

Promoting investment and business climate reforms in Jordan's ICT sector

Issues paper for the first private sector dialogue

17 June 2021, 11:00-13:30 (Amman time), webinar

This note aims at guiding the discussions of a virtual private sector dialogue on “Promoting investment and business climate reforms in Jordan’s ICT sector” on 17th June 2021. It provides an initial assessment of ICT sector in Jordan, the role of FDI, and key challenges affecting investments in the sector, with a focus on regulatory and business environment, infrastructure, and ICT costs and skills. Participants are invited to share their views and perspectives on common challenges and priorities for the ICT sector. The conclusions will form the basis for a future PPD that will involve both Jordanian policymakers and ICT representatives.

This note is a draft document. Please do not quote or cite.

Contact alin.horj@oecd.org

Promoting investment and business climate reforms in Jordan's ICT sector

The digital transformation is one of the major drivers of change and innovation in our societies and economies. It can drive the creation of new companies and industries, contribute to the transformation of business models in traditional industries, and can also foster participation, and upgrading, in regional and global value chains (GVCs). The COVID-19 pandemic has further accelerated this development.

As the backbone of the digital economy, information and communication technology (ICT) can help further technological progress and productivity growth in the economy. ICT encompasses different types of communications networks and the technologies used in them. These include new products and services, ranging from digitally enhanced devices such as smart machines (e.g. internet of things), to digital platforms (e.g. e-commerce, social networks), to entirely new digital technologies (e.g. blockchain) (OECD, 2018). Supporting the development of a vibrant ICT sector is crucial to accompany the digital transformation and, more generally, a modern and sustainable model of economic growth and development.

Advancing the digital transformation agenda has also been a priority for Jordan and other economies of the MENA region. Further investments in the digital sector could yield significant dividends on growth. OECD policy tools and frameworks, notably including the Going Digital Initiative¹ and the FDI Qualities in Jordan², could support the design of adequate policies to accompany the development of the digital economy. Governments would need to adopt a cross-cutting, whole-of-government policy approaches aimed at breaking down silos in line with the multifaceted nature of the digital transformation.

ICT is a priority sector for Jordan's economic and social development

The digital economy today in the Arab region contributes to around 4% of gross domestic product (GDP) compared to an average of 4.5% to 15.5% in the rest of the world (Duneja, Peacock, & Jaiswal, 2021). Small-medium enterprises (SMEs) also have a limited presence online, hindering growth and exports (ICANN, 2017). On the other hand, around 56% of the population in the region use the internet compared to only 19% in Sub-Saharan Africa (World Bank, 2019).³

Since the late 1990s, the Jordanian government has prioritized ICT as a strategic sector for the economy, notably through a number of multiannual plans providing a long-term vision and strategy to its development. The current REACH2025 Initiative launched in 2016, for example, aims to increase the revenue of the digital economy sectors by 25%-30%, creating

¹ The OECD Going Digital Initiative defines the digital economy that incorporates all economic activity reliant on - or significantly enhanced by the use of digital inputs, including digital technologies, digital infrastructure, digital services and data. It refers to all public and private actors that use digital inputs in their economic activities (OECD, 2020).

² <https://www.oecd.org/daf/inv/investment-policy/FDI-Qualities-Factsheet.pdf>

³ The data for MENA refers to year 2018 while for Sub-Saharan Africa to 2017.

130 000 to 150 000 jobs and between 5 000 and 7 000 new businesses by 2025. The stated objective of REACH2025 is to re-invigorate the country's digital transformation, notably by focusing on the ICT sector's competitive advantage as well as its integration into global value chains (Intaj, 2016). ICT also covers an important role in Jordan's national development plan "Jordan 2025", as well as the recent Government's Indicative Executive Program 2021-2024. In 2019, the government established a new Ministry of Digital Economy and Entrepreneurship - previously Ministry of ICT - to support the Kingdom's digitalisation efforts with wider responsibilities in relation to digital skills, entrepreneurship, infrastructure and finance.

The ICT sector is the fastest growing sector in the economy, including around 928 companies, 98% of which are MSMEs (Gerdeon & Qasem, 2019), and with one of the highest internet penetration levels in the region (Figure 1). ICT services are estimated to contribute to around 12% of GDP (EBRD, 2020). Although the sector employs just 1% of the labour force (ITES Industry Statistics and Yearbook, 2016), 29% of this are women - the highest rate for women than any other sector in the economy (Box 1) (Intaj, 2019). According to the Global Entrepreneurship Index, which measures the health of the entrepreneurship ecosystems in 137 countries, Jordan is a regional leader on product innovation, technology absorption, and startup skills (The Global Entrepreneurship and Development Institute, 2018).

