535	38
Ride-Hailing & Carpooling	2024	19	Uber	Australia, Austria, Belgium, Canada, Chile, Colombia, Costa Rica, Finland, Greece, Japan, Mexico, Netherlands, New Zealand, Norway, Portugal, Sweden, Switzerland, United Kingdom, United States	0.517101	0.517101	38
Travel & Accommodation Booking	2014	7	Booking	Belgium, Ireland, Israel, Italy, Netherlands, Norway, Spain	0.36355	0.36355	20
Travel & Accommodation Booking	2015	12	Booking	Belgium, Denmark, Finland, France, Germany, Ireland, Israel, Italy, Netherlands, Norway, Spain, Sweden	0.337748	0.337748	22
Travel & Accommodation Booking	2016	23	Booking	Austria, Belgium, Costa Rica, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Israel, Italy, Korea, Latvia, Lithuania, Luxembourg, Netherlands, New Zealand, Portugal, Slovenia, Spain, Sweden, Türkiye	0.38144	0.38144	38
Travel & Accommodation Booking	2017	24	Booking	Austria, Belgium, Costa Rica, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Israel, Italy, Korea, Latvia, Lithuania, Luxembourg, Netherlands, New Zealand, Portugal, Slovenia, Spain, Sweden, Switzerland, Türkiye	0.400598	0.400598	38
Travel & Accommodation Booking	2018	25	Booking	Austria, Belgium, Costa Rica, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Israel, Italy, Korea, Latvia, Lithuania, Luxembourg, Netherlands, New Zealand, Poland, Portugal, Slovenia, Spain, Sweden, Switzerland, United Kingdom	0.378151	0.378151	38
Travel & Accommodation Booking	2019	26	Booking	Austria, Belgium, Costa Rica, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Israel, Italy, Korea, Latvia, Lithuania, Luxembourg, Netherlands, New Zealand, Norway, Poland, Portugal, Slovenia, Spain, Sweden, Switzerland, United Kingdom	0.37595	0.37595	38
Travel & Accommodation Booking	2020	28	Booking	Austria, Belgium, Colombia, Costa Rica, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Israel, Italy, Latvia, Lithuania, Luxembourg, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, United Kingdom	0.380855	0.380855	38
Travel & Accommodation Booking	2021	28	Booking	Austria, Belgium, Chile, Costa Rica, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Israel, Italy, Latvia, Lithuania, Luxembourg, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, United Kingdom	0.352599	0.352599	38
Travel & Accommodation Booking	2022	27	Booking	Austria, Belgium, Chile, Costa Rica, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Israel, Italy,	0.375636	0.375636	38

				Latvia, Lithuania, Luxembourg, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, United Kingdom			
Travel & Accommodation Booking	2023	28	Booking	Austria, Belgium, Chile, Colombia, Costa Rica, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Israel, Italy, Latvia, Lithuania, Luxembourg, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, United Kingdom	0.356989	0.356989	38
Travel & Accommodation Booking	2024	29	Booking	Austria, Belgium, Chile, Colombia, Costa Rica, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Israel, Italy, Latvia, Lithuania, Luxembourg, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, United Kingdom	0.376957	0.376957	38
X2C Online Marketplace	2014	6	eBay	Australia, Belgium, Germany, Italy, Norway, United Kingdom	0.428192	0.428192	20
X2C Online Marketplace	2015	7	Amazon	Canada, Denmark, Germany, Italy, Spain, United Kingdom, United States	0.410785	0.410785	22
X2C Online Marketplace	2016	9	Amazon	Austria, Canada, France, Germany, Italy, Luxembourg, Spain, United Kingdom, United States	0.449917	0.449917	38
X2C Online Marketplace	2017	9	Amazon	Austria, Canada, France, Germany, Italy, Luxembourg, Spain, United Kingdom, United States	0.452107	0.452107	38
X2C Online Marketplace	2018	12	Amazon	Austria, Canada, Denmark, France, Germany, Iceland, Italy, Japan, Luxembourg, Spain, United Kingdom, United States	0.433773	0.433773	38
X2C Online Marketplace	2019	14	Amazon	Austria, Canada, Denmark, France, Germany, Iceland, Italy, Japan, Luxembourg, Norway, Portugal, Spain, United Kingdom, United States	0.40989	0.40989	38
X2C Online Marketplace	2020	19	Amazon	Austria, Canada, Costa Rica, Denmark, Estonia, France, Germany, Hungary, Iceland, Israel, Italy, Luxembourg, New Zealand, Norway, Portugal, Spain, Switzerland, United Kingdom, United States	0.4135	0.4135	38
X2C Online Marketplace	2021	19	Amazon	Austria, Canada, Costa Rica, Denmark, France, Germany, Hungary, Iceland, Israel, Italy, Luxembourg, New Zealand, Norway, Portugal, Slovak Republic, Spain, Switzerland, United Kingdom, United States	0.4544	0.4544	38
X2C Online Marketplace	2022	20	Amazon	Australia, Austria, Canada, Costa Rica, Denmark, France, Germany, Hungary, Iceland, Israel, Italy, Luxembourg, New Zealand, Norway, Slovak Republic, Spain, Sweden, Switzerland, United Kingdom, United States	0.454494	0.454494	38
X2C Online Marketplace	2023	19	Amazon	Australia, Austria, Canada, Costa Rica, Denmark, France, Germany, Hungary, Iceland, Israel, Italy, Luxembourg, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, United States	0.440329	0.440329	38
X2C Online Marketplace	2024	20	Amazon	Australia, Austria, Canada, Costa Rica, Denmark, France, Germany, Hungary,	0.432935	0.432935	38

				Iceland, Israel, Italy, Luxembourg, Mexico, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, United States			
--	--	--	--	--	--	--	--

Notes: This table reports annual indicators of market concentration across selected digital intermediation sectors. The Herfindahl–Hirschman Index (HHI) is calculated based on platform traffic shares, with higher values indicating greater concentration. “Balanced HHI” includes only platforms continuously active throughout the 2014-2024 period. “Dominant platform” refers to the platform with the largest traffic share in the highest number of countries in a given year. “Num countries leading” counts the number of countries in which that platform is the market leader.

