

# Polish-Türkiye cooperation in the area of technology and innovation: Conditions and development directions

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**Abstract:** **Background:** The year 2023 is a special time for Polish-Türkiye diplomatic relations. It is the 100th anniversary of the proclamation of the Republic of Türkiye and the 100th anniversary of its recognition by Poland. One area of this public and economic diplomacy is the debates on the different dimensions of the experiences, practices or frameworks of mutual cooperation between Poland and Türkiye, organised by the Foundation for Research on Türkiye in cooperation with the Regional Centre for International Debate in Krakow. The article is a synthesis of considerations undertaken in the area of Polish- Türkiye economic cooperation, with a particular focus on technology and innovation.

**Research objectives:** The article aims to describe the potential pathways for enhancing mutual economic and political relations between Poland and Türkiye.

**Methods:** The paper is based on content analysis of the debate on Polish-Türkiye cooperation in the area of innovation and technology, the potential of both countries in this respect, and the possibilities for its development. The debate took place in March 2023, and the authors were one of the panellists. The findings enrich statistical data coming from the Polish Central Statistical Office.

**Results:** The paper highlights the strong economic ties between Poland and Türkiye, underscoring their joint endeavours across various industries. Both governments have ambitious plans to significantly boost their trade balance by 2023, with a particular emphasis on sectors like energy, mining, IT, automotive, and textiles, showcasing a mutual commitment to growth and partnership.

**Conclusions:** Establishing and developing economic cooperation between Poland and Türkiye can benefit both countries. The mechanisms and initiatives mentioned above can help to increase trade and investment flows, create new business opportunities, and promote mutual learning and innovation.

**Keywords:** Türkiye, Poland, cooperation, economic relations, 100th anniversary

**JEL Codes:** H1; H8

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## 1. Introduction

Türkiye is Poland's main partner in the Middle East and Asia. Despite periodic challenges, the country has a strong economy based on rapidly developing and modernising industry, agriculture and tourism (Mierzwa, 2015; Burak, 2015, Atasever et al., 2023). Economic and research cooperation is discussed and debated by decision-makers from both countries (Ochoa-

Dąderska et al., 2023). Business-related institutions, scientific centres, and public organisations discuss past experiences and future directions of Polish-Türkiye cooperation.

2023 is a special year both for Türkiye and for Polish-Türkiye relations. It marks the 100th anniversary of the proclamation of the Republic of Türkiye and the 100th anniversary of its recognition by Poland. It is also very meaningful as it is the 100th anniversary of the Treaty of Friendship signed between Poland and Türkiye in Lausanne in 1923. This jubilee creates space for discussion on the possibilities of further development of mutual economic and political relations in both countries. One of the areas of this public and economic diplomacy are debates on various dimensions of experiences, practices or frameworks of mutual cooperation between Poland and Türkiye, organized by the Foundation for Research on Türkiye in cooperation with the Regional Center for International Debate in Krakow.

The subject of the article is a summary of the debate on Polish-Türkiye cooperation in the area of innovation and technology, the potential of both countries in this respect, and the possibilities of its development. The article is a synthesis of considerations undertaken in the area of Polish-Türkiye economic cooperation, with a particular focus on technology and innovation.

## **2. The potential of Polish-Türkiye cooperation**

Economic development includes quantitative changes (increase) in basic macroeconomic variables (e.g., production, employment, investments, size of functioning capital, income and consumption) and qualitative. These relate to the socio-economic system or organisation of society and include technical and technological progress, improvement of the system of national and global economic links, increasing qualifications of the workforce, modernisation of the structure of the economy, increase in the micro- and macroeconomic level of efficiency, and the emergence of new products and improvement of the existing ones. Development is also defined as the result of quantitative growth and qualitative progress in social, economic and natural systems (Chmiel, 2018).

Economic development is determined by natural resources, the economic and monetary policy of the state, the efficiency of institutions, the level of education and health care, the distribution of wealth in society, the level of democracy, market openness, environmental protection, infrastructure development, and the research and development budget. In addition, considering the economic peculiarities of Poland and Türkiye, the determinants of their economic development are different (Siudek, 2013).