Box 1. The potential of ICT for women economic empowerment in Jordan

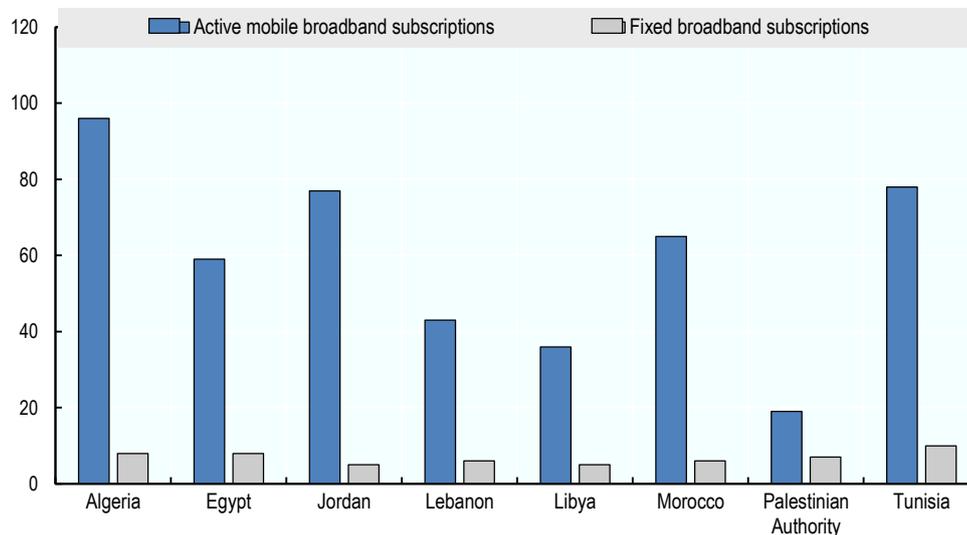
Digitalisation holds a great potential for the economic and social inclusion of women and girls in Jordan. Women have a high presence in the employment of the Jordanian ICT sector, representing 27% of the country's software developers and 21% of the sector's leadership positions. According to the World Bank, the adoption of digital tools had a positive effect on Jordanian women's labour force participation, providing opportunities for flexible working conditions and enhanced job matching.

Overall, participation of women in the labour force in Jordan stands at just 14.5%, one of the lowest rates in the world and significantly lower than the wider-MENA region average of 20%. Whether as workers or entrepreneurs, women face vast and specific obstacles that are different from those of their male counterparts. These include legal, financing, skilling and social challenges. Despite their relative good performance in ICT sector employment, women and girls in Jordan suffer from a digital gender gap. Supporting access to digital tools and development of digital skills of women and girls in Jordan would promote a more inclusive and sustainable development of the country.

Sources: (International Labour Organization, 2021), (World Bank, 2019) (Intaj, 2019)

Figure 1. Internet penetration in Jordan is among the highest in MED

Per 100 persons, 2018



Source: International Telecommunication Union, 2021.

Key questions

- How have the recent strategies of the Jordanian government addressed the needs of the ICT sector?
- How have the voices of the Jordanian ICT private sector been involved in the development of these strategies?
- What overarching priorities should guide policy reform in Jordan in the aftermath of the Covid-19 pandemic?

Investments in the ICT sector can support job creation and participation in global value chains

Under the right conditions, foreign direct investment (FDI) can represent an important factor of development for the Jordanian ICT sector. Importantly, FDI in the ICT sector is a source of jobs. In the past decade, Greenfield FDI generated almost twice as many jobs per million USD invested than the cross-sector average, and 20 times the amount of jobs per million USD invested as compared to FDI in the energy sector.⁴ Overall, despite its high contribution to jobs, FDI investment in ICT represents only 0.3% of GDP in 2020 with an average of USD 150 million invested annually in the Jordanian ICT sector (Jordan Investment Commission, 2019). More private investments in ICT can be a crucial source

⁴ OECD elaboration based on Financial Times FDI Markets database. Data is provided by the OECD Investment Division.

of financing to develop the necessary infrastructure and technology in the country, particularly in a situation of public budget constraints.

FDI can support SME-MNE linkages, for instance when MNEs share knowledge and technology that enable local suppliers to produce better quality outputs. Similarly, R&D cooperation projects between international investors and local businesses contribute to the transfer and/or development of technology through joint ventures, licensing agreements and research collaborations. Labour mobility between foreign-owned enterprises and domestic enterprises can foster the development of managerial knowledge and skills of the local workforce (OECD, 2019). Finally, foreign firms also contribute to increasing competition in the domestic sector, promoting local companies to become more productive, innovative and resilient.

Promoting investment in the ICT sector can also contribute to the integration of the Jordanian economy into regional and global value chains. Digital technologies have been key enablers of fragmented production systems around the globe, by facilitating outsourcing and information exchange (UNCTAD, 2017). The Covid-19 crisis proved that the adoption of digital technologies improves the resilience of value chains by enhancing connectivity.

Key questions

- What type of investment is needed to sustain ICT development as a driver of job creation in Jordan?
- Are there success stories of ICT linkages between MNEs operating in Jordan and local MSMEs?
- How does the Jordanian regulatory framework promote positive FDI spillovers for the local economy and the digitalization of the country? What more can be done on this front?