The country coverage varies over time; “Total countries in sample” reports the number included in each year.

Sources: Author’s elaboration based on data from Semrush and Crunchbase.

References

- Aichner, T. et al. (2021), "Twenty-five years of social media: A review of social media applications and definitions from 1994 to 2019", *Cyberpsychology, Behavior and Social Networking*, Vol. 24/4, pp. 215-222, <https://doi.org/10.1089/cyber.2020.0134>. [53]
- Allcott, H. et al. (2020), "The welfare effects of social media", *American Economic Review*, Vol. 110/3, pp. 629-676, <https://doi.org/10.1257/aer.20190658>. [54]
- Anderson, M., J. Gottfried and E. Park (2024), "Most Americans back cellphone bans during class, but fewer support all-day restrictions", <https://www.pewresearch.org/short-reads/2024/10/14/most-americans-back-cellphone-bans-during-class-but-fewer-support-all-day-restrictions/> (accessed on 4 March 2026). [112]
- Anderson, M. et al. (2022), "Connection, creativity and drama: Teen life on social media in 2022", <https://www.pewresearch.org/internet/2022/11/16/connection-creativity-and-drama-teen-life-on-social-media-in-2022/> (accessed on 3 March 2026). [113]
- Anses (2026), "Sécuriser les usages des réseaux sociaux pour protéger la santé des adolescents", French Agency for Food, Environmental and Occupational Health and Safety, <https://www.anses.fr/fr/content/securiser-les-usages-des-reseaux-sociaux-pour-protger-la-sante-des-adolescents> (accessed on 5 March 2026). [47]
- Arfaoui, M. and J. Elbaz (2025), "Numérique adolescent et vie privée", *HAL Open Science*, <https://hal.science/hal-04919994>. [102]
- Aru, J. and D. Rozgonjuk (2022), "The effect of smartphone use on mental effort, learning, and creativity", *Trends in Cognitive Science*, Vol. 26/10, pp. 821-823, <https://doi.org/10.1016/j.tics.2022.07.002>. [55]
- Australian eSafety Commissioner (2026), "Platforms restrict access to 4.7 million under-16 accounts across Australia", <https://www.esafety.gov.au/newsroom/media-releases/platforms-restrict-access-to-47-million-under-16-accounts-across-australia> (accessed on 21 January 2026). [43]
- Australian eSafety Commissioner (2026), "Social media age restrictions", <https://www.esafety.gov.au/about-us/industry-regulation/social-media-age-restrictions> (accessed on 25 January 2026). [44]
- Australian eSafety Commissioner (2025), *Social Media Minimum Age Regulatory Guidance*, Australian eSafety Commissioner, Canberra, <https://www.esafety.gov.au/sites/default/files/2025-09/eSafety-SMMA-Regulatory-Guidance.pdf> (accessed on 2 October 2025). [114]

- Australian Government (2024), *Online Safety Amendment (Social Media Minimum Age) Act*, Australian Government, <https://www.legislation.gov.au/C2024A00127/asmade/text>. [36]
- Babic, M. et al. (2017), "Longitudinal associations between changes in screen-time and mental health outcomes in adolescents", *Mental Health and Physical Activity*, Vol. 12, pp. 124-131, <https://doi.org/10.1016/j.mhpa.2017.04.001>. [57]
- Bailin Rivas, A. et al. (2019), "Like it or not? The impact of online platforms on the productivity of incumbent service providers", *OECD Economics Department Working Papers*, No. 1548, OECD Publishing, Paris, <https://doi.org/10.1787/080a17ce-en>. [3]
- Berger, M. et al. (2022), "Social media use and health and well-being of lesbian, gay, bisexual, transgender, and queer youth: Systematic review", *Journal of Medical Internet Research*, Vol. 24/9, <https://www.jmir.org/2022/9/e38449/>. [119]
- Boers, E., M. Afzali and N. Newton (2019), "Association of screen time and depression in adolescence", *JAMA pediatrics*, Vol. 173/9, pp. 853-859, <https://doi.org/10.1001/jamapediatrics.2019.1759>. [111]
- Borde, L. (2025), "Nous n'avons ni les moyens humains, ni matériels d'interdire le portable au collège", assure le syndicat des proviseurs", *Ici*, <https://www.francebleu.fr/infos/education/nous-n-avons-ni-les-moyens-humains-ni-materiels-d-interdire-le-portable-au-college-bruno-bobkiewicz-snpden-uns-a-5535455> (accessed on 3 October 2025). [104]
- Burn-Murdoch, J. (2025), "Has the world passed a social media peak?", *The Financial Times*, <https://www.ft.com/content/a0724dd9-0346-4df3-80f5-d6572c93a863> (accessed on 5 March 2026). [110]
- Calvino, F., C. Criscuolo and C. Menon (2016), "No Country for Young Firms?: Start-up Dynamics and National Policies", *OECD Science, Technology and Industry Policy Papers*, No. 29, OECD Publishing, Paris, <https://doi.org/10.1787/5jm22p40c8mw-en>. [22]
- Casalini, F. and J. López González (2019), *Trade and cross-border data flows*, OECD Publishing, Paris, <https://doi.org/10.1787/b2023a47-en>. [122]
- Casalini, F., J. López González and E. Moïsé (2019), "Approaches to market openness in the digital age", *OECD Trade Policy Papers*, No. 219, OECD Publishing, Paris, <https://doi.org/10.1787/818a7498-en>. [6]
- Cauberghe, V. et al. (2021), "How adolescents use social media to cope with feelings of loneliness and anxiety during COVID-19 lockdown", *Cyberpsychology, Behavior, and Social Networking*, Vol. 24/4, pp. 250-257, <https://doi.org/10.1089/cyber.2020.0478>. [58]
- Collins, A. and F. Eggers (2022), "Effects of restricting social media usage on wellbeing and performance: A randomized control trial among students", *PloS ONE*, Vol. 17/8, <https://doi.org/10.1371/journal.pone.0272416>. [59]
- Costa, H. et al. (2021), "Are online platforms killing the offline star? Platform diffusion and the productivity of traditional firms", *OECD Economics Department Working Papers*, No. 1682, OECD Publishing, Paris, <https://doi.org/10.1787/1e2bbe10-en>. [4]
- Costa, H. et al. (2021), *Welcome to the (digital) jungle: Measuring online platform diffusion*, OECD Publishing, Paris, <https://doi.org/10.1787/b4e771d7-en>. [5]

