Arkadiusz Michał Kowalski (ed./red.)
أركاديوش ميخاو كوفالسكي (المحرر)

POLAND'S ECONOMIC COOPERATION WITH THE ARAB STATES

WSPÓŁPRACA GOSPODARCZA POLSKI Z KRAJAMI ARABSKIMI

التعاون الاقتصادي بين بولندا والدول العربية

SGH Publishing House

Polish Investment & Trade Agency
PFR Group

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WARSAW 2021

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Language Editors/ Redakcja językowa/ التحرير اللغوي

Ryszard Guz-Rudzki/ Anna Adamczyk/ Abdel Kader Mousleh

First Edition/ Wydanie I/ الطبعة الأولى

ISBN 978-83-8030-497-0

SGH Publishing House
162 Niepodległości Ave., 02-554 Warsaw, Poland
www.wydawnictwo.sgh.waw.pl, e-mail: wydawnictwo@sgh.waw.pl

Oficyna Wydawnicza SGH – Szkoła Główna Handlowa w Warszawie
02-554 Warszawa, al. Niepodległości 162
www.wydawnictwo.sgh.waw.pl, e-mail: wydawnictwo@sgh.waw.pl

Cover design/ Projekt okładki/ تصميم الغلاف
Magdalena Limbach

DTP/ Skład i łamanie/ التنضيد
DM Quadro

Print and binding/ Druk i oprawa/ طباعة وتجليد
QUICK-DRUK s.c.

Order/ Zamówienie/ الطلبية
147/X/21

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Contents

Piotr Wachowiak, Krzysztof Drynda
Foreword 9

Arkadiusz Michał Kowalski
Introduction 11

Arkadiusz Michał Kowalski
Chapter 1
International Comparative Analysis of the Competitiveness and Innovation Performance of Poland and the Arab States 13

Krzysztof Falkowski
Chapter 2
Trade between Poland and the Arab States 29

Tomasz M. Napiórkowski
Chapter 3
Foreign Direct Investment between the Arab States and Poland 51

Małgorzata Stefania Lewandowska
Chapter 4
Dimensions of Culture and Innovation Linkages in the Arab States and in Poland 65

Marta Mackiewicz
Chapter 5
Experiences of Polish Companies Operating in the Arab States 85

Foreword

The Arab world has been attracting growing interest from economists due to an increasing importance of the Arab states in today's global economy. The strategic importance of the region goes beyond the fact that it is where numerous transport and trade routes intersect, as it is also an invaluable source of energy resources and a vast market with a huge potential. At the same time, the Arab states have been departing from an economic monoculture based on oil and gas resources towards diversification of their economic structure, developing high-tech industries and investing in the science sector and research and development. The potential and the development opportunities for Polish-Arab cooperation can therefore be sought not only on the part of enterprises but also on the part of higher education and research institutions. Interest in the Arab countries is also growing among the research staff of the SGH Warsaw School of Economics, as exemplified by this monograph.

The area occupied by the Arab states, especially those located in the Middle East, is widely perceived as the cradle of human civilization. It was in this region where the first cities emerged over eight thousand years ago, and then the first nation states came into being. The region played a significant role in technical progress as well as in science, philosophy, linguistics, arts, and architecture. Over successive millennia, the Middle East remained at the core of civilization, alongside Middle Asia, the Indian subcontinent, China, and certain parts of Europe, particularly in the times of the Greek and Roman empires. Thus, for thousands of years the Arab world was among the leading centers of human civilization, to finally fall victim to centuries of stagnation. Nowadays, in many respects the Arab states stand out as a region where there is a strong contrast between the old and new worlds. Region-specific conditions merge here with more universal factors: the globalization wave, technological progress, and implementation of new communication tools. The platform that integrates all nations in the Arab world is formed by the Arabic language and the Arab culture. At the same time, it should be kept in mind that the Arab world is not a uniform monolith, as it forms a mosaic of diverse economic, political, and social systems.

Development trends in the Arab states show that the region has been and will be gaining in importance in the world economy. Research conducted by academics of the SGH Warsaw School of Economics proves a progress in the development of

Polish-Arab cooperation over the past decade, as reflected, for instance, by the growth in the overall value of trade and foreign direct investment. Despite cultural differences and geographical distance, the Arab world offers great opportunities for Poland's economic involvement. Success stories of Polish enterprises in the Arab market, demanding yet offering unlimited prospects for development, may become an inspiration for further ventures to be undertaken through Polish-Arab cooperation. It is therefore advisable to widely build awareness of the potential of the Arab world and the opportunities for the development of economic cooperation with the region, which this publication will hopefully promote.

Piotr Wachowiak
Rector of the SGH Warsaw of School of Economics

Krzysztof Drynda
President of the Polish Investment and Trade Agency

Introduction

Arkadiusz Michał Kowalski

The Arab states are situated in the Southwest Asia and North Africa region. The strategic significance of the region arises from the fact that it is located at the interface of three continents of the Old World: Asia, Africa, and Europe. It is where numerous transport and trade routes intersect and there are huge energy resources, mainly oil. On the other hand, the region seems to embody the turbulences, conflicts, and uncertainties of today's world. While all Arab states are facing more or less the same challenges, their social and economic context is highly divergent. The Arab states include some of the world's wealthiest countries, but most of them have moderate income levels, with a large number of their citizens living in poverty.

The purpose of this monograph is to assess the level of cooperation between Poland and the Arab states, with a particular focus on foreign direct investment, trade, and cultural conditions, as well as to compare the competitiveness and innovation performance of the countries concerned and the experiences of Polish enterprises operating in the Arab markets. In this publication, the term "Arab states" includes 22 countries which form the Arab League and which are classified by the World Bank as the Arab World. They are:

- Saudi Arabia, Kuwait, Bahrain, Qatar, United Arab Emirates (UAE), Oman, Yemen (Arabian Peninsula),
- Iraq, Syria, Lebanon, Jordan (Middle East),
- Libya, Tunisia, Algeria, Morocco, Mauritania (Maghreb states),
- Egypt, Sudan, Somalia, Djibouti, the Comoros, the Palestinian Autonomy.

A comparison of Poland with the Arab states is not a simple task for several reasons. On the one hand, we are comparing one country with the group of 22 which are additionally located in a region characterized by diverse political, geographical, climatic, social, and economic conditions. The Arab states themselves are also a heterogenous group, with some of them generating high income while others are struggling with multiple developmental problems. As is the case with many developing countries around the world, those states have poorly developed statistical reporting systems and lack input data for many indicators used in economic analyses. The low availability

of statistical data posed a challenge for the authors of the monograph, who sought to collect and use in their research statistical data which is available at least for the majority of the economies under study.

The monograph consists of five chapters.

The first chapter, by Arkadiusz Kowalski, presents the social and economic situation of the Arab states and Poland in an international comparative approach. The analysis covers both basic indicators differentiating the countries being studied are analyzed, such as the size of the economies measured by GDP, population, and land area, and long-term income competitiveness measured by GDP per capita. Owing to the need for transition to a knowledge-based economy, special attention has been placed on an analysis of the innovation potential and innovation position of Poland and the Arab states, with the use of metrics such as the proportion of residents using the Internet, the number of patents, or the share of high-tech exports in total exports. Chapter two, by Krzysztof Falkowski, analyzes trade between Poland and the Arab states. In particular, the volume and dynamics of change in Poland's trade with the Arab states, both overall and with individual countries, are studied, as is the commodity structure of trade between Poland and those Arab states that play a major role in Poland's trade (Saudi Arabia, the United Arab Emirates, Algeria, Morocco, and Egypt). It the third chapter, by Tomasz M. Napiórkowski, the analysis concerns foreign direct investment (FDI) between the Arab states and Poland, both in terms of stock and flows, as well as related income. Chapter four, by Małgorzata Lewandowska, deals with the dimensions of culture in the Arab states and in Poland, analyzed mainly in the context of the innovative capacity of the economy. The fifth chapter, by Marta Mackiewicz, presents examples of successful Polish firms operating in the Arab markets and recommendations arising from their experiences.

Chapter 1

International Comparative Analysis of the Competitiveness and Innovation Performance of Poland and the Arab States

Arkadiusz Michał Kowalski

Introduction

The Arab world bears the historical heritage of a powerful ancient civilization which was followed by centuries of relative stagnation. Some parts of the region have recently seen a rapid economic growth and positive social changes. Nonetheless, a substantial proportion of the progress achieved so far remains dependent on a narrow economic base, mainly on the wealth built on the massive oil and gas production. At the same time, many Arab states continue to suffer from underdevelopment, poverty, and an obsolete structure of their economies.

The literature on the Arab states lists certain characteristic features of their economies, such as relatively high inflation, excessive government and public spending, underdeveloped private sector, low development of small and medium-sized enterprises, poverty, growing unemployment, low efficiency of public administration, low development of capital markets, insufficient healthcare and education, underdeveloped infrastructure, environmental devastation [Łukaszewicz, 2002]. At the same time, the Arab world is characterized by a low level of internal trade and economic relations. In general, there is still a high untapped potential of integration as a means of economic and social development in the Arab region [United Nations, 2019].

The purpose of this chapter is to present the social and economic situation of the Arab states and Poland in an international comparative approach. Presented first are

the basic indicators concerning the size of the economy measured by GDP and wealth measured by GDP per capita, population, land and urban area, which has enabled the values of those indicators to be compared and an overall picture of disparities between those states to be obtained. Further on, income competitiveness of the Arab states and Poland is analyzed in dynamic terms, covering (subject to the availability of data for the respective countries) the period 1990–2020, in order to examine long-term changes in economic growth. Both Poland and the Arab states can be described as emerging markets which are facing the risk of middle income trap due to the depletion of the existing sources of competitiveness. The need to diversify the economic structure towards higher value-added industries necessitates transformation of these economies towards innovation and technological progress. Therefore, the next part of this chapter tackles an analysis of the innovation potential and innovation position of Poland and the Arab states, which can be measured, e.g., by the proportion of residents using the Internet, the number of patents, or the share of high-tech exports in total exports.