FDI in the ICT sector in Jordan remains below its potential

Jordan has become a regional hub for ICT investments in MENA with one of the highest concentrations of technology companies in the Arab region (Privacy Shield Framework, 2018). Political stability, a strategic geographic location, abundance of university graduates, and the presence of a relatively developed ICT sector make the country an attractive destination for investors serving national and regional ICT markets. These include global ICT leaders like Cisco, Expedia, HP, Microsoft and Oracle. All the three major companies that dominate the Jordanian telecom sector possess significant levels of foreign participation: Orange Jordan, the former public telecom corporation privatized in the early 2000s and currently owned 51% by the French Orange Group (Jordan Telecommunications Company ; Orange , 2019); Zain Jordan, a segment of the Kuwaiti Zain Group; and Umniah, a subsidiary of the Bahraini Batelco.

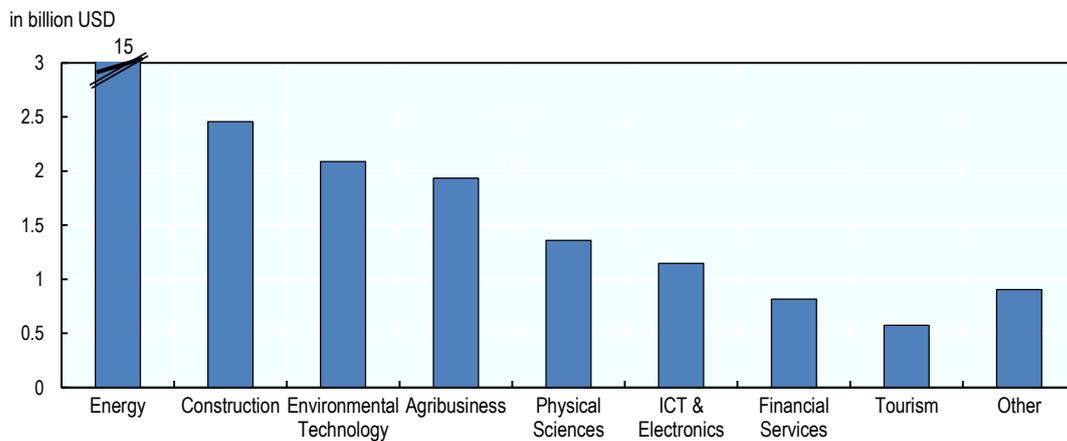
However, in relative terms, FDI remains limited. Between 2010 and the first half of 2021 Jordan attracted over USD 25.8 billion of announced cross-border greenfield FDI. Energy attracted the large majority of total investments (56% or USD 14.5 billion) while ICT and

electronics received only 4% of the total (USD 1.1 billion) (Figure 2). More than half of ICT investments (56%) came from the Gulf Co-operation Council (GCC) region (Bahrain and Kuwait), followed by the United States (21%) and the European Union (11%, or USD 130 million, mainly from France) (Figure 3).

Also, in 2017, ITC goods and service exports only represented 2.1% and 0.3% of overall goods and service exports, respectively. This is significantly lower than other Mediterranean economies like Tunisia (4.2% for ITC goods and 9% ITC services) and Morocco (2.4% for ITC goods and 8.6% for ITC services) (International Monetary Fund, 2017). There is therefore more that the private and public sector could do to seize the potential of Jordan as an ITC hub attracting global investors to supply neighbouring markets, and integrate the economy into international chains of digital production.

Figure 2. Greenfield FDI in Jordan in the ICT sector

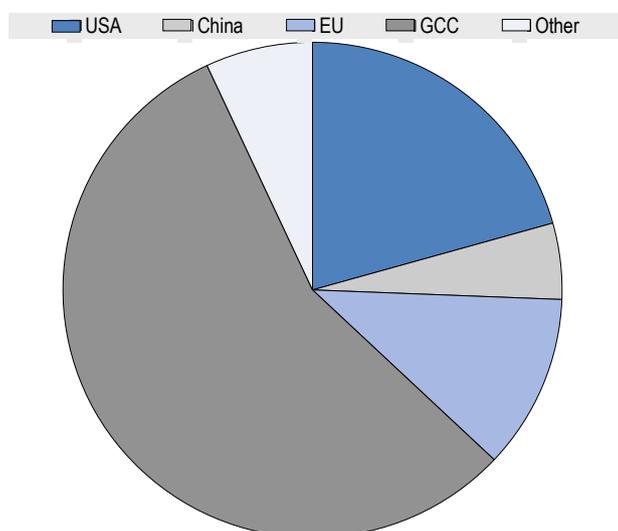
Announced capital expenditure, USD millions (Jan 2010- May 2021)



Source: OECD elaborations based on Financial Times FDI Markets, as of 18 May 2021.

Figure 3. FDI inflows in the ICT & electronics cluster by source country/region

Announced capital expenditure, USD millions (Jan 2010- May 2021)



Source: OECD elaborations based on Financial Times FDI Markets, as of 18 May 2021

Key questions

- How can Jordan enhance the attractiveness and competitiveness of its ICT sector vis-à-vis international investors?
- What can be the role of the Jordanian private sector in attracting quantity and quality investment in ICT?
- How can we strengthen the potential of the ICT sector in promoting social and economic inclusion of Jordanian women and youth?
- How can Jordan attract investors from new and emerging markets?

