

ANALYSIS OF TRADE IN GERMAN, POLISH, AND CZECH ICT SECTORS

Nowadays information and communication technologies (ICT) play an important role in development of the most economies in the world. ICT grows faster than any other sector and bring higher productivity in manufacture, transport, trade, services, finance, medicine, science, education, and other sectors. Also it should be taken into account that the rapid development of ICT leads to significant changes in management by emerging new business-models and communication between people by providing access to information almost in any point of the world. This especially obvious in the European Union economy, where the ICT sector represents 3.6% of value added in GDP. In 2019 4% of total employment or more than 9.4 million specialists (EU-28) were employed in ICT [2]. The main issues of the ICT sector development have been analyzed by researchers from different countries: D. Adler, E. Alampay, B. V. Ark, M. Berma, K. C. Cheong, V. Folea, G. D. Graaf, M. Haghshenas, R. Inklaar, H. Kasimin, F. Khalili, M. Kuppusami, W. Y. Lau, R. H. McGuckin J. V. Reenen, I. Seki, B. Shanmugan, A. Yousefi, and other scientists.

According to the latest “2019 PREDICT Key Facts Report” which provides a detailed analysis of the state of ICT R&D activities in the EU, the ICT sector in the European Union (EU) has been showing a more dynamic behavior than the total economy since 1995 [3]. Exports and imports of ICT goods and services as a part of total trade represent a special interest in Poland, the Czech Republic, and Germany since these countries are deeply involved in e-commerce, science and technologies development.

The ICT goods export share of all exports of goods in Poland has fluctuated between 6.5% and 8.1% in recent years, but a downward trend can be observed. However, in numerical form ICT goods export is growing steadily and totaled 16.7 billion USD in 2018, showing an increase of 6.3% over the previous year. In 2018, the largest categories of ICT goods exported by Poland by volume are machines and devices for automatic data processing (35.5%) and telecommunications equipment (21.5%). The main target countries are Germany (2.6 USD billion), the Netherlands (1.4 USD billion), the United Kingdom (1 USD billion), France (0.9 USD billion). Imports of ICT goods have also shown faster growth in recent years. In fact, it prevails over exports and totals 23.5 billion USD in 2018. The dynamics of real ICT service growth and percentage growth relative to total trade is upward in both exports and imports. Exports of ICT services in recent years accounted for 8 to 10% of total services exports, while import was 7 to 9% [2; 5]. It is important that Polish IT services are increasingly recognized in the US, where the market is very competitive and demanding.

German exports of ICT goods have been between 4.5 and 5.4% of total goods exports in recent years, with a tendency to increase. Exports have increased by 16.75% over the last 5 years and reached 79.4 USD billion in 2018. The main items of ICT goods exports were electronic integrated circuits (16.7 USD billion), telephone sets (13.5 USD billion), and electrical transformers (9.5 USD billion). The main recipient countries for German products were China (14.2 USD billion), the United States (10 USD billion), and France (9.4 USD billion). The ICT goods imports are much higher than exports, accounting for 9% of total German imports of goods accounting for 113.8 USD billion in 2018. This causes a significant trade deficit in the ICT sector, amounting to 34.4 USD billion as of 2018. Exports of German

ICT services are a significant part of the country's total exports, accounting for 11.7% in 2018. The dynamics are positive: over the past 5 years export performance has increased by 27.46% from 28 USD billion in 2014 to 38.6 USD billion in 2018. The main export categories are computer services, including software (33 USD billion), telecommunications services (3 USD billion), and information services (2 USD billion). Imports of ICT services are also steadily increasing, both in percentage terms and in real terms. As of 2018, services imports totaled 34.5 USD billion and 9.8% of total imports of the country's services. The main categories of ICT imports in 2018 were computer services, including software (28.2 USD billion), telecommunications services (4 USD billion), and information services (1.9 USD billion) [4].

The ICT trade account in the Czech Republic accounts for the largest share of all trade among the analyzed countries. The share of exports and imports of ICT products in the Czech trade balance show record highs and stand at 15.2% and 16.3% respectively. The exports of Czech ICT products total 24.5 USD billion in 2018 setting a record growth of 27% over the previous year (19.3 USD billion). The largest export categories of ICT products were computer hardware and peripherals (12.8 USD billion), communications equipment (7.7 USD billion), consumer electronics (3 USD billion). Among the countries receiving Czech products the leader is Germany, which accounts for 33% of exports (8 USD billion), the Netherlands with a share of 9.7% (2.38 USD billion), the United Kingdom with a share of 6,7% (1.64 USD billion). Imports are also showing quite rapid growth, amounting to 24.7 USD billion in 2018 up 19.9% over the previous year (20.6 USD billion). The major supplier countries were China, accounting for more than half of Czech imports of ICT products (13.6 USD billion), Germany (2.3 USD billion) and the Netherlands (1.1 USD billion). The trade balance of ICT services in the Czech Republic is also positive, showing a steadily growing surplus of 1.9 USD billion in 2018, and holds a significant share in the overall trade in services in the Czech Republic, with exports accounting for 13.8% and imports 9%. In exports of services, in 2018, computer services take the first place (1.8 USD billion); the software (1.1 USD billion) is next, by the way, it is the fastest-growing category – an increase of 26% over the previous year; and telecommunications services (680 million USD) [1; 2].

Therefore, ICT takes a commanding role in the trade of the above-mentioned countries and demonstrates a steady growth irrespective of global and regional recessions that drastically affect other sectors. This sector has one of the biggest growth potentials and is extremely important for the European economy. It should be valuable to study the EU's experience in ICT trade and apply it to Ukrainian economy, taking into account that development of this sector only may empower economy and make it more competitive in the world market. It would be worth continuing the study of information technologies in the EU and provide decent research and practical value for the ITC sector in Ukraine.

REFERENCES:

1. Czech Statistical Office. ICT external trade analysis. – URL: https://www.czso.cz/documents/10180/90577073/06300619_d.pdf/fc49f501-305f-475b-8b8b-574e7cde0feb?version=1.1
2. Eurostat Data. – URL: <https://ec.europa.eu/eurostat/data/database>
3. The 2019 PREDICT Key Facts Report. [Електронний ресурс]. – URL: <https://ec.europa.eu/jrc/en/publication/2019-predict-key-facts-report>
4. ITC Trade Map. Trade statistics for international Business Development. – URL: <https://www.trademap.org/Index.aspx>
5. Polish Agency for Enterprise Development. IT/ICT sector in Poland – report. – URL: <https://ict.trade.gov.pl/en/news/305511,it-ict-sector-in-poland-report.html>