- DoE (2019), “State of the Nation 2019: Children and Young People’s Well-being”, *UK Department of Education*, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/838022/State_of_the_Nation_2019_young_people_children_wellbeing.pdf. [31]
- European Commission (2015), *Directive (EU) 2015/2366 (PSD2) — EUR-Lex: Directive (EU) 2015/2366 of the European Parliament and of the Council of 25 November 2015 on payment services in the internal market*, <http://data.europa.eu/eli/dir/2015/2366/oj> (accessed on 22 September 2025). [8]
- Faverio, M., M. Anderson and E. Park (2025), “Teens, social media and mental health”, *Pew Research Center*, <https://www.pewresearch.org/internet/2025/04/22/teens-social-media-and-mental-health/> (accessed on 3 March 2026). [38]
- Ferencz, J. (2019), “The OECD Digital Services Trade Restrictiveness Index”, *OECD Trade Policy Papers*, No. 221, OECD Publishing, Paris, <https://doi.org/10.1787/16ed2d78-en>. [7]
- Ferracane, M. and E. van der Marel (2020), *Patterns of trade restrictiveness in online platforms: A first look*, pp. 2932-2959, <https://doi.org/10.1111/twec.13030>. [21]
- Fioravanti, G., A. Probst and S. Casale (2020), “Taking a short break from Instagram: The effects on subjective well-being”, *Cyberpsychology, Behavior, and Social Networking*, Vol. 23/2, <https://doi.org/10.1089/cyber.2019.0400>. [117]
- Firth, J. et al. (2019), “The “online brain”: How the Internet may be changing our cognition”, *World Psychiatry*, Vol. 18/6, pp. 119-129, <https://doi.org/10.1002/wps.20617>. [60]
- French Ministry of National Education (2025), “Interdiction du téléphone portable dans les écoles et les collèges et pause numérique”, <https://www.education.gouv.fr/interdiction-du-telephone-portable-dans-les-ecoles-et-les-colleges-et-pause-numerique-455181> (accessed on 3 March 2026). [94]
- French Ministry of National Education (2025), “Pour un numérique raisonné à l’école, au collège et au lycée”, <https://www.education.gouv.fr/pour-un-numerique-raisonne-l-ecole-au-college-et-au-lycee-463044> (accessed on 3 March 2026). [52]
- FTC (2026), “FTC issues COPPA policy statement to incentivize the use of age verification technologies to protect children online”, <https://www.ftc.gov/news-events/news/press-releases/2026/02/ftc-issues-coppa-policy-statement-incentivize-use-age-verification-technologies-protect-children> (accessed on 5 March 2026). [46]
- FTC (1998), “Children’s Online Privacy Protection Rule (COPPA)”, <https://www.ftc.gov/legal-library/browse/rules/childrens-online-privacy-protection-rule-coppa> (accessed on 13 March 2026). [45]
- Haidt, J. (2024), *The Anxious Generation: How the Great Rewiring of Childhood is Causing an Epidemic of Mental Illness*, Penguin, New York. [39]
- Hall, J. et al. (2021), “Experimentally manipulating social media abstinence: Results of a four-week diary study”, *Media Psychology*, Vol. 24, pp. 259-275, <https://doi.org/10.1080/15213269.2019.1688171>. [61]