1. Comparison of the social and economic situation of the Arab states and Poland

A comparative analysis of the Arab states and Poland faces a variety of challenges associated with diverse political, geographical, climatic, social, and economic conditions. Doing business in the Arab states continues to give rise to multiple controversies in the Western world, which does not understand many rules governing the Arab societies and economies [Pajduszewski, 2019]. Despite cultural differences and the existing trade and non-trade barriers, investors become familiar with the characteristics of the market and decide to export to that market or trade there [Pawlikowska, 2017]. The states of the Arab World are themselves a heterogenous group. Some of them are countries generating high incomes while others are struggling with many essential developmental problems. What represents a constraint to the research is that, as with many developing countries around the world, those states have poorly developed statistical reporting systems and lack input data for many indicators used in economic analyses. In addition, in less developed Arab states, a large part of the economy is the informal sector which is not included in official statistics [Chen, Harvey, WIEGO Network, 2017]. Nevertheless, the analysis in this chapter seeks to make use of various statistical data available at least for the majority of the states under study. The data for the basic indicators characterizing the Arab states and Poland are presented in Table 1.1.

Table 1.1. Basic indicators for comparison between the Arab states and Poland

State	GDP (in USD m), 2020	GDP per capita (in USD, current prices), 2020	Population (in millions, 2020)	Land area, in thousands of km^2, 2018	Urban area, in thousands of km^2, 2010
Algeria	145 164	3 310.39	43.9	2 382	30 196
Bahrain	38 475*	23 443.43*	1.7	1	549
Comoros	1 220	1 402.60	0.9	2	196
Djibouti	3 384	3 425.50	1	23	150
Egypt	363 069	3 547.87	102.3	995	24 270
Iraq	167 224	4 157.48	40.2	434	12 430
Jordan	43 698	4 282.77	10.2	89	3 384
Kuwait	136 197*	32 373.25*	4.3	18	3 942
Lebanon	33 383	4 891.00	6.8	10	2 317
Libya	25 418	3 699.23	6.9	1 760	10 083
Mauritania	7 779	1 672.92	4.6	1 031	772
Morocco	112 871	3 009.25	36.9	446	12 057
Oman	76 332*	15 343.04*	5.1	310	5 651
Qatar	146 374	50 805.46	2.9	11	1 495
Saudi Arabia	700 119	20 110.32	34.8	2 150	41 224
Somalia	4 918	309.42	15.9	627	399
Sudan	26 111	595.47	43.8	1 849	6 518
Syria	n.d.	n.d.	17.5	184	11 955
Tunisia	39 236	3 319.82	11.8	155	9 898
UAE	421 142*	43 103.34	9.9	71	8 568
Yemen	23 486**	824.12**	29.8	528	4 703
Palestinian Autonomy	15 561	3 239.73	4.8	6	2 496
Arab World ***	2 530 186	5802.10	436.1	13 082	193 255
Poland	594 165	15 656.18	38	306	30 501

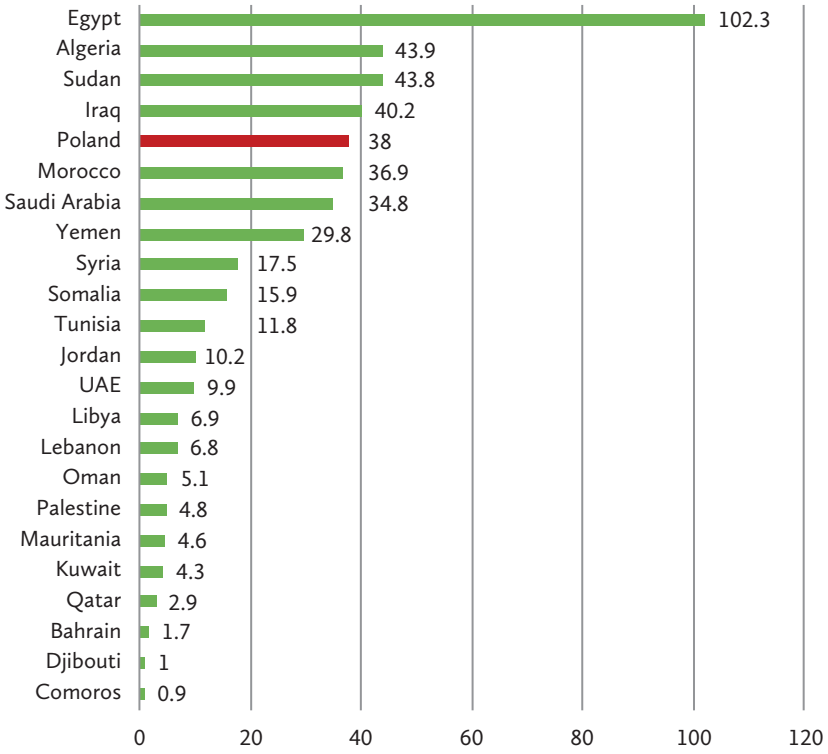
* – 2019 data
** – 2018 data
*** – values for the Arab World category in the World Development database are calculated from separate estimates and do not have to be the exact sum of values for the individual countries.
n.d. – no data

Source: *World Development Indicators* database of the World Bank, last updated 21.07.2021.

The largest Arab state in terms of population size is Egypt with 102.3 million residents. The second most populous country, Algeria, has less than half that population (43.9 m), whereas Sudan and Iraq have 43.8 m and 40.2 m inhabitants, respectively.

These are the only Arab states with a population greater than Poland's at 38 million. A ranking of the analyzed states in terms of population size is shown in Chart 1.1.

Chart 1.1 Population, in millions, 2020



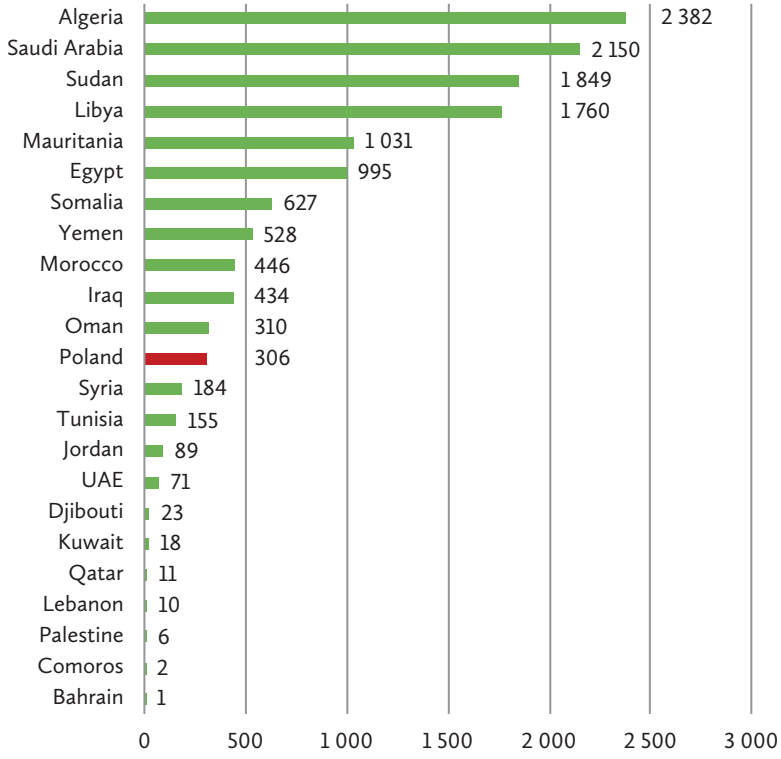
Source: *World Development Indicators* database of the World Bank, last updated 21.07.2021.

The data on the land area within which the country concerned exercises its sovereignty provides knowledge on the size of the respective Arab states and allows comparisons to be made with Poland. A ranking of the analyzed states in terms of land area is shown in Chart 1.2.

As regards land area, the largest Arab state is Algeria (2 382k km^2), followed by Saudi Arabia (2 150k km^2) and Sudan (1 849k km^2). In terms of size of territory, as many as 11 Arab states surpass Poland, whose land area according to World Bank data is 306k km^2. Given the total area of the Arab states (13 082k km^2), it is about 43 larger than the territory of Poland. According to the data in Table 1.1, a smaller disproportion can be seen for urban areas, which are only about six times larger in all the Arab states than in Poland. The Arab states with the largest urban area are Saudi Arabia (41 224 km^2), followed by Algeria (30 196 km^2) and Egypt (24 270 km^2). Only the urban area of Saudi

Arabia is larger than the 30 501 km^2 of Poland's urban area, which testifies to high urbanization of the Polish territory compared to the Arab states. This has significant implications for the analysis of international competitiveness, as urban centers form the main nodes of the economic structure of regions and countries. Urbanization processes are inseparably linked to socio-economic development and technological progress, being mutually interdependent [Kowalski, 2018].