### **2.1. The level of economic development of Poland**

Poland owes its GDP growth largely due to EU membership. Only in the years 2004–2018, the share of EU countries' demand in creating Polish GDP increased from 15.6% to 21.2%, according to the report of Polski Instytut Ekonomiczny (PIE) [the Polish Economic Institute] "Poland's benefits from the single market" (PIE, 2021). Poland's GDP per capita per purchasing power parity is approximately 31% higher than it would have been if it had not joined the EU (Szubański, 2023; Śleszyńska, 2023). It was exports that mainly contributed to the growth of Polish GDP after the accession. Two-thirds of Poland's economic growth was based on exports (Ambroziak et al., 2023; Hagemeyer et al., 2021).

Poland is open to foreign direct investments (FDI), which increased dynamically after Poland's accession to the EU. From 2004–2021, foreign investments in the Polish market exceeded USD 244 billion, with Germany, France, Spain and the United Kingdom being the most active. The

investments were mostly in the service sector, wholesale and retail trade, and the industrial sector, mainly in the automotive industry. Poland ranks 9th among European destinations of planned FDIs. In 2021, there were 23,200 companies with foreign capital in Poland (Statistics Poland, 2022). According to investors, investments announced in 2021 brought 21,000 new jobs. Three car manufacturing plants in Poland are owned by foreign concerns: FCA Poland in Tychy, Opel Manufacturing Poland in Gliwice and Volkswagen Poznan in Poznan. In the 2010s, manufacturing plants for LCD monitors, TV sets, and computers (Sharp, LG, Toshiba, Dell, and TPV) were established. Foreign entities also dominate in business services, which since the late 1990s have been one of the fastest-growing sectors of the Polish economy.

Poland has the third largest agricultural area in the EU and Polish agriculture employs about 10% of all workforce, yet agriculture generates 3% of GDP. Approximately 2 million private farms use 90% of the farmland. Poland is the third largest producer of cereals in the EU (PIE, 2021) and has the most developed automotive, food, energy, metallurgical, machine and electromechanical industries. Mining and processing mineral resources play an important role in the domestic economy. However, most Polish GDP is generated by small and medium-sized enterprises, whose share of the GDP is 49.6% (PARP, 2021).

## **2.2. The level of economic development of Türkiye**

Türkiye's economic model is based on a free market economy with the state playing a strong role (Bilici, Çevik, 2023; Janus, Ertunç, 2021). The foundation of the Türkiye economy is industry (29.5% of GDP in 2021, employing 26% of the workforce) and services (54% of GDP, 55% of the workforce). The share of the latter is steadily increasing. The automotive, petrochemical and electronics industries are among the strongest in the country. In recent years, they have outdistanced the traditional sectors of the Türkiye economy: textiles and clothing (Informator ekonomiczny: Turcja, 2022). Among services, tourism takes prominence (4% of GDP). It is sensitive to various perturbations, especially regarding security (including epidemics). Agriculture (6.08% of GDP) is less prominent, although it still generates approximately 20% of jobs. The sector suffers from low productivity because it relies on small farms. Approximately 11% of Türkiye's territory is used as agricultural land. Wheat is Türkiye's main crop, and the country is the world's third-largest tobacco exporter. It is also the largest producer of hazelnuts (approximately 70% of global production).

Since November 2021, Türkiye has implemented a new economic development model focused on production, export and employment (Gródek-Szostak et al. 2021). The generated surpluses in foreign trade are to stabilise the economy, prices and the national currency. Türkiye's development strategy assumes that by 2023 (the 100th anniversary of the Republic), Türkiye will be the 10th global economy in terms of the size of the generated GDP. In 2021, the value of Türkiye exports amounted to approximately USD 225 billion, but it is assumed that by 2023 it will have increased to USD 500 billion. The regions with the greatest development potential for Türkiye exports include countries with which Türkiye has historical and cultural ties: the Balkans, the Middle East, North Africa and Central Asia. On the other hand, Western Europe and Eastern Asia are considered increasingly difficult to reach. The greatest risk for these forecasts is domestic demand. Consumption is growing slowly, and the business environment does not support investment and innovation.