- Hancock, J. et al. (2022), "Psychological well-being and social media use: A meta-analysis of associations between social media use and depression, anxiety, loneliness, eudaimonic, hedonic and social well-being", *SSRN Electronic Journal*, <https://doi.org/10.2139/ssrn.4053961>. [62]
- Health Behaviour in School-aged Children Study (2023), *Data browser (findings from the 2021/22 international HBSC survey)*, (dataset), <https://data-browser.hbsc.org> (accessed on 13 March 2026). [42]
- Heffer, T., M. Good and T. Willoughby (2019), "The longitudinal association between social-media use and depressive symptoms among adolescents and young adults: An empirical reply to Twenge et al. (2018)", *Clinical Psychological Science*, Vol. 7/3, <https://doi.org/10.1177/2167702618812727>. [63]
- Highfill, T. and B. Quistorff (2023), *Measuring Digital Intermediation Services*, <https://www.bea.gov/sites/default/files/papers/BEA-WP2023-8.pdf>. [16]
- Hungarian National Media and Infocommunications Authority (2026), "Digital childhood starts ever earlier", https://english.nmhh.hu/article/256912/Digital_childhood_starts_ever_earlier (accessed on 4 March 2025). [34]
- Hunt, M. et al. (2018), "No more FOMO: Limiting social media decreases loneliness and depression", *Journal of Social and Clinical Psychology*, Vol. 37/10, <https://doi.org/10.1521/jscp.2018.37.10.751>. [64]
- Ibsen, T. et al. (2025), "The role of social media in mitigating the long-term impact of social isolation on mental and cognitive health in older adults during the COVID-19 pandemic: The HUNT study", *International Journal of Geriatric Psychiatry*, Vol. 40/5, p. e70097, <https://doi.org/10.1002/gps.70097>. [65]
- IMF et al. (2023), *Handbook on Measuring Digital Trade, Second Edition*, OECD Publishing, Paris/International Monetary Fund/United Nations Conference on Trade and Development, Geneva 10/World Trade Organization, Geneva, <https://doi.org/10.1787/ac99e6d3-en>. [1]
- Ipsos (2025), *Ipsos Education Monitor 2025*, Ipsos, Paris, https://www.ipsos.com/sites/default/files/ct/news/documents/2025-09/Education_Monitor_2025.pdf. [51]
- Ivie, E. et al. (2020), "A meta-analysis of the association between adolescent social media use and depressive symptoms", *Journal of Affective Disorders*, Vol. 275, pp. 165-174, <https://doi.org/10.1016/j.jad.2020.06.014>. [118]
- James, K. et al. (2023), "Peer connectedness and social technology use during COVID-19 lockdown", *Research on Child and Adolescent Psychopathology*, Vol. 51/7, pp. 937-948, <https://doi.org/10.1007/s10802-023-01040-5>. [66]
- Kapoor, K. et al. (2018), "Advances in social media research: Past, present and future", *Information Systems Frontiers*, Vol. 20, pp. 531-558, <https://doi.org/10.1007/s10796-017-9810-y>. [67]
- Lambert, J. et al. (2022), "Taking a one-week break from social media improves well-being, depression, and anxiety: A randomized controlled trial", *Cyberpsychology, Behavior, and Social Networking*, Vol. 25/5, <https://doi.org/10.1089/cyber.2021.0324>. [68]

- Lendle, A. et al. (2012), *Policy Research working paper*, [2]
<http://documents.worldbank.org/curated/en/260421468147866905>.
- López González, J., S. Sorescu and P. Kaynak (2023), “Of bytes and trade: Quantifying the impact of digitalisation on trade”, *OECD Trade Policy Papers*, No. 273, OECD Publishing, Paris, <https://doi.org/10.1787/11889f2a-en>. [10]
- Mahalingham, T., J. Howell and P. Clarke (2023), “Assessing the effects of acute reductions in mobile device social media use on anxiety and sleep”, *Journal of Behavior Therapy and Experimental Psychiatry*, Vol. 78, <https://doi.org/10.1016/j.jbtep.2022.101791>. [56]
- McClain, C. et al. (2025), “How parents manage screen time for kids”, [116]
<https://www.pewresearch.org/internet/2025/10/08/how-parents-manage-screen-time-for-kids/>
 (accessed on 4 March 2026).
- Merriam-Webster Dictionary (2025), “Social media”, <https://www.merriam-webster.com/dictionary/social%20media> [95]
 (accessed on 1 October 2025).
- Mitev, K. et al. (2021), “Social media use only helps, and does not harm, daily interactions and well-being”, *Technology, Mind, and Behavior*, Vol. 2/1, <https://doi.org/10.1037/tmb0000033>. [100]
- Molly Rose Foundation (2025), “Children’s exposure to suicide, self-harm, depression, and eating disorder content online”, *Survey Findings Report*, Molly Rose Foundation, London, <https://mollyrosefoundation.org/wp-content/uploads/2025/10/Molly-Rose-Foundation-childrens-exposure-to-harmful-content-1.pdf>. [96]
- Montag, C. and S. Markett (2023), “Social media use and everyday cognitive failure: Investigating the fear of missing out and social networks use disorder relationship”, *BMC Psychiatry*, Vol. 1/23, p. 872, <https://doi.org/10.1186/s12888-023-05371-x>. [69]
- Mosquera, R. et al. (2020), “The economic effects of Facebook”, *Experimental Economics*, Vol. 23, pp. 575-602, <https://doi.org/10.1007/s10683-019-09625-y>. [121]
- Napp, C. and T. Breda (2022), “Daily use of social media is associated with more body dissatisfaction of teenage girls in a large cross-cultural survey”, *Discussion Paper Series*, No. 15811, IZA Institute of Labor Economics, Deutsche Post Foundation, <https://docs.iza.org/dp15811.pdf>. [40]
- Nebraska Legislature (2025), “Legislative Bill 383”, <https://legiscan.com/NE/text/LB383/2025> [106]
 (accessed on 3 March 2026).
- New Zealand Foreign Affairs & Trade (2025), *Digital Economy Partnership Agreement (DEPA)*, <https://www.mfat.govt.nz/en/trade/free-trade-agreements/free-trade-agreements-in-force/digital-economy-partnership-agreement-depa> [12]
 (accessed on 6 October 2025).
- Noland, R., E. Necka and J. Cacioppo (2018), “Loneliness and social Internet use: Pathways to reconnection in a digital world”, *Perspectives on Psychological Science*, Vol. 13/1, pp. 70-87, <https://doi.org/10.1177/1745691617713052>. [70]
- Norwegian Government (2025), “Norway moves forward with age limit for social media”, <https://www.regjeringen.no/en/aktuelt/norway-moves-forward-with-age-limit-for-social-media/id3108682/> [108]
 (accessed on 3 October 2025).