Chart 1.2. Land area, in thousands of km^2, 2018

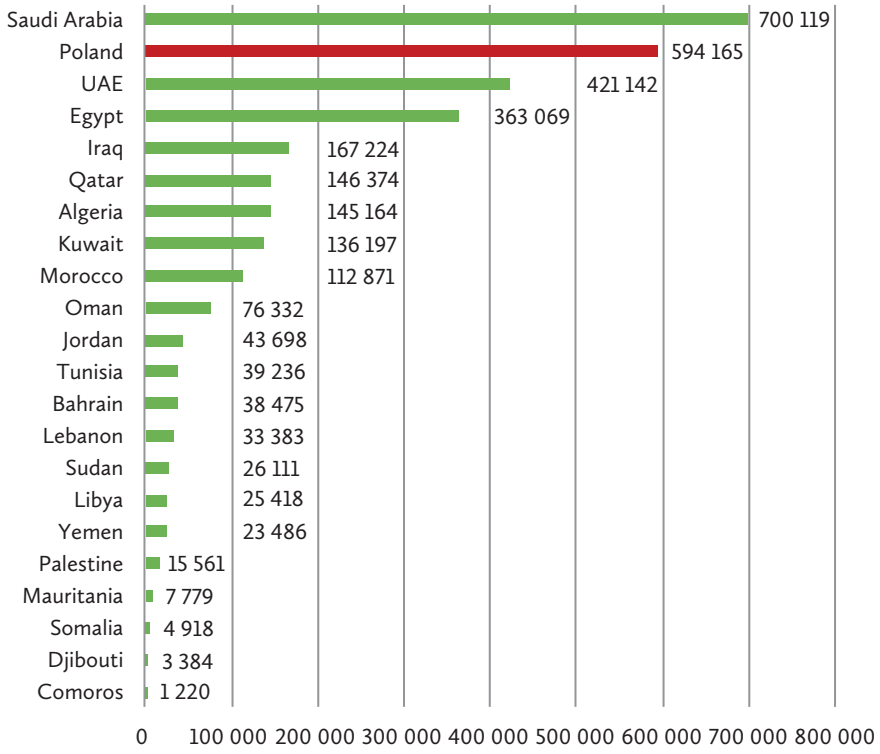


Source: World Development Indicators database of the World Bank, last updated 21.07.2021.

2. Comparison of the size of economies and income competitiveness of the Arab states and Poland

The most often used indicator measuring the size of the economy is the Gross Domestic Product (GDP). It describes the value of all goods and services produced by inhabitants of a country and foreign entities present in that country, within a specific time period. A ranking of the analyzed states in terms of GDP is shown in Chart 1.3.

Chart 1.3. Size of the economy measured by GDP (in USD m), 2020



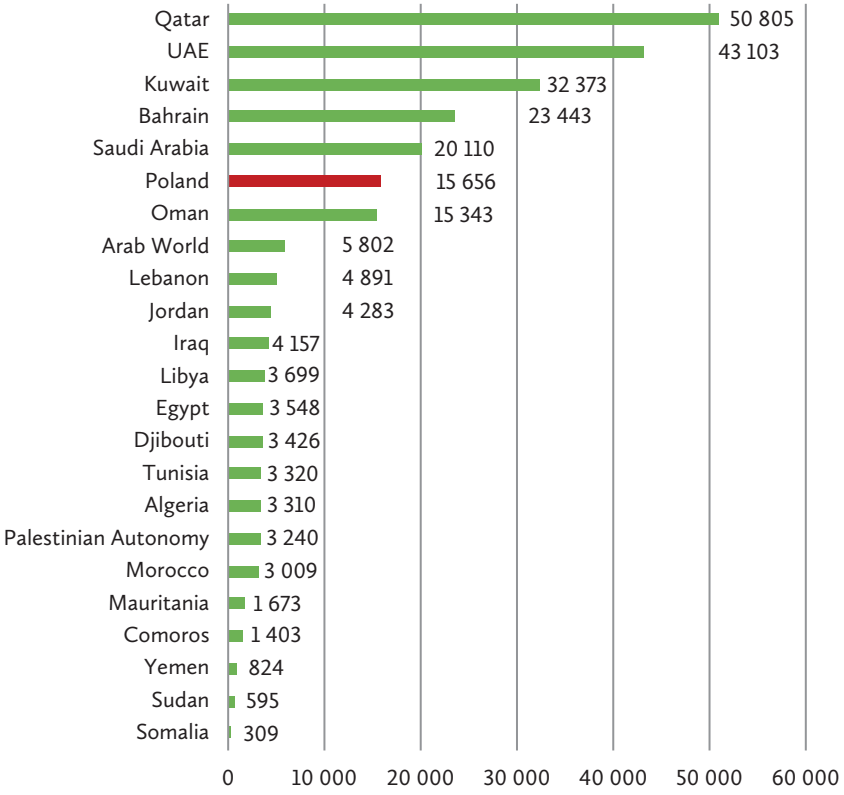
Source: *World Development Indicators* database of the World Bank, last updated 21.07.2021.

Among the analyzed countries, the highest GDP is achieved by Saudi Arabia, the only country reporting a higher GDP than Poland. While GDP is an indicator measuring mainly the size or strength of the economy, the analysis of the average level of national wealth uses the GDP per capita index. Despite various drawbacks and attempts at alternative measurement of the competitiveness of economies, this indicator has remained for decades the primary determinant of the division into developed and developing countries, showing polarization in many domains of life of the citizens of respective countries [Kowalski, 2020]. A ranking of the analyzed states in terms of GDP per capita is shown in Chart 1.4.

The wealthiest Arab states are Qatar (USD 59 924 per capita in 2020), the United Arab Emirates (USD 41 421 per capita in 2019), Kuwait (USD 32 702 per capita in 2019), Bahrain (USD 19 019 per capita in 2020), and Saudi Arabia (USD 19 390 per capita in 2020). Only those five countries have a higher GDP per capita than Poland, where it was USD 16 945 in 2020. These are so-called oil countries, which derive high income mainly from petroleum exports. The income from that source has provided huge

funds for investment and development. They have enabled a massive strengthening of infrastructure as well as investment in education, health, and new social services. The countries have significant oil reserves and a small population, which translates into achieving high values of GDP per capita from oil production. Long-term dynamic data for GDP per capita is shown in Table 1.2 (the Arab states are ranked by income in 2019, a year for which data is available for the major countries of the region).

Chart 1.4. GDP per capita (in USD), 2020



Source: World Development Indicators database of the World Bank, last updated 21.07.2021.

An analysis of the development of GDP per capita over a long period allows long-term trends of economic growth in the economies concerned to be captured. The analysis performed shows that the highest GDP per capita growth rate in 2010–2019 was witnessed in Poland (an average of 3.06% annually), while the average for the Arab states (for which statistical data are available) was 0.92%. Thus, while oil resources enabled some Arab states to achieve high income levels, reliance on this competitiveness factor may involve multiple threats.

Table 1.2. GDP per capita (in USD, at 2010 constant prices), in dynamic terms, 1990–2020

State	1990	2000	2010	2019	2020	Change 2010–2019[a]
Qatar	n.d.	60 837.65	67 403.09	63 281.59	59 923.96	–0.72%
UAE	68 780.40	63 251.42	33 893.26	41 420.50	n.d.	2.02%
Kuwait	n.d.	36 068.14	38 577.50	32 702.25	n.d.	–2.00%
Bahrain	17 934.91	22 955.27	20 722.07	20 936.08	19 018.55	0.11%
Saudi Arabia	18 105.91	18 352.03	19 262.55	20 542.17	19 390.02	0.69%
Oman	14 675.28	18 698.50	18 712.57	15 082.00	n.d.	–2.67%
Libya	n.d.	8 963.66	12 064.77	8 122.17	5 503.73	–5.39%
Lebanon	3 006.41	5 716.67	7 761.64	5 792.26	4 636.90	–3.78%
Iraq	4 091.03	4 985.26	4 657.28	5 624.42	4927.05	1.91%
Algeria	3 572.29	3 557.63	4 480.79	4 701.28	4 362.74	0.52%
Tunisia	2 224.83	3 001.77	4 141.98	4 404.99	3 983.94	0.66%
Morocco	1 725.71	1 976.09	2 839.93	3 407.79	3 126.96	1.85%
Jordan	2 616.75	2 886.72	3 736.66	3 325.81	3 241.66	–1.37%
Egypt	1 557.55	1 981.83	2 645.97	3 010.15	3 058.31	1.34%
Palestinian Autonomy	n.d.	2 128.07	2 557.09	2 951.38	2 549.04	1.48%
Sudan	772.96	1 017.29	1 489.87	2 018.41	1 939.93	2.91%
Mauritania	1 568.20	1 473.68	1 610.92	1 756.12	1 683.87	0.92%
Comoros	1 400.22	1 296.06	1 316.49	1 399.38	1 436.52	0.66%
Yemen	1 001.41	1 168.69	1 334.79	n.d.	n.d.	-
Djibouti	n.d.	n.d.	1 343.28	n.d.	n.d.	-
Somalia	n.d.	n.d.	n.d.	n.d.	n.d.	-
Syria	n.d.	n.d.	n.d.	n.d.	n.d.	-
Arab states	4 275.37	4 907.18	5 948.67	6 484.12	6 043.96	0.92%
Poland	5 947.45	8 545.45	12 613.01	17 409.03	16 945.24	3.06%

[a] – average annual change in the period 2010–2020.
n.d. – no data

Source: Calculations by author based on data from the World Bank's *World Development Indicators* database, last updated 21.07.2021.

Oil resources driving economic growth for decades are slowly depleting, specialization solely in the extraction and processing of this resource poses the risk of economic monoculture, and dependence of budgets on petroleum represents a threat to the security of public sector finances. The economic literature considers the so-called "natural resource curse", also referred to as the "paradox of plenty" or "Dutch disease".

This term describes the phenomenon of worse performance in terms of economic development and poverty reduction by states rich in natural resources but characterized by a low progress in technological infrastructure compared with economies whose resources are minimal, but which heavily invest in innovation [Anser, Yousaf, Nassani, Vo, Zaman, 2020]. In a longer term, this may make developing economies fall into the middle income trap due to the depletion of the existing sources of competitiveness.