Key challenges continue to negatively affect investments in the ICT sector

Following a wave of liberalisation reforms in the sector since 1999, ICT infrastructure developed relatively fast, allowing private sector investments to come in. Yet, despite the investments made, more is needed in fixed and mobile broadband infrastructure to keep up with growing demand. According to the 2019 Mobile Connectivity Index, which measures the performance of countries against the key enablers of mobile internet adoption – infrastructure, affordability, consumer readiness, content and services – Jordan is considered as a “transitioner”, ranking lower in the Index than Tunisia and Morocco, and higher than Lebanon (GSMA, 2019). With 88 mobile phone subscriptions per 100 inhabitants on average, Jordan is below the average of the MENA region (100 mobile phone subscriptions per 100 inhabitants on average). Other countries such as Morocco and Tunisia surpass the average (128 and 124 per 100 inhabitants respectively), while Lebanon (64) is below.

There are several challenges in the ICT sector that currently limit the potential for further investment in Jordan. To structure discussions effectively, this private sector dialogue will focus on three main set of obstacles: (i) the lack of an adequate business and regulatory environment; (ii) high costs and lack of skills; and (iii) limited complementary infrastructure, all of which are hindering the growth of a dynamic, competitive private sector.

Challenge 1: Lack of adequate business and regulatory environment

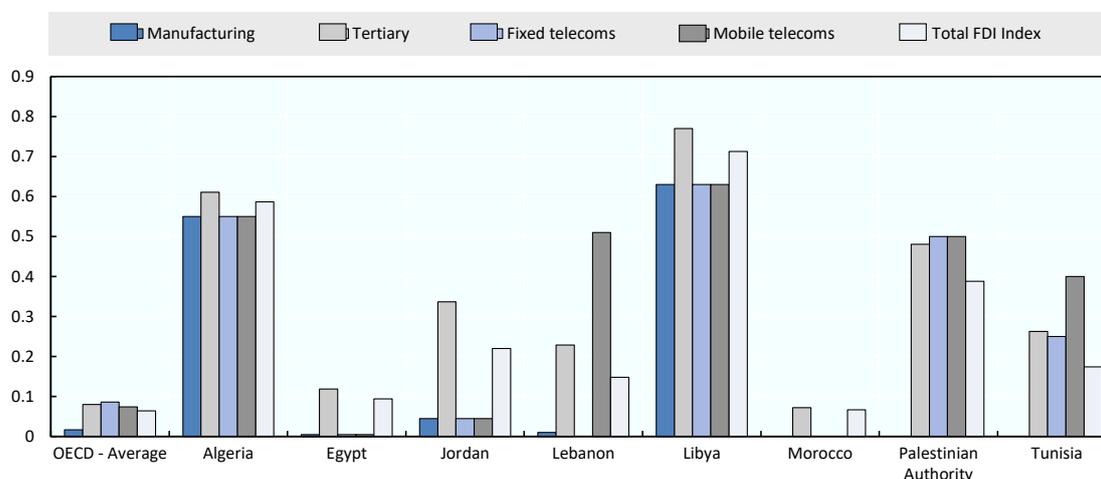
In order for the private sector to participate in ICT projects in Jordan, an adequate and predictable business and regulatory framework is required. According to a survey of firms carried out in 2017-18, the legislations affecting firms' business in Jordan are unstable. Around 89% of businesses indicated that the government did not inform of regulatory changes that affect them. Moreover, 90% stated that the government does not take concerns voiced by the private sector into account when amending legislation affecting business. Only 6% of firms surveyed said they had ever been consulted on regulatory changes, although larger firms are more frequently consulted (Interdisciplinary Research Consultants , 2018).

Key regulatory factors limiting the potential of the ICT sector in Jordan also include the lack of appropriate competition in digital infrastructure (Gelvanovska, Rogy, & Rossotto, 2014) (International Finance Corporation, 2021 forthcoming). Like many other sectors, the ICT sector is generally dominated by incumbent firms, making it difficult for smaller players to enter the market (World Bank, 2019). Current challenges include lack of enforcement of digital infrastructure sharing, lack of competitive bidding for 5G, as well as ensuring that competitors are not blocked by current mobile network operators (International Finance Corporation, 2021 forthcoming).

While Jordan is relatively open to FDI, the effects of some remaining restrictions can also lead to lower competition, limiting Jordan's ability to attract FDI, including in the ICT sector. Compared to other MENA economies, Jordan maintains only a few statutory restrictions on FDI, which is exemplified by Jordan's position in the OECD FDI Regulatory Restrictiveness Index for 2019 (Figure 4). According to the Index, Jordan has lower overall FDI restrictions than the average for Algeria, Libya and the Palestinian Authority, but higher than the average of OECD countries, Egypt, Lebanon, Morocco and Tunisia. Such restrictions are lower than the average of OECD economies and most of other MENA economies for mobile and fixed telecom services. Yet, similar to other MENA economies Jordan has relatively high restrictions in the services (tertiary) sectors, which can have important implications for the ICT as well. The sector may rely intensively on inputs from restricted services sectors, which could limit the quality of service provision and affect productivity of the Jordanian economy.