- Odgers, C. (2024), “The great rewiring: Is social media really behind an epidemic of teenage mental illness?”, *Nature*, Vol. 628/8006, pp. 29-30, <https://doi.org/10.1038/d41586-024-00902-2>. [120]
- Odgers, C. and M. Jensen (2020), “Annual research review: Adolescent mental health in the digital age: Facts, fears, and future directions”, *Journal of Child Psychology and Psychiatry*, Vol. 61/3, pp. 336-348, <https://doi.org/10.1111/jcpp.13190>. [71]
- OECD (2026), *Historical population data*, <https://www.oecd.org/en/data/indicators/population.html> (accessed on 20 January 2026). [20]
- OECD (2026), *OECD Digital Services Trade Restrictiveness Index*, <https://goingdigital.oecd.org/indicator/73> (accessed on 23 January 2026). [15]
- OECD (2026), *OECD Services Trade Restrictiveness Index 2026: Policy Trends*, OECD Publishing, Paris, <https://doi.org/10.1787/db87d74e-en>. [14]
- OECD (2025), “Creative minds in action: Students’ imagination and ideas in storytelling, design and problem solving tasks on the PISA test”, *OECD Education Policy Perspectives*, No. 120, OECD Publishing, Paris, <https://doi.org/10.1787/5b718eb2-en>. [77]
- OECD (2025), *How’s Life for Children in the Digital Age?*, OECD Publishing, Paris, <https://doi.org/10.1787/0854b900-en>. [78]
- OECD (2025), *OECD Product Market Regulation (PMR) indicators (database)*, <https://www.oecd.org/en/topics/sub-issues/product-market-regulation.html> (accessed on 18 July 2025). [26]
- OECD (2025), *PISA 2022 Database*, (dataset), <https://www.oecd.org/en/data/datasets/pisa-2022-database.html> (accessed on 2 June 2025). [37]
- OECD (2025), *PISA 2022 ICT Familiarity Questionnaire*, OECD, Paris, <https://www.oecd.org/content/dam/oecd/en/data/datasets/pisa/pisa-2022-datasets/questionnaires/ICT%20QUESTIONNAIRE%20PISA%202022.pdf>. [48]
- OECD (2025), *PISA 2022 Student Questionnaire*, OECD, Paris, <https://www.oecd.org/content/dam/oecd/en/data/datasets/pisa/pisa-2022-datasets/questionnaires/COMPUTER-BASED%20STUDENT%20questionnaire%20PISA%202022.pdf>. [49]
- OECD (2025), *PISA 2022 Well-being Questionnaire*, OECD, Paris, <https://www.oecd.org/content/dam/oecd/en/data/datasets/pisa/pisa-2022-datasets/questionnaires/WELL-BEING%20QUESTIONNAIRE%20PISA%202022.pdf>. [50]
- OECD (2025), *The legal and policy landscape of age assurance online for child safety and well-being*, OECD Publishing, Paris, <https://doi.org/10.1787/4a1878aa-en>. [80]
- OECD (2025), *The OECD Index of Digital Trade Integration and Openness (INDIGO) Dataset*, <https://www.oecd.org/en/data/datasets/oecd-index-of-digital-trade-integration-and-openness-indigo.html> (accessed on 22 September 2025). [11]
- OECD (2025), *The OECD Index of Digital Trade Integration and Openness (INDIGO): Policy Trends up to 2025*, OECD Publishing, Paris, <https://doi.org/10.1787/623087f9-en>. [13]