The middle income trap concerns a situation where a country gets out of the poverty trap at a low-income development stage and enters the middle-income development stage, but may face growth stagnation and inability to further move up the ladder into the high-income range. According to Zhou and Hu [2021], Libya is an example of a country downgrading to the middle-income status. This was associated with the wave of revolutions that swept across the Middle East at the end of 2010, termed the "Arab Spring", which resulted in civil wars and change of governments in countries such as Tunisia, Libya, and Syria. Research conducted by Arezki, Fan, and Nguyen [2021] showed the existence of the medium-income trap in the economies of the Middle East and North Africa, which are additionally slow in implementing general-purpose technologies. The development trap involves less developed Arab states in which there are low labor costs, low value-added goods, e.g., unprocessed farm produce, prevail in production and exports, and the domestic currency remains undervalued.

3. Innovativeness of the Arab states and Poland – an international comparative approach

The most important and interesting trends and phenomena in the world economy include the processes of transition from the industrial economy to a knowledge-based economy and Industry 4.0. Many countries are witnessing the depletion of existing sources of socio-economic development, such as the availability of cheap resources, in particular oil (especially in the Arab states) or low labor costs, favorable geographical location or availability of aid funds after accession to the European Union (in Poland). In the economic development process, the economies are looking for new sources of competitive advantage, which will allow growth to be maintained, e.g., by strengthening the participation in international trade. The development trends of the world's most developed economies show that only building competitive advantage based on knowledge and innovation may significantly contribute to economic development in the long term. Therefore, only building a knowledge-based economy in which growth is driven by human capital, R&D activities, and the widest possible use of their outcomes in practical business operations, can be an important factor fostering international

competitiveness. As in many countries in the world, political decision-makers both in Poland and in the Arab states share a common interest in the role of knowledge and development of a knowledge-based economy. Building the innovation potential requires concerted efforts in interrelated fields of education, research, technology transfer, innovation, and enterprise development. These efforts are fundamental to the economy both in Poland and in the Arab states, due to the need to look for new sources of competitive advantage in the global market.

Widespread access to information technologies can be one of the indicators describing innovation capacity. It can be measured by the percentage of population with Internet access. This indicator reflects the level of development of information society and the possibility to use IT infrastructure to create information technology innovations. Data on the share of Internet users in total population is shown in Table 1.3 (the Arab states are ranked by indicator value in 2018, a year for which data is available for the major countries of the region).

Table 1.3 Share of Internet users (% of total population)

State	2000	2005	2010	2015	2017	2018	2019
Kuwait	6.7	25.9	61.4	72.0	98.0	99.6	99.5
Qatar	4.9	24.7	69.0	92.9	97.4	99.7	99.7
Bahrain	6.2	21.3	55.0	93.5	95.9	98.6	99.7
UAE	23.6	40.0	68.0	90.5	94.8	98.5	99.1
Saudi Arabia	2.2	12.7	41.0	69.6	94.2	93.3	95.7
Oman	3.5	6.7	35.8	73.5	80.2	n.d.	92.4
Lebanon	8.0	10.1	43.7	74.0	78.2	n.d.	n.d.
Jordan	2.6	12.9	27.2	60.1	66.8	n.d.	n.d.
Palestinian Autonomy	1.1	16.0	37.4	57.4	65.2	64.4	70.6
Morocco	0.7	15.1	52.0	57.1	61.8	64.8	74.4
Djibouti	0.2	1.0	6.5	11.9	55.7	n.d.	n.d.
Tunisia	2.8	9.7	36.8	46.5	55.5	64.2	66.7
Iraq	n.d.	0.9	2.5	58.0	49.4	75.0	n.d.
Algeria	0.5	5.8	12.5	38.2	47.7	49.0	n.d.
Egypt	0.6	12.8	21.6	37.8	45.0	46.9	57.3
Syria	0.2	5.6	20.7	30.0	34.3	n.d.	n.d.
Sudan	0.0	1.3	16.7	26.6	30.9	n.d.	n.d.
Yemen	0.1	1.0	12.4	24.1	26.7	n.d.	n.d.
Libya	0.2	3.9	14.0	19.0	21.8	n.d.	n.d.
Mauritania	0.2	0.7	4.0	15.2	20.8	n.d.	n.d.

State	2000	2005	2010	2015	2017	2018	2019
Comoros	0.3	2.0	5.1	7.5	8.5	n.d.	n.d.
Somalia	0.0	1.1	n.d.	1.8	2.0	n.d.	n.d.
Arab World	1.2	8.5	24.9	43.7	50.0	63.2	n.d.
Poland	7.3	38.8	62.3	68.0	76.0	77.5	84.5

n.d. – no data

Source: Calculations by author based on data from the World Bank's *World Development Indicators* database, last updated 30.07.2021.

The metric often used in the traditional approach to the measurement of innovation performance was the number of patents. By obtaining a patent, the exclusive right is acquired for commercial or professional use of an invention throughout the relevant territorial jurisdiction (e.g., within a particular country). The scope of patent protection is defined by patent claims contained in the patent specification. The credibility of patents as an ideal measure of innovation activity is often contested in practice. For example, Moser [2016] noted that some huge technological leaps were made with little or no patent protection. Thus, while there is consensus among economists that patents are not necessarily tantamount to innovation activity, they are nevertheless considered as one of the indicators that can be used as a measure of innovation [Furman, Porter, Stern, 2002]. The number of patent applications from residents and non-residents converted to GDP (USD millions) in the states under study is shown in Table 1.4 (the Arab states are ranked by indicator value in 2018, a year for which data is available for the major countries of the region).

The Arab states that achieve the highest rate of resident and non-resident patent applications per GDP (in USD m) are Morocco, Tunisia, Sudan, and Egypt. The states have a higher value of this indicator than Poland, which is traditionally characterized by low utilization of intellectual property rights.

The uneven distribution of technological change over space and time determines the directions of international trade and triggers adjustment processes within a country and between economies [Soete, 1990]. One of key metrics of technological advancement of the economy is the share of high-tech product exports in total exports. The indicator is calculated as the ratio of the value of exported high R&D intensive products to total exports value, expressed in percent. It is a metric of the effect and impact of R&D activities and reflects the level of competitiveness of a country in the global market. The share of high-tech products in total exports of manufactured goods for the economies under study is shown in Table 1.5 (the Arab states are ranked by indicator value in 2018, a year for which data is available for the major countries of the region).

Table 1.4. Resident and non-resident patent applications per GDP (in USD billions)

State	2010	2015	2016	2017	2018	2019
Morocco	11.09	10.09	12.61	20.28	21.48	22.81
Tunisia	14.10	13.64	13.95	13.94	11.34	
Sudan	3.87	4.16	5.40	6.51	11.01	7.60
Egypt	10.18	6.24	6.55	9.67	9.03	7.20
Oman		5.06	5.64	5.54	5.26	6.63
Saudi Arabia	1.76	3.68	5.06	4.63	4.32	4.60
UAE	n.d.	4.89	n.d.	4.67	4.22	4.52
Algeria	5.00	4.85	4.20	4.37	3.84	3.73
Iraq	n.d.	2.62	0.00	3.75	3.44	
Jordan	17.47	8.68	6.97	4.83	3.10	6.99
Kuwait	n.d.	n.d.	0.46		1.86	
Qatar	n.d.	n.d.	3.72	3.68	0.00	4.77
Lebanon	n.d.	6.09			n.d.	n.d.
Yemen	2.43	0.71	1.03	1.05	n.d.	n.d.
Arab World	3.04	4.27	3.96	5.33	4.86	4.82
Poland	7.15	10.08	9.30	7.68	7.36	6.71

n.d. – no data

Source: Calculations by author based on data from the World Bank's *World Development Indicators* database, last updated 30.07.2021.

Table 1.5. Share of high-tech product exports in manufactured goods exports

State	2010	2015	2016	2017	2018	2019
Tunisia	8.01	7.79	7.93	7.39	6.80	6.89
Kuwait	3.12	0.13	0.15	0.20	4.12	0.90
Morocco	n.d.	3.70	3.74	3.86	4.03	4.90
UAE	n.d.	5.31	2.62	2.72	3.05	2.16
Lebanon	24.12	2.19	2.82	7.61	2.35	n.d.
Qatar	n.d.	5.20	0.00	0.01	1.80	n.d.
Jordan	2.86	2.58	3.38	1.81	1.51	1.37
Oman	n.d.	3.24	1.52	1.12	1.26	n.d.
Egypt	0.95	0.79	0.50	0.57	0.87	2.34
Palestinian Autonomy	0.36	0.96	0.72	0.62	0.85	1.81
Saudi Arabia	0.75	0.79	1.30	0.73	0.54	0.65
Bahrain	0.11	0.94	1.06	0.62	0.45	n.d.

State	2010	2015	2016	2017	2018	2019
Comoros	n.d.	3.14	0.45	27.24	0.17	3.03
Mauritania	n.d.	n.d.	0.00	n.d.	n.d.	0.01
Sudan	0.20	n.d.	n.d.	n.d.	n.d.	n.d.
Syria	1.51	n.d.	n.d.	n.d.	n.d.	n.d.
Yemen	0.57	8.02	n.d.	n.d.	n.d.	n.d.
Algeria	1.17	0.23	0.49	0.96	n.d.	n.d.
Arab World	n.d.	3.23	1.87	1.76	2.14	1.64
Poland	7.72	11.02	11.03	10.91	10.62	10.11

n.d. – no data

Source: Calculations by author based on data from the World Bank's *World Development Indicators* database, last updated 30.07.2021.