Figure 4. OECD FDI Regulatory Restrictiveness Index in selected sectors

Closed=1; Open=0 (2019)



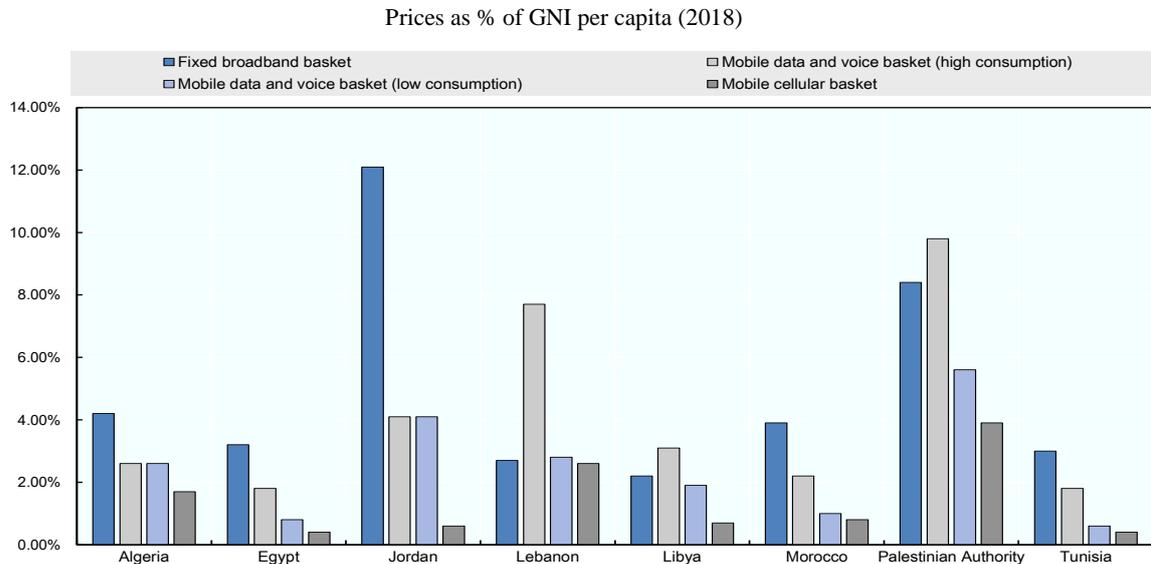
Note: Services include: Distribution, Wholesale, Retail, Transport (Surface, Maritime, Air), Hotels & Restaurants, Media (Radio & TV broadcasting, Other media), Financial services (Banking, Insurance, Other finance), Business services (Legal, Accounting & audit, Architectural), Engineering, Real estate investment.

Source: OECD (2020)

Challenge 2: High costs and lack of skills

High ICT prices and taxes are also a factor affecting affordability and ICT expansion in Jordan (GSMA, 2019). While telecommunication and ICT services are generally becoming more affordable relative to the income in recent years, Jordan still has one of the least affordable prices in the Arab region for fixed broadband basket, mobile voice and mobile data. For instance, prices for fixed broadband basket equated 12.1% of GNI per capita in 2020, compared to around 2.5% in Egypt, less 5% in Tunisia, Algeria and Morocco. Similarly, prices for mobile broadband equaled 3.5% of GNI per capita in 2020, compared to 1% in Egypt, 0.8% in Morocco, and just 0.4% in Tunisia (Figure 5) (ITU, 2019). Such high ICT prices in Jordan are also above the 2% threshold for entry level broadband access that the UN aims to achieve by 2025 (ITU, 2021). Similarly tax payments (general and sector specific) made by mobile operators and consumers in Jordan are at 33%, slightly lower than Tunisia's 34% but above the MENA regional average of 24% (GSMA, 2019).

Overall, such high taxes and low competition have led to low quality of service, hindering the growth of digital payments and mobile e-commerce, which are key to contributing to the growth of the digital economy. This also hinders the adoption of e-commerce platforms by SMEs. According to a recent survey of SMEs in Jordan, 34% have an e-commerce website that enables them to sell products online, but only 11% accept online payments with the majority of companies still oriented towards cash on delivery as a form of payment (Yaseen & Madadaha, 2019).

Figure 5. ICT costs in Jordan are among the highest in MED

Source: International Telecommunication Union, 2021

In addition to the high costs, the quality and availability of skills are also an important factor affecting the overall enabling environment for ICT investment. One of the biggest challenge for investors in Jordan is the mismatch between the demand and supply of skills for ICT. For instance, out of the 8,000 annual graduates with specialization in ICT, only about 7.5% of them work in their field. This may be due to various factors, including the fact that there is a limited understanding of the market needs by the academia and that graduates lack the soft skills and English language abilities necessary for ICT jobs. Currently, there are five weaknesses behind the skills mismatch: (1) an outdated university curriculum, (2) lack of soft skills, (3) lack of awareness and experience with global technology trends, (4) little to no practical hands-on experience, and (5) brain drain to neighbouring countries. In addition, it is also difficult to update curricula due to government rules, compliance and accreditation process (World Bank, 2019).