- OECD (2025), *Transparency reporting on child sexual exploitation and abuse online 2025*, OECD Publishing, Paris, <https://doi.org/10.1787/a89e3f08-en>. [79]
- OECD (2024), “Managing screen time: How to protect and equip students against distraction”, *PISA in Focus*, No. 124, OECD Publishing, Paris, <https://doi.org/10.1787/7c225af4-en>. [28]
- OECD (2024), “Mental health and digital environments”, in *OECD Digital Economy Outlook 2024 (Volume 1): Embracing the Technology Frontier*, OECD Publishing, Paris, <https://doi.org/10.1787/a1689dc5-en>. [76]
- OECD (2024), “New PISA results on creative thinking: Can students think outside the box?”, *PISA in Focus*, No. 125, OECD Publishing, Paris, <https://doi.org/10.1787/b3a46696-en>. [30]
- OECD (2024), *PISA 2022 Results (Volume III): Creative Minds, Creative Schools*, PISA, OECD Publishing, Paris, <https://doi.org/10.1787/765ee8c2-en>. [29]
- OECD (2024), *PISA 2022 Technical Report*, PISA, OECD Publishing, Paris, <https://doi.org/10.1787/01820d6d-en>. [75]
- OECD (2024), “The OECD Truth Quest Survey: Methodology and findings”, *OECD Digital Economy Papers*, No. 369, OECD Publishing, Paris, <https://doi.org/10.1787/92a94c0f-en>. [74]
- OECD (2023), *PISA 2022 Results (Volume I): The State of Learning and Equity in Education*, PISA, OECD Publishing, Paris, <https://doi.org/10.1787/53f23881-en>. [73]
- OECD (2023), *PISA 2022 Results (Volume II): Learning During – and From – Disruption*, PISA, OECD Publishing, Paris, <https://doi.org/10.1787/a97db61c-en>. [85]
- OECD (2022), *Cross-border Data Flows: Taking Stock of Key Policies and Initiatives*, OECD Publishing, Paris, <https://doi.org/10.1787/5031dd97-en>. [23]
- OECD (2022), “Fostering cross-border data flows with trust”, *OECD Digital Economy Papers*, No. 343, OECD Publishing, Paris, <https://doi.org/10.1787/139b32ad-en>. [24]
- OECD (2020), “Going Digital integrated policy framework”, *OECD Digital Economy Papers*, No. 292, OECD Publishing, Paris, <https://doi.org/10.1787/dc930adc-en>. [72]
- OECD (forthcoming), “Mapping media literacy initiatives”, *OECD Digital Economy Papers*, OECD Publishing, Paris. [115]
- OECD/WTO (2025), *Economic Implications of Data Regulation: Balancing Openness and Trust*, OECD Publishing, Paris, <https://doi.org/10.1787/aa285504-en>. [25]
- Open Banking Limited (2025), , <https://www.openbanking.org.uk/about-us/> (accessed on 22 September 2025). [9]
- Orben, A. (2020), “Teenagers, screens and social media: A narrative review of reviews and key studies”, *Social Psychiatry and Psychiatric Epidemiology*, Vol. 55, pp. 407-414, <https://doi.org/10.1007/s00127-019-01825-4>. [83]
- Orben, A., T. Dienlin and A. Przybylski (2019), “Social media’s enduring effect on adolescent life satisfaction”, *PNAS*, Vol. 116/21, pp. 10226-10228, <https://doi.org/10.1073/pnas.1902058116>. [82]
- Orben, A. and A. Przybylski (2020), “Reply to: Underestimating digital media harm”, *Nature Human Behaviour*, Vol. 4, pp. 349-351, <https://doi.org/10.1038/s41562-020-0840-y>. [84]

- Orben, A. and A. Przybylski (2019), "The association between adolescent well-being and digital technology use", *Nature Human Behaviour*, Vol. 3, pp. 173-182, <https://doi.org/10.1038/s41562-018-0506-1>. [81]
- Pew Research Center (2025), *Social Media and News Fact Sheet*, <https://www.pewresearch.org/journalism/fact-sheet/social-media-and-news-fact-sheet/> (accessed on 3 March 2026). [32]
- Rahali, M., B. Kidron and S. Livingstone (2024), "Smartphone policies in schools: What does the evidence say?", *Digital Futures for Children*; London School of Economics and Political Science; 5Rights Foundation, <https://www.digital-futures-for-children.net/our-work/smartphone-policies>. [41]
- Rhoades, S. (1993), *The Herfindahl-Hirschman Index*. [19]
- Roberts, J., P. Young and M. David (2024), "The epidemic of loneliness: A 9-year longitudinal study of the impact of passive and active social media use on loneliness", *Personality and Social Psychology Bulletin*, Vol. 52/5, <https://doi.org/10.1177/01461672241295870>. [86]
- Semrush (2026), *Traffic Analytics Overview*, <https://www.semrush.com/kb/1506-traffic-and-market-traffic-overview> (accessed on 5 March 2026). [18]
- Sewall, C. et al. (2020), "How psychosocial well-being and usage amount predict inaccuracies in retrospective estimates of digital technology use", *Mobile, Media and Communications*, Vol. 8/3, pp. 379-399, <https://doi.org/10.1177/2050157920902830>. [101]
- Shakya, H. and N. Christakis (2017), "Association of Facebook use with compromised well-being: A longitudinal study", *American Journal of Epidemiology*, Vol. 185/3, pp. 203-211, <https://doi.org/10.1093/aje/kww189>. [99]
- Svensson, R., B. Johnson and A. Olsson (2022), "Does gender matter? The association between different digital media activities and adolescent well-being", *BMC Public Health*, Vol. 1/22, p. 273, <https://doi.org/10.1186/s12889-022-12670-7>. [88]
- Tech Crunch (2025), "Meta launches 'Vibes,' a short-form video feed of AI slop", <https://techcrunch.com/2025/09/25/meta-launches-vibes-a-short-form-video-feed-of-ai-slop/> (accessed on 5 March 2026). [97]
- Tech Crunch (2025), "OpenAI is launching the Sora app, its own TikTok competitor, alongside the Sora 2 model", <https://techcrunch.com/2025/09/30/openai-is-launching-the-sora-app-its-own-tiktok-competitor-alongside-the-sora-2-model/> (accessed on 3 March 2026). [98]
- The Age Verification Providers Association (2025), "US state age assurance laws for social media", <https://avpassociation.com/us-state-age-assurance-laws-for-social-media/> (accessed on 3 March 2026). [105]
- Tual, M. and V. Morin (2026), "France's Assemblée Nationale approves social media ban for under-15s", *Le Monde*, https://www.lemonde.fr/en/france/article/2026/01/27/french-lawmakers-approve-social-media-ban-for-under-15s_6749844_7.html (accessed on 5 March 2026). [33]
- Twenge, J. et al. (2020), "Underestimating digital media harm", *Nature Human Behaviour*, Vol. 4/4, pp. 346-348, <https://doi.org/10.1038/s41562-020-0839-4>. [89]