Türkiye remains Poland's leading partner in the Middle East. According to data for 2021, Türkiye ranks 23rd on the list of the most important destinations for Polish exports and 35th among the most important destinations for imports to Poland. In terms of trade in goods,

Türkiye ranks 18th. The potential of Polish-Türkiye cooperation is best characterised by trade turnover, which has increased in recent years. Polish exports to Türkiye accelerated. In 2021, the trade turnover amounted to EUR 7,905.9 million, an increase of 27.3% compared to 2020. On the other hand, Polish exports (Statistics Poland, 2022) amounted to EUR 2,648.3 million (an increase of 18.7%, y/y), and imports from Türkiye amounted to EUR 5 billion 257.6 million (an increase of 32.1%, y/y).

Since 2017, Poland has been recording a growing deficit in trade with Türkiye. In 2021 it amounted to EUR 2.6 billion compared to EUR 1.7 billion in 2020. After 11 months of 2022, a continuation of the dynamic growth of the trade exchange is visible. Compared to the same period in 2021, Polish exports increased by almost 45%, and imports by almost 27%. The expected trade turnover for 2022 should exceed EUR 10 billion. Please observe that in the first quarter of 2022 Türkiye made the largest ever export to Poland (USD 1,433 million), an increase of 6.6% compared to the same period in 2022. Almost one-fifth of Türkiye exports go to the countries of the Middle East, which are one of the most important destinations for Türkiye's commercial expansion. Goods exported there have a value over eight times higher than those shipped to Poland.

According to Statistics Poland (2022) data, Poland's top export goods to Türkiye are machines and mechanical devices (34% of exports to Türkiye in 2023), including harvesting machines (5% of exports). Combine harvesters and internal combustion engines are top export products in this group. Non-rail vehicles also have a large share (17% of exports to Türkiye), including passenger cars (4.8%), car parts, truck tractors and trucks. Türkiye also buys base metals from Poland (15.9%), especially iron and steel scrap (8.9% of exports), but also chemicals (8.7%), including washing powders (2.4 %) and plastic products (8.7 %).

On the other hand, Poland receives from Türkiye mainly textiles (27.3% of imports), including clothing (9.7% of imports), with a large increase in the sub-group of clothing sets in 2023 (+102%). However, Poland also buys non-rail vehicles (23%), starting from cars (9.7% of imports) to machines and mechanical devices (16.3%). In 2023, the largest import increase from Türkiye concerned truck tractors (+291% y/y). In the first quarter of 2023, the export of fresh fruit and vegetables (84.9%), electronic and electrical equipment (20.4%) and the automotive sector (18.4%) increased the most. Apparently, the breach of supply chains from China during the pandemic redirected some orders from Polish clothing store chains to Türkiye.

According to the data of the Statistics Poland, in 2021 the value of services provided by Polish enterprises in Türkiye amounted to EUR 142.3 million, which means an increase compared to 2020 (when it amounted to EUR 95.7 million).

### 3. Research Method and Material

The paper is based on content analysis of the debate on Polish-Türkiye cooperation in the area of innovation and technology, the potential of both countries in this respect, and the possibilities for its development. The debate took place in March 2023, and the authors were one of the panellists. The key categories explaining Polish-Türkiye economic cooperation are bilateral agreements, free trade agreements (FTA), investment incentives, joint ventures, business matchmaking events, sector-specific initiatives, and cultural exchange. The text was created as an interdisciplinary analysis of data on Polish-Türkiye cooperation in various technological and economic fields. A four-member international team of authors representing various disciplines

analysed the available data and juxtaposed the results available from both the Polish and Türkiye sides. The result was an original study presenting cooperation between the two countries.

#### 4. Results and discussion

Poland and Türkiye have a long history of diplomatic and economic relations. Both countries are members of NATO, and their political and economic systems share many similarities. In recent years, there has been a growing interest in enhancing economic cooperation between Poland and Türkiye, as both countries seek to expand their trade and investment ties and strengthen their economies. There are several conditions and mechanisms that can be leveraged to establish and develop Polish-Türkiye economic cooperation (Table 1).