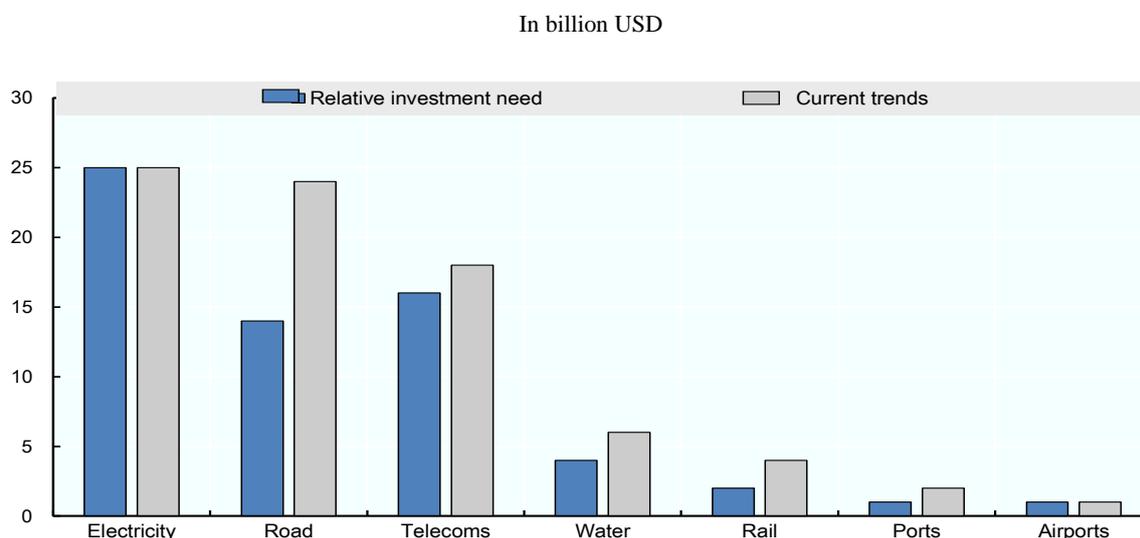
Challenge 3: Lack of complementary infrastructure

A developed ICT infrastructure in Jordan can also enhance the performance of the private sector. For instance, it can provide investors with easier access to information and secure and reliable communication; allow firms to optimise labour and capital costs, and facilitate access to domestic and international markets; and ensure frequent and uninterrupted communication between foreign enterprises and their headquarters (Latif , et al., 2018).

In recent years, Jordan has made significant investments in infrastructure, expanding access to electricity for households, improving access to water sources and sanitation, as well as nearly doubling the rail network. However, there are still gaps both in the quantity and quality of infrastructure necessary for the business operations of ICT investors. Jordan invests less than 1% of GDP in transport infrastructure, compared to 1-3% in other middle-income countries (IFC, 2021 forthcoming). The Global Infrastructure Hub recently estimated that Jordan needs USD 81 billion of investment in infrastructure until 2040 under a 3.9% of GDP growth assumption (Global Infrastructure Hub, 2018). Given the current levels of spending, this translates to an investment gap of 1.1% of GDP. The largest needs

are in energy (USD 25 billion), road infrastructure (USD 24 billion) and communications infrastructure (USD 18 billion) (Figure 6). Not only new infrastructure is needed, but also proper maintenance and quality control of the existing assets is necessary.

Figure 6. Infrastructure investment needs in Jordan, 2016-40



Source: Global Infrastructure Hub (2018^[27]).

Key questions

- What are the most important obstacles for private sector development and the attraction of quality FDI in the ICT sector of Jordan?
- Besides those listed in this paper, what other challenges exist?
- How can the private and public sector build the ground for important reforms such as competition or further removing investment restrictions?
- What policies are needed to enhance the competitiveness of Jordanian ICT MSMEs and start-ups, to enhance competition and innovation in the sector?
- How can the Jordanian private sector contribute to the development of the digital skills of women and youth?

OECD policy frameworks and tools can support Jordan's efforts to improve the competitiveness and attractiveness of its ICT sector

The OECD has developed over the years a number of policy tools on investment and the digital economy that can help Jordan improve the competitiveness of its ICT sector and its attractiveness for international investors.