- Twenge, J. et al. (2022), "Specification curve analysis shows that social media use is linked to poor mental health, especially among girls", *Acta Psychologica*, Vol. 224, <https://doi.org/10.1016/j.actpsy.2022.103512>. [90]
- UK Department of Education (2024), "Guidance for schools on prohibiting the use of mobile phones throughout the school day", <https://www.gov.uk/government/publications/mobile-phones-in-schools/mobile-phones-in-schools> (accessed on 6 March 2026). [103]
- UK Government and Parliament Petition (2025), "Introduce 16 as the minimum age for children to have social media", <https://petition.parliament.uk/petitions/700086> (accessed on 3 October 2025). [107]
- UNCTAD (2024), *Business e-commerce sales and the role of online platforms*, https://unctad.org/system/files/official-document/dtlecde2024d3_en.pdf. [17]
- UNESCO (2023), "Technology in education: A tool on whose terms?", *Global Education Monitoring Report 2023*, United Nations, <https://doi.org/10.54676/UZQV8501>. [91]
- UNESCO (2023), "To ban or not to ban? Monitoring countries' regulations on smartphone use in school", <https://www.unesco.org/en/articles/smartphones-school-only-when-they-clearly-support-learning> (accessed on 3 March 2026). [35]
- Valkenburg, P., A. Meier and I. Beyens (2022), "Social media use and its impact on adolescent mental health: An umbrella review of the evidence", *Current Opinion in Psychology*, Vol. 44, pp. 58-68, <https://doi.org/10.1016/j.copsyc.2021.08.017>. [87]
- Vuorre, M., A. Orben and A. Przybylski (2021), "There is no evidence that associations between adolescents' digital technology engagement and mental health problems have increased", *Clinical Psychological Science*, Vol. 9/5, <https://doi.org/10.1177/2167702621994549>. [92]
- We Are Social (2025), "Digital 2026", <https://wearesocial.com/uk/blog/2025/10/digital-2026/> (accessed on 13 March 2026). [109]
- Webster, D., L. Dunne and R. Hunter (2020), "Association between social networks and subjective well-being in adolescents: A systematic review", *Youth & Society*, Vol. 53/2, pp. 175-210, <https://doi.org/10.1177/0044118X20919589>. [93]
- World Bank (2025), *The enforcing contracts indicator (database)*, <https://archive.doingbusiness.org/en/data/exploretopics/enforcing-contracts> (accessed on 18 July 2025). [27]

Notes

¹ These types of measures, including data localisation and restrictions on data flows, at times reflect broader regulatory, security, or industrial policy objectives (Casalini and López González, 2019^[122]).

² Traffic estimates are derived primarily from web browser activity across desktop and mobile devices; usage occurring entirely within a native app, without an associated web session, may not be fully captured. This is particularly relevant for sectors where in-app interactions are common.

³ For example, although Amazon operates country-specific websites such as Amazon.fr in France, traffic to these domains is classified as foreign, as the firm's global headquarters are in the United States. In contrast, traffic to Amazon.com in the United States is treated as domestic. This attribution method ensures consistency in assigning platform traffic by origin and supports systematic cross-country comparisons. However, in countries with high domestic entrepreneurial capacity and a strong presence of local incumbents, the share of foreign traffic may be lower regardless of the level of trade restrictiveness. The analysis therefore controls for countries' structural characteristics to help isolate the association between regulatory measures and platform diffusion from broader domestic industrial dynamics.

⁴ High traffic attributed to foreign-headquartered platforms does not imply that there is no domestic value added. Many of these platforms intermediating domestic suppliers, so the analysis focuses on where the value of intermediation is captured rather than the geographic origin of underlying services.

⁵ The *domestic* classification is based on the location of a platform's global headquarters. Consequently, countries that host the headquarters of major global DIPs will naturally exhibit lower *foreign* traffic shares. This headquarters effect reflects domestic market leadership and early-mover advantages rather than regulatory restrictiveness per se.

⁶ While the DSTRI provides an aggregate measure of regulatory measures to trade in digitally enabled services, this analysis focuses on its individual policy subdimensions to better identify which specific regulatory areas are most strongly associated with the DIPs diffusion across the three sectors studied. Given that the DSTRI is a composite index, analysing its policy area separately allows for more granular insights into the relative impact of restrictions related to IPR, payment systems, infrastructure, and other restrictions. For reference, regression results using the overall DSTRI score are also provided in Annex C.

⁷ Two distinct model specifications were estimated for the foreign firm traffic share: one including a control for domestic market competition and one without. The proxy for domestic competition is platform traffic from domestically headquartered firms. Regressions on structural characteristics suggest that this variable is significantly and negatively associated with foreign platform traffic, indicating its relevance as a control.

However, the inclusion of domestic traffic may introduce a bias. On one hand, domestic platform traffic is likely influenced by the same structural characteristics that drive online platform diffusion. Moreover,

restrictions to digital trade in services may affect both foreign and domestic platforms. As such, controlling for domestic traffic may inadvertently capture part of the policy effect, leading to a potential downward bias in the estimated association between digital trade restrictions and foreign platform traffic. That is, the true effect of restrictive policies could be underestimated when the domestic competition proxy is included. Conversely, excluding this control could result in an upward omitted variable bias, since the model would not account for the market dynamics between foreign and domestic platforms. In this case, the estimated coefficients might overstate the impact of restrictions if domestic competition serves as a partial substitute for foreign entry. As a result, the estimates from these two specifications can be understood as providing lower and upper bounds for the true association, respectively.