**Table 1. Support mechanisms for Polish-Türkiye economic cooperation**

Cooperation support mechanism	Characteristics
Bilateral agreements	Bilateral agreements are one of the most fundamental mechanisms for establishing and developing economic cooperation between Poland and Türkiye. These agreements can create a framework for mutual economic relations, covering trade, investment, and economic cooperation. Bilateral agreements can include provisions on customs, tariffs, rules of origin, investment protection, intellectual property rights, and dispute resolution. Negotiating and signing bilateral agreements can be facilitated by regular high-level meetings between officials from both countries.
Free trade agreements (FTA)	An FTA between Poland and Türkiye can help to reduce trade barriers, such as tariffs, non-tariff barriers, and regulatory differences. An FTA can increase trade flows between the two countries, create new business opportunities, and attract foreign investment. An FTA can be negotiated bilaterally or through regional trade blocs like the European Union.
Investment incentives	Poland and Türkiye can offer investment incentives to encourage businesses to invest in each other's markets. These incentives can include tax breaks, subsidies, streamlined regulations, and other incentives that reduce the costs of doing business. By offering investment incentives, both countries can attract foreign investment, create jobs, and boost economic growth.
Joint ventures	Companies from Poland and Türkiye can form joint ventures to explore new markets, share technology and expertise, and increase their competitiveness. Joint ventures can help to overcome barriers to entry, such as language and cultural differences, and provide a platform for mutual learning and innovation. Joint ventures can be established in various sectors, including manufacturing, energy, agriculture, tourism, and technology.
Business matchmaking events	Poland and Türkiye can organise business matchmaking events and trade fairs to promote networking and business opportunities between companies in both countries. These events can help to identify potential business partners, exchange information on market trends and opportunities, and showcase products and services. Business matchmaking events can also facilitate contact between businesses and government officials.
Sector-specific initiatives	Poland and Türkiye can develop sector-specific initiatives to enhance cooperation in energy, agriculture, tourism, and technology. For example, Poland has a robust renewable energy sector, and Türkiye has a growing market for clean energy. Both countries can collaborate to share expertise and promote trade and investment in this sector. Similarly, Poland is a major producer of food products, and Türkiye is a major consumer of food products. Cooperation in this sector can create new opportunities for both countries.

Cooperation support mechanism	Characteristics
Cultural exchange	Cultural exchange programs can be established to promote understanding and friendship between the people of both countries, which can enhance economic cooperation and trade. Cultural exchange programs can include student exchanges, language courses, and cultural events. Such initiatives can help to create a positive image of each country in the eyes of the other and facilitate business contacts.
Diplomatic support	Diplomatic channels can be used to facilitate economic cooperation between the two countries. Regular high-level meetings between officials can help identify areas of mutual interest and overcome any obstacles. Joint economic committees can be established to coordinate economic relations and provide a forum for discussion and negotiation. Diplomatic support can also be used to promote investment opportunities, facilitate the resolution of disputes, and provide information on market conditions.

Source: own elaboration

Türkiye is the 18th destination for Polish exported goods globally and the 4th outside the EU. The country imports more from Poland than it exports. During the Polish-Türkiye Economic Forum in 2019, entrepreneurs discussed the prospects for economic cooperation in the energy, mining and IT/ICT industries and in the area of automotive innovation. The Türkiye market is well-known to Polish entrepreneurs in the energy, mining, machinery and furniture industries. On the other hand, Türkiye construction and textile companies are strongly present in Poland. Parallel to the Business Forum, Polish and Türkiye governments held economic consultations regarding, among others, common challenges: the Fourth Industrial Revolution and changes in the global trading system.

Minister Ruhsar Pekcan stressed that the governments of both countries will jointly strive to increase our trade balance from EUR 6 billion to EUR 10 billion for the 100th anniversary of the friendship treaty between Poland and Türkiye in 2023. She describes it as follows:

“We have had friendly relations for 600 years. It is worth strengthening them and facilitating business contacts, e.g., modernising customs policy. Türkiye offers a number of investment incentives, especially for innovative projects. We are intensively developing a network of incubators at technical universities, to seek innovative technological solutions at the junction of business and science”. (KIG, 2019)

As Pekcan explained, the intensive development of industry and services, supported by a high natural increase (3rd among the populations in the Middle East), generates an increase in demand for electricity in Türkiye. According to Türkiye’s national development strategy, by 2023 the country will be the 10th largest economy in the world in terms of GDP. This is due to a strong service sector, which generates 60% of Türkiye’s GDP, and heavy industry – the automotive, electronics and petrochemical sectors.