An analysis of the share of high-tech product exports in manufactured goods exports shows Poland's relative specialization towards high-technology industries compared with the Arab states, which are also not a homogenous group themselves. There are disparities between the countries that achieve a significantly higher share of high-tech product exports in total exports than the average for those states at 2.14 in 2018 (Tunisia, Kuwait, Morocco, United Arab Emirates, Lebanon) and countries with a negligible share of high-tech product exports, or those for which no such data is available.

Conclusions

What presents a challenge for Polish-Arab cooperation is the divergence of specificities and economic, social, cultural, political, and climatic conditions between Poland and the Arab states. An international comparative analysis is additionally hindered by the heterogeneity of the Arab states, some of which are rapidly growing high-income economies, while some are typical examples of developing countries with poorly developed statistical reporting systems. The difference in scale of the economies being analyzed is noteworthy – the total land area of the Arab states is about 43 times larger than Poland's and their population is more than 11 times larger, but their total GDP in 2020 was only four times higher than Poland's. At the same time, research has shown a higher degree of urbanization of Polish territories compared to the Arab lands, which is inseparably linked to socio-economic development and technological progress. The analysis of GDP per capita has shown that five of the 22 Arab states achieve higher income than Poland: Qatar, the United Arab Emirates, Kuwait, Bahrain, and Saudi

Arabia. These are so-called oil countries, which derive high income from petroleum exports and thereby accumulate huge funds for infrastructure strengthening and investment in research and development, education, health, and new social services. This is of high significance for the diversification of economic structure and departure from economic monoculture, which is a pressing developmental need of economies highly dependent on a single source of economic growth. Innovations and transition from the industrial economy to a knowledge-based economy and Industry 4.0 are particularly important. The analysis has shown Poland's higher specialization in the development of high-tech industries compared with the average for the Arab states, which however are not a homogenous group themselves.

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Chapter 2

Trade between Poland and the Arab States

Krzysztof Falkowski

Introduction

Owing to their economic potential, i.e., economic growth and development, as well as their natural resources, the Arab states are perceived as an attractive trade partner not only for Poland or other European Union countries but also for China or the USA. Of course, one should be aware that the group of Arab states comprising as many as 22 different countries, is highly divergent, also in terms of their economic potential. Besides, due to the internal instability or even civil wars in some of them, it is very difficult, if not outright impossible, for Polish enterprises to engage in and develop trade with those countries. However, this does not alter the fact that Poland has always been interested in fostering its trade relations with the Arab states. This could be noticed, for instance, after Russia imposed an embargo on Polish food (e.g., apples), when Poland embarked on very intensive efforts seeking new markets for its agri-food products, also in the Arab states [Money.pl, 2014].

In that context, it is worth taking a closer look and analyzing trade between Poland and the Arab states. The main goals of this chapter are as follows: 1) an in-depth analysis of the value, dynamics, and mutual significance of trade between Poland and the Arab states, both overall and with individual countries; 2) an in-depth analysis of the commodity structure of Poland's trade with selected Arab states, those that play a major role in Poland's overall trade with the Arab states (i.e., Saudi Arabia, the United Arab Emirates, Algeria, Morocco, and Egypt); 3) an attempt at defining the prospects for the development of mutual trade relations between Poland and the Arab states. The above goals determine the structure of this chapter.

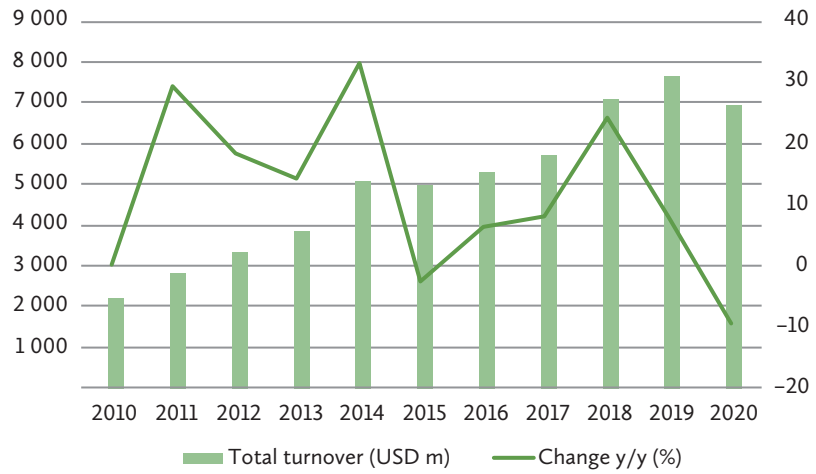
This study posits that in the analyzed period 2010–2020 trade between Poland and the Arab states was highly divergent in terms of value and structure, which was a consequence of both the level of economic and social development, mutual trade tradition, and internal political situation in some Arab states. Nevertheless, even despite a growth in the overall value of trade over the analyzed period, the Arab states were not an important trade partner for Poland in the context of Poland's total foreign trade.

Due to the availability of necessary data for all the analyzed countries, this study deals with commodity trade between Poland and the Arab states. The analyzed period covers the years 2010–2020, and all necessary data comes from the United Nations Commodity Trade Statistics Database [2021].

1. Value and dynamics of trade between Poland and the Arab states

The total value of mutual trade between Poland and the Arab states increased markedly over the years 2010–2020 under analysis (Chart 2.1). While at the beginning of the period, i.e., in 2010, the value fell short of USD 2.2 bn, after 10 years (in 2020) it was already just above USD 6.9 bn. This means it more than tripled.

Chart 2.1. Total mutual trade between Poland and the Arab states in 2010–2020



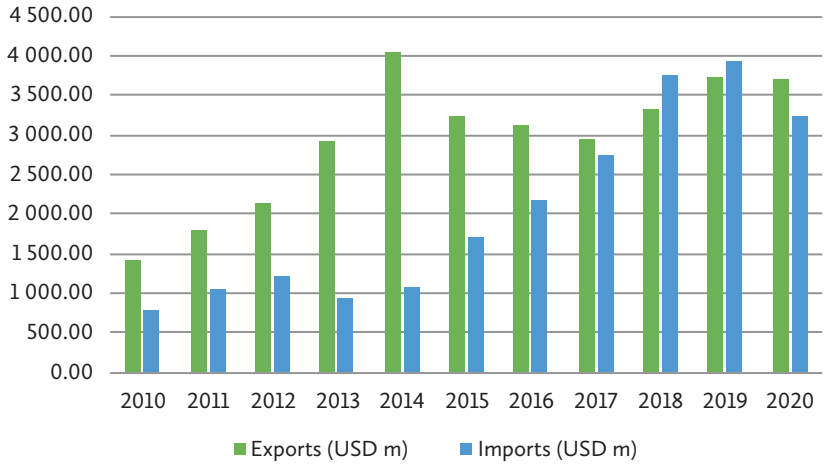
Source: Compiled by author based on data from UN COMTRADE.

The second decade of the 21st century usually saw a growth in the trade, albeit divergent in size. The highest growth was recorded in 2011, when the total value of mutual trade between Poland and the Arab states increased by as much as 29.2%

compared with 2010. Two-digit growth rates were also seen in 2018 (24,1%), in 2012 (18.4%) and in 2013 (14.1%). In contrast, a decline in Poland's total trade with the Arab states (year-on-year) over the entire analyzed period was reported only in 2015 (–2.6%) and in 2020 (–9.4%), which is attributable in the latter case to the effects of the COVID-19 pandemic. Yet this does not alter the fact that over the second decade of the 21st century there was a clear growth trend in total mutual trade between Poland and the Arab states.

It is quite obvious that the "contribution" of the individual Arab states to the above total values of trade between Poland and the Arab states in the individual years of the analyzed period was diverse and dependent both on the size of the country, its development level, and advancement of its mutual economic relations with Poland. Detailed data in this respect is presented and discussed in a further part of this chapter.

Chart 2.2 Total value of Polish exports and imports to/from the Arab states in the years 2010–2020 (USD m)

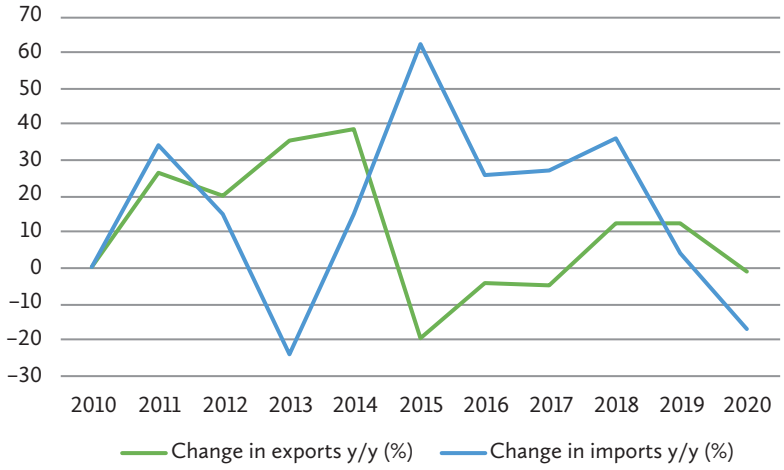


Source: Compiled by author based on data from UN COMTRADE.

On the other hand, if we take a closer look at Poland's total exports and imports to/from the Arab states, then, apart from the conclusion that, in general, the value of exports exceeded the value of imports for most of the analyzed period (Chart 2.2), a desynchronization of the dynamics of the value of Polish exports and imports with the Arab states in that period was clearly visible. This was particularly evident in the period 2015–2017 when Poland recorded a very clear decrease in the total value of exports to the Arab states year-on-year (by –19.6%; –4.0%; –5.1%, respectively) with a simultaneous increase in the total value of Polish imports from these countries

year-on-year (62.1%; 25.6%; 27.4%, respectively). A similar situation also took place in 2013, when the increase in the total value of Polish exports to the Arab states compared to 2012 (35.7%) corresponded to a decrease in the value of Polish imports from this group of countries (–24.0%). In all other years of the period under analysis, the changes in this regard were the same in terms of both Polish exports and Polish imports to/from the Arab states (Chart 2.3).