To account for this trade-off, both specifications were estimated. Results are broadly consistent across models, though some differences emerge. Table A.B.2 shows that the model including domestic competition reveals stronger and statistically significant negative associations between restrictions to payment systems and other regulatory measures and traffic from foreign-headquartered pure X2C marketplaces, as well as between restrictions on IPR protection and enforcement and foreign traffic in travel and accommodation platforms. Notably, the negative association between restrictions on IPR protection and enforcement and foreign presence in ride-hailing and carpooling platforms is weaker and less significant in the model that omits the domestic traffic control. This result is intuitive, given the near-complete dominance of foreign platforms in this sector – like Uber, Bolt and Lyft – across most countries, reducing the relevance of the domestic competition proxy.

Given the potential for upward bias when omitting the domestic competition control, the results presented in the figures (e.g., bar plots in the report) correspond to the specification that *includes* this control. This approach aims to provide more conservative estimates of the association between domestic policies restricting trade in digitally enabled services and foreign DIPs diffusion.

⁸ The coefficients displayed in the charts are the direct outputs from log-linear regressions, where the dependent variable – such as total traffic or foreign traffic share – is expressed in natural logarithms. These coefficients indicate the expected change in the log of the outcome variable associated with a one-unit increase in the relevant policy score. However, they do not directly correspond to percentage changes in the original scale of the diffusion indicator.

To translate the estimated coefficients into more intuitive percentage changes, we apply the following exact formula:

$$\text{Percentage change} = (e^{\beta \times \Delta x} - 1) \times 100$$

where β is the estimated coefficient and Δx is the size of the change in the policy variable.

For example, consider the strong negative association observed between restrictions on IPR protection and enforcement and total traffic in the travel and accommodation booking sector. The chart shows an estimated coefficient of -8, which reflects the effect of a full one-unit decrease in the score related to restriction on IPR protection and enforcement – a very large and likely unrealistic policy shift. To better reflect a more plausible reform, we consider a smaller change: a 0.01-point decrease in the policy score. Applying the formula yields:

$$\text{Percentage change} = (e^{-8.1 \times (-0.01)} - 1) \times 100 = (e^{0.081} - 1) \times 100 \approx 8.4\%$$

This means that a 0.01-point reduction in digital trade restrictions on IPR protection and enforcement is associated with an 8.4% increase in total traffic in the accommodation booking sector.

All percentage effects discussed in the main text are derived systematically using this exact method, allowing for consistent and policy-relevant interpretation of the results.

⁹ The observed associations between digitally enabled services trade restrictions and platform diffusion are broadly consistent with expectations: lower regulatory measures tend to support greater traffic and higher foreign participation, particularly for pure DIPs. Sector-specific competition dynamics discussed in Box 3 provide additional context. In ride-hailing, for example, increasing competition over the past decade has likely amplified the impact of moderate regulatory reforms, while in more concentrated markets such as travel and accommodation booking, established platforms' structural advantages may moderate these effects. This perspective helps explain instances where some restrictions appear positively associated with platform activity, albeit often insignificantly, potentially reflecting the interplay of market structure and incumbent platform strategies.

Other mechanisms beyond regulatory policy likely contribute to platform diffusion patterns. Network effects, platform heterogeneity, and differences in business models shape responsiveness to restrictions. Pure DIPs, which rely on digital-only channels, are more sensitive to local presence requirements than hybrid platforms with physical infrastructure. Similarly, platform features such as capital intensity, review systems, digital versus physical service delivery, internationalisation, and sectoral diversification influence uptake and competitive dynamics (Costa et al., 2021^[5]). While these factors are not fully captured in the current macro-level model, the competition dynamics lens offers a plausible framework for interpreting their likely influence.

Future research could extend the analysis by integrating alternative measures of platform activity, exploring joint policy effects, and examining heterogeneity across platform characteristics and sectors. Such work would provide a more granular understanding of the channels through which restrictions to digitally enabled services shape competition, diffusion, and foreign participation.

¹⁰ Individual STRI scores for specific sectors, like the STRI for Computer Services, may be better adapted to the sectoral realities of DIPs, rather than the more cross-cutting nature of the DSTRI.

¹¹ The charts display estimated coefficients from equation (1) in Annex A. Each DSTRI policy area is tested individually, controlling systematically for structural factors influencing platform diffusion. For significant results, the dark blue bars represent the marginal effect on the respective diffusion indicator (*Total traffic*, *Traffic from foreign firms*, or *Share of traffic from foreign firms*) for pure DIPs in the ride-hailing and carpooling sector, associated with a one-unit increase in the DSTRI policy score. Black error bars denote clustered standard errors at the country level. Significance levels for rejecting the null hypothesis (no significant association between restriction and diffusion indicator) are indicated as follows: *** $p < 0.01$ (1%), ** $p < 0.05$ (5%), * $p < 0.10$ (10%). For a detailed explanation of the full methodology and empirical specifications, refer to Annex A. For full regression results, see Annex C.

The role of digital intermediation platforms in opening up international markets

No. 386

Online platforms are a defining feature of today's highly digital economy, reshaping how people access services, trade, and interact. Digital intermediation platforms (DIPs) – which connect buyers and sellers without taking ownership of goods or services – play a pivotal role in facilitating e-commerce and digital trade. This paper presents novel data about the diffusion of DIPs across three key consumer-facing sectors: travel and accommodation booking, ride-hailing and carpooling, and online marketplaces. Using website traffic data as a proxy for platform reach, it provides insights not only into the scale and scope of platform uptake, but also the degree of foreign presence in each sector studied. Building on these measures, the analysis considers how regulatory measures affecting digitally enabled services trade are associated with platform diffusion and foreign participation across markets with the aim of enhancing productivity, fostering innovation, and maximising the opportunities of digital trade.