Another industry in which Polish-Türkiye cooperation has room for growth is the automotive industry – especially in cooperation between Polish manufacturers of car components and Türkiye partners. Türkiye is the fifth manufacturer in the automotive market in Europe, aiming to enter global markets with its own brand. Poland, in turn, is a leading European centre for producing accessories and innovative car components. These two sides complement each other perfectly.

In the last 15 years, Türkiye investors have implemented projects with a total value of USD 112.3 million. Thus, they have created almost 1,300 jobs in sectors such as textile, automo-

tive and R&D. In the same period, domestic companies implemented investment projects in Türkiye worth a total of USD 281.6 million, and one of the largest Polish investors in Türkiye is Empik Media&Fashion.

Polish entrepreneurs know that the Türkiye industry offers attractive, high-quality products at competitive prices. Many sectors, e.g., defence and automotive, are at the highest global technological level. The offer of the Türkiye agri-food industry is also extremely attractive, and of course tourist and beauty and spa services (Erişen 2023). According to data, more than a million Polish tourists visited Türkiye in 2022, attracted by the local offer and the possibility of travelling to Türkiye only with an ID.

One element that needs to be mentioned in terms of international cooperation, not only Polish-Türkiye, is the Enterprise Europe Network activity, which helps businesses innovate and grow internationally. It is the world's largest support network for small and medium-sized enterprises (SMEs) with international ambitions. The Network is active worldwide. It brings together experts from member organisations that are renowned for their excellence in business support. Member organisations include chambers of commerce and industry, regional development organisations, universities and research institutes, and innovation agencies. Individual businesses cannot become Network members, but they can enjoy the many services offered. The Enterprise Europe Network can also offer a targeted approach for your business sector. Its groups of experts cover all key economic sectors, from healthcare, agri-food and intelligent energy to fashion and textile (Heldak et al., 2020). In addition, the Network will help companies increase their resilience and support SMEs in their transition to more sustainable and digital business models. Polish and Türkiye entrepreneurs can establish business, trade or research cooperation through the Enterprise Europe Network.

## 4. Conclusions

In conclusion, establishing and developing economic cooperation between Poland and Türkiye can benefit both countries. The mechanisms and initiatives mentioned above can help to increase trade and investment flows, create new business opportunities, and promote mutual learning and innovation. By leveraging their respective strengths and working together, Poland and Türkiye can overcome barriers to entry and boost economic growth. Moreover, the two countries' long-standing diplomatic ties and shared values provide a solid foundation for economic cooperation development. Therefore, it is essential to continue exploring and implementing new mechanisms for strengthening economic relations between Poland and Türkiye in the future.

## References

- Ambroziak, Ł., Markiewicz, J., Strzelecki, J., Świącicki, I., Waśniński, M. (2023). *How Poland benefits from the single market*. Warsaw: Polish Economic Institute.
- Atasever, M., Chmielarz, W., Zborowski, M. (2023). Comparison and assessment of the power distance index in generation Z in Türkiye and Poland. *Procedia Computer Science*, 225, 452–467.
- Bilici, M. R., Çevik, S. (2023). Financial literacy and cash holdings in Türkiye. *Central Bank Review*, 23(4), 100129.
- Burak, A. (2015). Turkey-Poland 600 years of friendship. *Polish Political Science Yearbook*, 44, 316–318.
- Chmiel, O. J. (2018). Assessing state support for the development of international economic cooperation: A case of Polish trade support institutions' export recommendations for Turkey. *Polish Political Science Yearbook*, 47(1), 39–53.