Chart 2.3. Dynamics of total Polish exports and imports to/from the Arab states in the years 2010–2020 (%)



Source: Compiled by author based on data from UN COMTRADE.

Analyzing the value of Polish exports and imports to/from Arab countries, it is also worth looking at the development of these values for individual Arab states in selected years of the period 2010–2020 (Table 2.1).

The analysis of the value of Polish exports and imports to/from the individual Arab states in the years 2010–2020 clearly shows three basic conclusions. First of all, the value of both the specified Polish exports and imports showed a very strong divergence within the entire group of Arab states during this period. Secondly, there were strong fluctuations in the value of the indicated categories even within a particular country (e.g., in Polish imports from Qatar or Mauritania). Syria can be a very good example here. While in the years 2010–2012 the value of Polish exports to that country amounted to USD 48.5 m, USD 40.2 m, and USD 42 m, respectively, and the value of imports in the same period was USD 40.2 m, USD 49.2 m, and USD 20.4 m, respectively, the following years saw a huge decrease in value both in terms of Polish exports and imports. This was due to the outbreak of civil war and all the resulting consequences of a political,

and especially economic, social, and security nature. Thirdly, it is difficult to identify a clear change trend in this respect, although in the vast majority of the Arab states there was, to a greater or lesser extent, an upward trend in the value of Polish exports and imports, which should be viewed as a positive development.

Table 2.1. Value of Polish exports and imports to/from the Arab states in selected years of the period 2010–2020 (USD m)

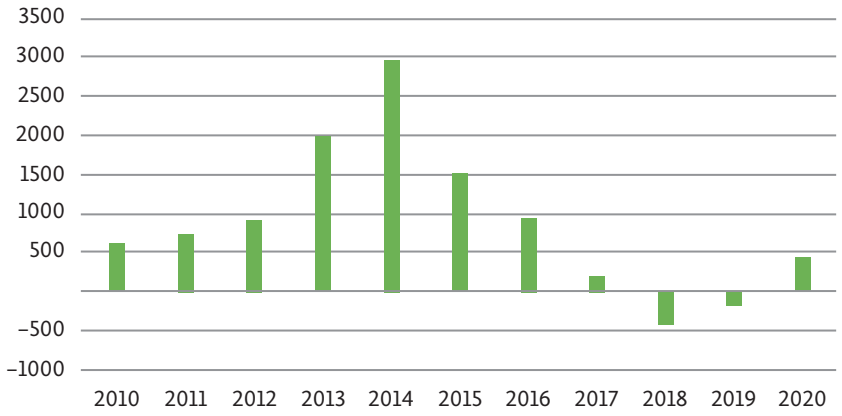
Country	Value of Polish exports			Value of Polish imports		
	2010	2015	2020	2010	2015	2020
Algeria	232.4	332.0	434.9	21.8	38.0	55.5
Bahrain	14.4	19.8	56.4	48.8	25.8	33.9
Comoros	0.2	0.4	6.9	0.2	0.2	0.009
Djibouti	1.1	9.1	8.6	0.3	0.5	0.5
Egypt	233.3	390.4	371.4	48.8	106.7	195.2
Iraq	50.0	188.5	146.1	0.005	683.6	0.005
Jordan	38.7	94.2	88.7	1.8	0.9	14.4
Kuwait	27.6	70.8	101.1	1.8	0.4	6.4
Lebanon	49.9	67.5	49.9	10.7	12.7	16.1
Libya	36.5	47.1	54.7	0.3	0.3	0.7
Mauritania	1.6	20.0	23.4	0.07	0.2	19.9
Morocco	139.9	317.4	409.7	156.2	307.2	617.4
Oman	19.0	41.8	44.3	8.1	9.2	25.6
Qatar	16.0	49.3	90.0	2.7	18.2	538.1
Saudi Arabia	189.8	632.1	1 066.6	209.4	178.7	1 282.7
Somalia	0.03	1.1	3.5	0.01	0.02	0.1
Sudan	n.d.	34.5	14.5	n.d.	2.5	0.4
Syria	48.5	8.3	5.3	40.2	1.1	1.4
Tunisia	49.1	118.5	124.3	160.6	207.1	302.0
UAE	244.8	778.1	550.1	70.8	126.1	135.5
Yemen	15.9	10.7	18.8	0.4	0.02	1.3
Palestine	1.1	6.3	14.9	0.3	2.2	0.009

Source: Compiled by author based on data from UN COMTRADE.

Referring to the overall trade balance between Poland with the Arab states, it should be emphasized that during the period 2010–2020 under analysis, the Arab states in general were, as a rule, a much more important partner for Poland in exports than in imports, which resulted in Poland's positive balance of mutual trade. Nevertheless,

in this respect, three distinct periods and trends of change can be identified (Chart 2.4). Firstly, in the years 2010–2014, the overall trade balance between Poland and the Arab states gradually grew very dynamically from the level of USD 625.5 m in 2010 to USD 3 bn in 2014. Secondly, in the years 2015–2018, a completely different situation was recorded, i.e., Poland's overall trade balance with the Arab states decreased very significantly, remaining positive until 2018, when for the first time in the second decade of the 21st century it reached a negative value (–USD 435.7 m). Thirdly, from 2019 a kind of rebound followed, i.e., the balance remained negative at that time (–USD 192.8 m) but definitely smaller than a year earlier, while in 2020 Poland already recorded a positive overall balance in trade with the Arab states at USD 436.9 m. It is worth noting here that those last-mentioned changes were not a consequence of an increase in the value of Polish exports to these countries but of a faster decrease in the value of imports relative to the decrease in the value of Polish exports (Chart 2.3).

Chart 2.4. Overall balance of Polish trade with the Arab states in the years 2010–2020 (USD m)



Source: Compiled by author based on data from UN COMTRADE.

On the other hand, looking at Poland's trade balance with the individual Arab states in 2014 (the highest positive balance in Poland's trade with all the Arab states combined) and in 2018 (the highest negative balance in Poland's trade with all the Arab states combined), the same Arab states can be identified, which in 2014 contributed the most to such a high positive overall balance of Poland's trade with the Arab states (USD 3 bn), to then, four years later, contribute to the largest deficit in the mutual trade in the second decade of the 21st century (–USD 435.7 m). This was associated either with a decrease in the positive balance of trade with these countries or with a large negative trade balance. A particularly glaring example of the latter case was

Qatar, where Poland recorded a trade deficit in 2018 that exceeded the trade deficit with the entire group of Arab states by nearly 82% in that year.

Table 2.2. Balance of Polish trade with the individual Arab states in 2014 and 2018 (USD m)

Country	Year	
	2014	2018
Algeria	620.6	338.4
Bahrain	27.7	–33.2
Comoros	0.1	1.6
Djibouti	4.3	4.1
Egypt	142.3	139.7
Iraq	159.1	–120.0
Jordan	74.9	98.2
Kuwait	65.4	103.5
Lebanon	61.5	77.2
Libya	65.4	51.6
Mauritania	12.0	19.1
Morocco	146.0	–170.7
Oman	52.0	69.9
Qatar	37.3	–791.5
Saudi Arabia	636.0	–387.2
Somalia	0.4	6.7
Sudan	–24.8	14.6
Syria	23.2	10.6
Tunisia	–62.5	–122.8
UAE	966.4	233.6
Yemen	12.6	11.7
Palestine	2.2	8.8

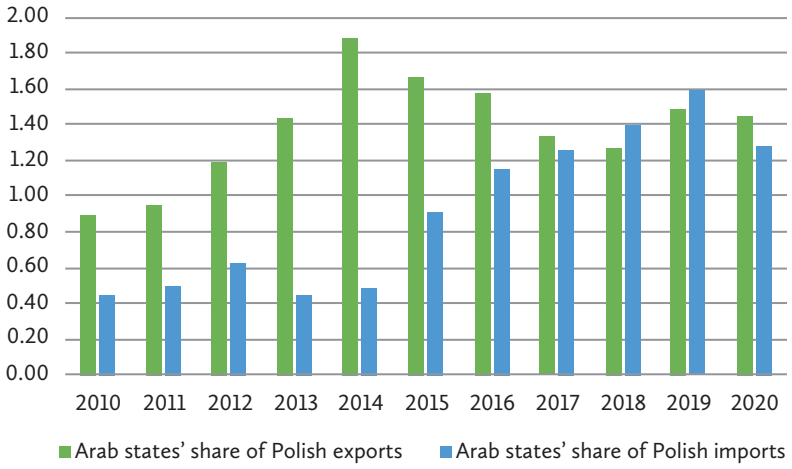
Source: Compiled by author based on data from UN COMTRADE.

2. Importance of the Arab states for Poland in terms of mutual trade in 2010–2020

Identifying the importance of the Arab states in general in Polish foreign trade, it should be emphasized that, as a rule, it was growing over the analyzed period 2010–2020, but nevertheless remained very small, not to say negligible. The maximum share of this

group of countries in total Polish exports was 1.88% in 2014, and its share in Polish imports was 1.59% in 2019 (Chart 2.5). This state of affairs is attributable to a number of reasons, ranging from cultural differences and poor knowledge of the local markets, through the commercial offer of these countries, to their level of development and purchasing power of the local population. It is worth noting, however, that this importance increased over the analyzed period, comparing the situation in 2020 to that of 2010, both in exports and imports, which testifies to a growing interest in mutual trade, both in Poland and in the Arab states. What is more, practically throughout the analyzed period 2010–2020, the share of the Arab states in total Polish exports was higher than that in total imports (the opposite situation occurred only in the years 2018–2019).