- The **OECD Going Digital initiative** represents a comprehensive policy framework for the digital transformation. It is based on seven key interrelated policy dimensions: access, market openness, use, innovation, jobs, society and trust (OECD, 2019). Investment policy is key for three of these dimensions:

- *Market Openness*, as a key enabler of digitalisation by creating a business-friendly environment that allows foreign and domestic firms to compete on an equal footing and without excessive restrictions or burdensome conditions. Open trade and investment regimes can create new avenues to rapidly upgrade technologies and skills, and increase specialisation, as frontier technologies, applications and processes diffuse through open markets. Market openness also fosters competition and helps firms, domestic and foreign, reap the benefits of trade and investment, contributing to economic growth.
- *High quality and competitive access* to communication infrastructure and services, which underpin the use of digital technologies and facilitates interactions between people, organisations and machines. Quality and accessible communication infrastructure and services also serve as the basis for an open, interconnected and distributed Internet that enables the global free flow of information. Improving access and sharing of data is also essential, by balancing it with privacy and security considerations.
- *Effective use* of advanced digital tools, by promoting investment in ICTs while bridging existing digital divides based on gender, age, income, and education. Investing in skills and intangible assets is also particularly essential to ensure that SMEs can reap the benefits of the digital transformation.
- The OECD Policy Framework for Investment (PFI) brings together key guidelines to help governments create the right conditions to attract domestic and foreign investment. Investment policies can participate in digital development, notably through enhancing market openness, investment promotion and facilitation, and by enhancing the impact of FDI on sustainability. Key elements covered by the PFI include rules on the recognition and enforcement of intellectual property rights and responsible business conduct. These have specific implications for investors in data-driven enterprises or R&D for new technologies (OECD, 2015).
- Based on the PFI, the **FDI Qualities Indicators** and ongoing work on a Policy Toolkit also address the ways in which MNEs can contribute to digital transformation by transmitting digital technologies to domestic firms, investing in R&D for new technologies and in connectivity infrastructure (OECD, 2019).
- The **OECD Guidelines on Multinational Enterprises**, to which Jordan is an adherent since 2013, contain key recommendations addressed by governments to MNEs operating in or from adhering countries. The Guidelines recognise that MNEs have a responsibility to ensure that their international business operations contribute positively to innovation capacities of the national and local context that they serve. To this end, they recommend practices permitting the transfer and rapid diffusion of technologies and know-how, including by performing science and technology development work, by employing local workforce, and by granting licenses for the use of intellectual property rights and technologies under reasonable conditions (OECD, 2011).
- Other OECD tools touch upon different domains that can contribute to the flourishing of the digital economy and the ICT sector through various channels. These include the **Digital Government Policy Framework (DGPF)**, a policy instrument to help governments identifying key determinants for effective design and implementation

of strategic approaches to transition towards e-governance (OECD, 2020), as well as the **OECD-WTO-IMF Handbook on Measuring Digital Trade**, that represents an essential tool to define, estimate and share good practices on the measuring of digital trade (OECD, World Trade Organization, International Monetary Fund, 2019).

Key questions

- How can the existing OECD policy tools can best support reforms to boost the Jordanian ICT sector?
- How can the OECD best support sustainable sectoral PPD in Jordan?

References

- Duneja, R., Peacock, M., & Jaiswal, N. (2021). *Middle East digital economy outlook, special report : Digital growth opportunities in UAE, Pakistan and Oman*. Retrieved from https://www.adlittle.com/sites/default/files/reports/arthur_d_little_me_digital_economy_outlook.pdf
- EBRD. (2020). *Jordan Country Diagnostic*. Retrieved from <https://www.ebrd.com/publications/country-diagnostics>
- Financial Times. (2021). FDI markets.
- Gelvanovska, N., Rogy, M., & Rossotto, C. (2014). *Broadband Networks in the Middle East and North Africa : Accelerating High-Speed Internet Access*. Retrieved from <https://openknowledge.worldbank.org/handle/10986/16680?locale-attribute=fr>
- Gerdeon, S., & Qasem, L. A. (2019). *Jordan's ICT sector analysis and strategy for sectoral improvement*. Retrieved from <http://icon-institut.eu/news/giz2019-0122en-ict-sector-anaysis-strategy-jordan.pdf>
- Global Infrastructure Hub. (2018). *Country Profile : Jordan*. Retrieved from https://cdn.gihub.org/outlook/live/countrypages/GIH_Outlook+Flyer_Jordan.pdf
- GSMA. (2019). *Rethinking mobile taxation to improve connectivity*. Retrieved from <https://www.gsma.com/publicpolicy/resources/rethinking-mobile-taxation-to-improve-connectivity>
- Huawei ; Oxford Economics. (2017). *Digital spillover, Measuring the true impact of the digital economy*. Retrieved from https://www.huawei.com/minisite/gci/en/digital-spillover/files/gci_digital_spillover.pdf
- ICANN. (2017). *Accelerating the digital economy in the Middle East, North Africa and Turkey*. Retrieved from <https://www.icann.org/en/system/files/files/accelerating-digital-economy-report-09oct17-en.pdf>
- Intaj. (2016). *Reach 2025, from vision to action*. Retrieved from <https://docs.google.com/viewer?a=v&pid=sites&srcid=cmVhY2gyMDI1Lm5ldHxyZWJjaDIwMjV8Z3g6MjhiZTg2YmI2MDBjN2ViOA>
- Intaj. (2019). Women occupy around 30% of ICT jobs in Jordan. *The Jordan Times*. Retrieved from <https://jordantimes.com/news/local/women-occupy-around-30-ict-jobs-jordan-%E2%80%94-intj>
- Interdisciplinary Research Consultants . (2018). *Survey of firms in Jordan*.
- International Finance Corporation. (2021 forthcoming). *Jordan Private Sector Diagnostic*. Retrieved from https://www.ifc.org/wps/wcm/connect/publications_ext_content/ifc_external_publication_site/publications/cpsds
- International Labour Organization. (2021). *Labour force participation rate, female - Jordan* . Retrieved from <https://data.worldbank.org/indicator/SL.TLF.CACT.FE.ZS?locations=JO>
- International Monetary Fund. (2017). *ICT service exports (% of service exports, BoP) - Jordan, Egypt, Arab Rep., Morocco, Tunisia*. Retrieved from <https://data.worldbank.org/indicator/BX.GSR.CCIS.ZS?locations=JO-EG-MA-TN>
- ITES Industry Statistics and Yearbook. (2016). *Jordan* . Retrieved from <https://intaj.net/wp-content/uploads/2017/12/ICT-ITES-INDUSTRY-STATISTICS-AND-YEARBOOK-2016.pdf>