- Erışen, S. (2023). An empirical study of the technoparks in Turkey in investigating the challenges and potential of designing intelligent spaces. *Sustainability*, 15, 10150.
- Gródek-Szostak, Z., Kotulewicz-Wisińska, K., Olszowska, K. W. (2021). *Prawno-organizacyjne uwarunkowania inwestowania cudzoziemców w nieruchomości w Polsce i Turcji – studium porównawcze*. In A. Jaki & B. Ziębicki (Eds.), *Wiedza – gospodarka – społeczeństwo: wyzwania współczesnych organizacji i gospodarek* (pp. 117–125). Warsaw: Instytut Nauk Ekonomicznych Polskiej Akademii Nauk.
- Hagemeyer, J., Michałek J., Svatko, P. (2021). Economic impact of the EU Eastern enlargement on New Member States revisited: The role of economic institutions. *Central European Economic Journal*, 8(55), 126–143.
- Hełdak, M., Kurt Konakoğlu, S. S., Kurtyka-Marcak, I., Raszka, B., Kurdoğlu, B. Ç. (2020). Visitors' perceptions towards traditional and regional products in Trabzon (Turkey) and Podhale (Poland). *Sustainability*, 12, 2362. <https://doi.org/10.3390/su12062362>
- Informator ekonomiczny: Turcja. (2022). <https://www.gov.pl/web/turcja/informator-ekonomiczny>
- Janus, J., Ertunç, E. (2021). Differences in the effectiveness of land consolidation projects in various countries and their causes: Examples of Poland and Turkey. *Land Use Policy*, 108, 105542.
- KIG. (2019). Relacja: Polsko-Tureckie Forum Gospodarcze <https://kig.pl/polsko-tureckie-forum-gospodarcze/>
- Mierzwa, J. (2015). Polish-Turkish relations in the 19th and 20th centuries: The struggle for independence and modernization. *Journal of Economics and Management*, 20(A), 5–21.
- Ochoa-Dąderska, R., Ochoa-Dąderska, G., Sánchez García, J., Callarisa-Fiol, L., Navikiene, Z., Navikaite, J., Demirci, M., Gródek-Szostak, Z., Niemczyk, A., Szelağ-Sikora, A., Chęcińska-Kopiec, A. & Ochoa Siguencia, L. (2023). *Professional use of ICT-based solutions for social integration: DigIN Report I*. Czestochowa: Instytut Badań i Innowacji w Edukacji.
- PARP. (2021). *Raport jubileuszowy, MŚP niezaprzeczalnie najważniejszym ogniwem polskiej gospodarki*, <https://www.parp.gov.pl/component/content/article/82282:jubileuszowy-raport-parp-msp-niepodrzeczalnie-najwazlismy-ogniwem-polskiej-gospodarki>
- PIE. (2021). *Dwie dekady rozwoju polskiego rolnictwa. Innowacyjność sektora rolnego w XXI wieku*. Warsaw: Polski Instytut Ekonomiczny.
- Siudek, T. (2013). Rozwój gospodarczy – aspekty teoretyczne i praktyczne. *Roczniki Naukowe Stowarzyszenia Ekonomistów Rolnictwa i Agrobiznesu*, 15(5), 266–274.
- Statistics Poland. (2022). *Działalność gospodarcza przedsiębiorstw z kapitałem zagranicznym w 2021 r.*, <https://stat.gov.pl/obszary-tematyczne/podmioty-gospodarcze-wyniki-finansowe/przedsiębiorstwa-niefinansowe/dzialalnosc-gospodarcza-przedsiębiorstw-z-kapitałem-zagranicznym-w-2021-roku,26,5.html>
- Szubański P. (2023, January 5). Polski PKB jest wyższy o 31 proc. Dzięki członkostwu w Unii Europejskiej. *Rzeczpospolita*. <https://www.rp.pl/dane-gospodarcze/art37731511-polski-pkb-jest-wyzszy-o-31-proc-dzieki-czlonkostwu-w-unii-europejskie>
- Śleszyńska G. (2023, March 10). Członkostwo Polski w UE – próba bilansu. *Obserwator Finansowy*. <https://www.obserwatorfinansowy.pl/tematyka/makroekonomia/trendy-gospodarcze/czlonkostwo-polski-w-ue-proba-bilansu/>

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The author declare that the research was conducted without any commercial or financial relationships that could be construed as a potential conflict of interest.

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