Chart 2.5. The Arab states' total share of Polish exports and imports in 2010–2020 (%)



Source: Compiled by author based on data from UN COMTRADE.

On the other hand, an analysis of the share of Poland and the individual Arab states in the trading partner's total exports in selected years of the period 2010–2020 (%) clearly shows that for the vast majority of the Arab states Poland was a significantly more important partner in the countries' total exports than these countries were in total Polish exports (Table 2.3).

Taking into account 2020 data, the largest shares of total Polish exports were held by Saudi Arabia (0.42%), followed by Algeria (0.17%) and Morocco (0.16%). For its part, among the individual Arab states, Poland recorded the largest share of total exports for Tunisia (1.88%, 2019 value), followed by Morocco (1.54%), and Yemen (1.12%, 2019 value).

Table 2.3. The share of Poland and the individual Arab states in the trading partner's total exports in selected years of the period 2010–2020 (%).

Country	The country's share of total Polish exports			Poland's share of the country's total exports		
	2010	2015	2020	2010	2015	2020
Algeria	0.15	0.17	0.17	0.04	0.11	n.d.
Bahrain	0.01	0.01	0.02	0.31	0.19	n.d.
Comoros	0.00	0.00	0.00	1.42	1.45	n.d.
Djibouti	0.00	0.00	0.00	n.d.	n.d.	n.d.
Egypt	0.15	0.20	0.15	0.19	0.49	0.73
Iraq	0.03	0.10	0.06	0.00	1.38	n.d.
Jordan	0.02	0.05	0.03	0.01	0.00	0.08
Kuwait	0.02	0.04	0.04	0.00	0.00	0.01
Lebanon	0.03	0.03	0.02	0.25	0.43	0.42
Libya	0.02	0.02	0.02	0.00	n.d.	n.d.
Mauritania	0.00	0.01	0.01	0.00	0.01	1.07*
Morocco	0.09	0.16	0.16	0.88	1.38	1.54
Oman	0.01	0.02	0.02	0.02	0.03	n.d.
Qatar	0.01	0.03	0.04	0.00	0.02	1.04
Saudi Arabia	0.12	0.33	0.42	0.08	0.09	0.76*
Somalia	0.00	0.00	0.00	n.d.	n.d.	n.d.
Sudan	n.d.	0.02	0.01	n.d.	0.05	n.d.
Syria	0.03	0.00	0.00	0.23	n.d.	n.d.
Tunisia	0.03	0.06	0.05	0.98	1.47	1.88*
UAE	0.16	0.40	0.22	0.04	0.04	0.07*
Yemen	0.01	0.01	0.01	0.01	0.00	1.12*
Palestine	0.00	0.00	0.01	0.05	0.23	0.04*

* 2019 data.

Source: Compiled by author based on data from UN COMTRADE.

The situation was completely different in the case of the share of Poland and the individual Arab states in the trading partner's total imports in selected years of the period 2010–2020. It is clear from the data presented in Table 2.4 that Poland had a much more important position in the total imports of the vast majority of the Arab states than the individual Arab states had in total Polish imports.

Taking into account 2020 data, the largest shares of total Polish exports were held by Saudi Arabia (0.5%), followed by Morocco (0.24%) and Qatar (0.21%). For its part, among the individual Arab states, Poland recorded the largest share of total imports

for Jordan (1.12%), followed by the Comoros (0.89%, 2019 value), and Mauritania (0.78%, 2019 value).

Table 2.4. The share of Poland and the individual Arab states in the trading partner's total imports in selected years of the period 2010–2020 (%).

Country	The country's share of total Polish imports			Poland's share of the country's total imports		
	2010	2015	2020	2010	2015	2020
Algeria	0.01	0.02	0.02	0.57	0.64	n.d.
Bahrain	0.03	0.01	0.01	0.09	0.12	n.d.
Comoros	0.00	0.00	0.00	0.12	0.22	0.89*
Djibouti	0.00	0.00	0.00	n.d.	n.d.	n.d.
Egypt	0.03	0.06	0.08	0.44	0.53	0.62
Iraq	0.00	0.36	0.00	n.d.	n.d.	n.d.
Jordan	0.00	0.00	0.01	0.55	1.20	1.12
Kuwait	0.00	0.00	0.00	0.12	0.23	0.25*
Lebanon	0.01	0.01	0.01	0.28	0.36	0.44
Libya	0.00	0.00	0.00	0.21	n.d.	n.d.
Mauritania	0.00	0.00	0.01	0.09	0.54	0.78*
Morocco	0.09	0.16	0.24	0.40	0.83	0.66*
Oman	0.00	0.00	0.01	0.10	0.14	n.d.
Qatar	0.00	0.01	0.21	0.07	0.15	0.35
Saudi Arabia	0.12	0.09	0.50	0.18	0.36	0.52*
Somalia	0.00	0.00	0.00	n.d.	n.d.	n.d.
Sudan	n.d.	0.00	0.00	n.d.	0.00	n.d.
Syria	0.02	0.00	0.00	0.43	n.d.	n.d.
Tunisia	0.09	0.11	0.12	0.22	0.59	0.61*
UAE	0.04	0.07	0.05	0.12	0.26	0.23*
Yemen	0.00	0.00	0.00	0.17	0.16	0.68*
Palestine	0.00	0.00	0.00	0.03	0.12	0.17*

* 2019 data.

Source: Compiled by author based on data from UN COMTRADE.

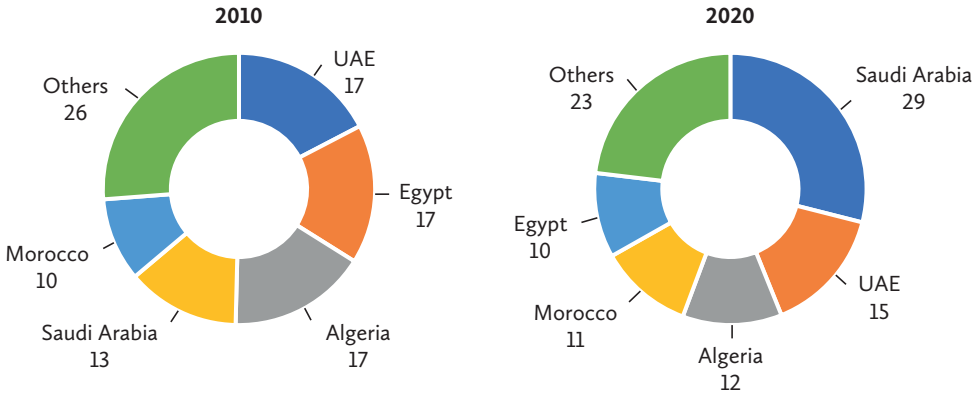
Referring to the importance of the Arab states for Poland from the point of view of mutual trade, Poland's major trading partners among all the Arab states in 2010 and 2020 are identified below.

In 2020, Saudi Arabia was the most important partner for Polish exports to the Arab states (29% of Polish exports). The United Arab Emirates ranked second (15%),

followed by Algeria in third position (12%). The other countries ranking among the top five Arab partners for Polish exports to the Arab states were Morocco (11%) and Egypt (10%). Interestingly, in 2020 these five countries accounted for as much as 77% of the total value of Polish exports to the Arab states, which proves a very high concentration of the geographical structure of Polish exports to this group of countries (Chart 2.6).

The situation in this respect was almost identical in 2010, when exactly the same five Arab states accounted for 74% of the value of Poland's total exports to the Arab states; the only difference being that at that time three countries, i.e., the United Arab Emirates, Egypt, and Algeria jointly held the position of the most important partners of Poland in its overall exports to the Arab states, with a share of 17% (Figure 2.6).

Chart 2.6. Arab states representing the largest shares of Poland's total exports to the Arab states in 2010 and 2020 (%)



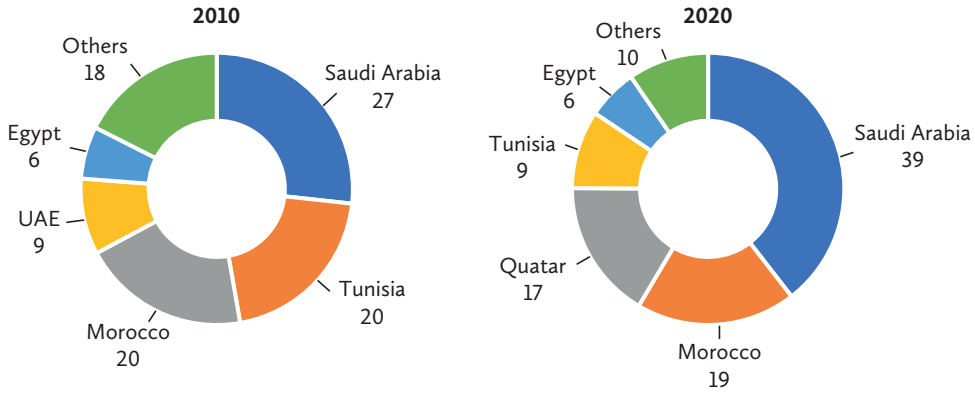
Source: Compiled by author based on data from UN COMTRADE.

On the other hand, as regards total Polish imports from the Arab states, in 2020, Saudi Arabia (with a share of 39%) was definitely the most important partner in this respect (as was the case with Polish exports to this group of countries). Morocco ranked second (19%) and Qatar (17%) was third. The other countries ranking among the top five Arab partners for Polish imports from the Arab states were Tunisia (9%) and Egypt (6%). In 2020, these five countries accounted for as much as 90% of the total value of Polish imports from the Arab states, which proves an even greater concentration of the geographical structure of Polish trade in this respect that in the case of Polish exports to this region of the world, as overviewed above (Chart 2.7).