- ITU. (2019). Digital Development Dashboard.
- ITU. (2021). *Digital trends in the Arab States region in 2021*. Retrieved from https://www.itu.int/dms_pub/itu-d/opb/ind/D-IND-DIG_TRENDS_ARS.01-2021-PDF-E.pdf
- Jordan Investment Commission. (2019). *ICT Sector Profile*. Retrieved from <https://www.jic.gov.jo/wp-content/uploads/2019/07/ICT-Sector-Profile-24-4.pdf>
- Jordan Telecommunications Company ; Orange . (2019). *Annual report*. Retrieved from https://www.orange.jo/en/documents/annual_report/orange-annual-report-2020-en.pdf
- Latif , Z., Mengke, Y., Latif, S., Ximei, L., Pathan, Z., Salam, S., & Jianqiu, Z. (2018). The dynamics of ICT, foreign direct investment, globalization and economic growth: Panel estimation robust to heterogeneity and cross-sectional dependence. *Telematics and Informatics*. Retrieved from <https://www.sciencedirect.com/science/article/pii/S0736585317306809#b0215>
- OECD. (2011). *Guidelines on Multinational Enterprises*. Retrieved from <http://mneguidelines.oecd.org/guidelines/>
- OECD. (2015). *Policy Framework for Investment*. Retrieved from <https://www.oecd.org/investment/pfi.htm>
- OECD. (2018). *The digital economy, multinational enterprises and international investment policy*. Retrieved from <https://www.oecd.org/daf/inv/investment-policy/the-digital-economy-multinational-enterprises-and-international-investment-policy.htm>
- OECD. (2019). *FDI Qualities Indicators -Measuring the sustainable development impacts of investment*. Retrieved from <https://www.oecd.org/investment/FDI-Qualities-Indicators-Measuring-Sustainable-Development-Impacts.pdf>
- OECD. (2019). *Going Digital: Shaping Policies, Improving Lives*. Retrieved from <https://www.oecd.org/going-digital/going-digital-shaping-policies-improving-lives-9789264312012-en.htm>
- OECD. (2020). *A roadmap toward a common framework for measuring the digital economy*. Retrieved from <https://www.oecd.org/sti/roadmap-toward-a-common-framework-for-measuring-the-digital-economy.pdf>
- OECD. (2020). *The OECD Digital Government Policy Framework*. Retrieved from <https://www.oecd.org/governance/the-oecd-digital-government-policy-framework-f64fed2a-en.htm>
- OECD, World Trade Organization, International Monetary Fund. (2019). *Handbook on Measuring Digital Trade* . Retrieved from <https://www.oecd.org/sdd/its/Handbook-on-Measuring-Digital-Trade-Version-1.pdf>
- Privacy Shield Framework. (2018). Jordan - Market opportunities. Retrieved from <https://www.privacyshield.gov/article?id=Jordan-Market-Opportunities>
- The Global Entrepreneurship and Development Institute. (2018). *Global Entrepreneurship Index*. Retrieved from <https://thegedi.org/global-entrepreneurship-and-development-index/>
- UNCTAD. (2017). *World Investment Report*. Retrieved from https://unctad.org/system/files/official-document/wir2017_en.pdf
- World Bank. (2019). *Development indicators*. Retrieved from <https://databank.worldbank.org/source/world-development-indicators>

- World Bank. (2019). *Project Information Document, Jordan Youth, Technology and Jobs Project*. Retrieved from <https://documents1.worldbank.org/curated/en/799631573209713687/pdf/Project-Information-Document-Jordan-Youth-Technology-and-Jobs-Project-P170669.pdf>
- World Bank. (2020). Country Snapshot - Jordan. Retrieved from <https://www.worldbank.org/en/country/jordan>
- World Bank. (2020). *Does the Internet reduce gender gaps ?* Retrieved from <https://documents1.worldbank.org/curated/en/282451584107082621/pdf/Does-the-Internet-Reduce-Gender-Gaps-The-Case-of-Jordan.pdf>
- Yaseen, H., & Madadaha, A. (2019). Digital marketing adoption among smes in Jordan: A mixed-method approach. *Journal of Theoretical and Applied Information Technology*.