Referring for comparison to the beginning of the period analyzed in this chapter, i.e., to the situation in 2010, it is worth emphasizing that the degree of concentration of the share of Poland's five main partners in its total imports from the Arab states

was slightly lower than in 2020, as it amounted to 82% at that time. In addition, Saudi Arabia was already the leader, i.e., the country with the greatest share of Poland's total imports from the Arab states (27%). Among the five key Arab countries in this respect, apart from Saudi Arabia, there were also Tunisia (20%), Morocco (20%), the United Arab Emirates (9%), and Egypt (6%) (Figure 2.7).

Figure 2.7. The Arab states with the largest share of Poland's total imports from the Arab states in 2010 and 2020 (%)



Source: Compiled by author based on data from UN COMTRADE.

3. Commodity structure of trade between Poland and the Arab states

In mutual trade contacts, in addition to their size measured by the value of trade, the structure of this trade is also extremely important, as it shows the specialization and commercial potential of the partners.

In this chapter, due to the large number of the Arab states concerned (as many as 22 countries in total), as well as the highly diverse commercial importance of the individual Arab states for Poland, it was decided to present in detail and discuss the commodity structure of Polish trade (in both exports and imports) with five countries with the largest share of Poland's total trade turnover with the Arab states. The analysis thus covers Saudi Arabia, the United Arab Emirates, Algeria, Morocco, and Egypt.

In the case of Saudi Arabia, the commodity structure of Polish exports is much more diversified than the structure of Polish imports from this country. Suffice it to say that both in 2010 and in 2020, practically all these imports were based on only one commodity group (Table 2.5). In 2010, the imports were absolutely dominated by commodities from the "Plastics and articles thereof" group (94.72% of total imports),

and in 2020 by commodities from the "Mineral fuels, oils, distillation products, etc." group (90.62% of total imports, which corresponded to the value of nearly USD 1.2 billion). The other product groups were merely a background to those indicated above in 2010 and 2020.

In the Polish exports to Saudi Arabia in 2020, cereals were the main commodity (35.31% of total exports). The second most important commodity group consisted of commodities from the "Tobacco and manufactured tobacco substitutes" category (14.76%). It is worth emphasizing that throughout the period 2010–2020, the value of trade in these goods, as well as their importance in Polish exports to Saudi Arabia, increased very significantly. In 2010, the most important Polish exports to this country were goods from the "Electrical, electronic equipment" group (19.22% of total exports), "Dairy products, eggs, honey, edible animal products nes" (13.06% of total exports) and "Furniture, lighting, signs, prefabricated buildings" (10.77% of total exports).

Analyzing the commodity structure of Polish exports and imports to/from Saudi Arabia, it should be noted that to a large extent, in both cases, relatively low-processed and low-value-added goods prevailed, especially in 2020 (Table 2.5).

Table 2.5. Top five commodity groups in Poland's trade with Saudi Arabia in 2010 and 2020

Item	Commodity group	Value (USD m)	Share (%)	Item	Commodity group	Value (USD m)	Share (%)
EXPORTS							
2010				2020			
1.	Electrical, electronic equipment	36.5	19.22	1.	Cereals	376.6	35.31
2.	Dairy products, eggs, honey, edible animal products nes	24.8	13.06	2.	Tobacco and manufactured tobacco substitutes	157.4	14.76
3.	Furniture, lighting, signs, prefabricated buildings	20.4	10.77	3.	Preparations of cereals, flour, starch or milk; pastrycooks' products	66.9	6.27
4.	Nuclear reactors, boilers, machinery, etc.	18.7	9.85	4.	Dairy products, eggs, honey, edible animal products nes	62.7	5.88
5.	Paper & paperboard, articles of pulp, paper and board	15.8	8.35	5.	Tools, implements, cutlery, etc., of base metal	58.5	5.48
IMPORTS							
2010				2020			
1.	Plastics and articles thereof	198.4	94.72	1.	Mineral fuels, oils, distillation products, etc.	1 162.4	90.62

cont. Table 2.5

Item	Commodity group	Value (USD m)	Share (%)	Item	Commodity group	Value (USD m)	Share (%)
2.	Edible fruit, nuts, peel of citrus fruit, melons	3.1	1.46	2.	Plastics and articles thereof	83.4	6.50
3.	Organic chemicals	2.7	1.31	3.	Organic chemicals	15.9	1.24
4.	Iron and steel	1.7	0.81	4.	Wadding, felt, nonwovens, twine, cordage, etc.	9.0	0.70
5.	Pharmaceutical products	1.1	0.53	5.	Miscellaneous articles of base metal	5.2	0.40

Source: Compiled by author based on data from UN COMTRADE.

In the case of the United Arab Emirates, the structure of Polish exports to that country practically did not change significantly with regard to the five leading commodity groups, based on the 2010 and 2020 data (Table 2.6). As many as four of those five groups from 2010 remained among the top five also in 2020, which testifies to Poland's exceptionally stable export offer for that Arab country and hence to Poland's strong position in that market. What is more, Polish exports to the United Arab Emirates, unlike Saudi Arabia, are clearly dominated by high-processed and high-value-added goods. The two basic commodity groups with the largest share of Polish exports to the United Arab Emirates (both in 2010 and in 2020) were "Nuclear reactors, boilers, machinery, etc." and "Electrical, electronic equipment", which jointly represented 33.19% of the value of Polish exports to that country in 2010 and 32.28% in 2020. It is also worth emphasizing that also products for which Poland is widely recognized in the world, i.e., furniture and cosmetics (with respective shares of Polish exports to that country of 8.28% and 4.69%) are an important component of Polish exports to the United Arab Emirates, although not so significant as goods from the previously mentioned groups.

Polish imports from the United Arab Emirates are clearly dominated by one commodity category, i.e., "Aluminium and articles thereof", while its importance decreased markedly over the years 2010–2020 (Table 2.6). While in 2010 it represented 64.29% of Polish imports from that country, in 2020 it accounted for 41.05% (a drop by more than 23 percentage points). Interestingly, the value of Polish imports of "Aluminium and articles thereof" increased in the same period from USD 45.5 m in 2010 to USD 55.6 m in 2020 (i.e., by USD 10.1 m) in the context of an increase in the total value of Polish imports from the United Arab Emirates.

It is also worth noting that in general the commodity structure of Polish imports from that country in 2020 showed a much higher degree of diversification compared to that of 2010. Apart from the leader, i.e., the "Aluminium and articles thereof" group, all the other categories were of a similar importance both in terms of their share of Polish imports and total value.

Table 2.6. Top five commodity groups in Poland's trade with Saudi Arabia in 2010 and 2020

Item	Commodity group	Value (USD m)	Share (%)	Item	Commodity group	Value (USD m)	Share (%)
EXPORTS							
2010				2020			
1.	Electrical, electronic equipment	49.1	20.07	1.	Nuclear reactors, boilers, machinery, etc.	98.5	17.90
2.	Nuclear reactors, boilers, machinery, etc.	32.1	13.12	2.	Electrical, electronic equipment	79.1	14.38
3.	Tools, implements, cutlery, etc., of base metal	21.6	8.82	3.	Furniture, lighting, signs, prefabricated buildings	45.5	8.28
4.	Furniture, lighting, signs, prefabricated buildings	16.7	6.82	4.	Railway or tramway locomotives, rolling-stock and equipment	36.5	6.63
5.	Essential oils, perfumes, cosmetics, toiletries	13.1	5.33	5.	Essential oils, perfumes, cosmetics, toiletries	25.8	4.69
IMPORTS							
2010				2020			
1.	Aluminium and articles thereof	45.5	64.29	1.	Aluminium and articles thereof	55.6	41.05
2.	Plastics and articles thereof	15.3	21.60	2.	Tin and articles thereof	12.4	9.15
3.	Articles of apparel, accessories, knit or crochet	3.4	4.84	3.	Electrical, electronic equipment	11.6	8.57
4.	Nuclear reactors, boilers, machinery, etc.	2.2	3.16	4.	Plastics and articles thereof	11.6	8.57
5.	Articles of iron or steel	1.2	1.64	5.	Nuclear reactors, boilers, machinery, etc.	9.1	6.72

Source: Compiled by author based on data from UN COMTRADE.

Algeria is Poland's next major trading partner among the Arab states. Referring to the commodity structure of Polish exports to that country, it should be emphasized that both in 2010 and in 2020 it showed a relatively high degree of diversification (Table 2.7). In addition, but for few exceptions, it was dominated mainly by low-value-added and low-processed goods. For example, in 2020, the three main commodity groups in Polish exports to Algeria were: "Dairy products, eggs, honey, edible animal products nes", "Cereals", and "Tobacco and manufactured tobacco substitutes". Importantly, these are commodity groups in which Poland traditionally has comparative advantages in international trade, and is a known exporter of such goods in today's world.

Table 2.7. Top five commodity groups in Poland's trade with Algeria in 2010 and 2020

Item	Commodity group	Value (USD m)	Share (%)	Item	Commodity group	Value (USD m)	Share (%)
EXPORTS							
2010				2020			
1.	Mineral fuels, oils, distillation products, etc.	61.4	26.41	1.	Dairy products, eggs, honey, edible animal products nes	95.9	22.1
2.	Dairy products, eggs, honey, edible animal products nes	47.6	20.51	2.	Cereals	92.2	21.2
3.	Iron and steel	40.4	17.37	3.	Tobacco and manufactured tobacco substitutes	81.2	18.7
4.	Preparations of cereals, flour, starch or milk; pastrycooks' products	20.2	8.71	4.	Mineral fuels, oils, distillation products, etc.	44.1	10.1
5.	Vehicles other than railway, tramway	13.2	5.66	5.	Ships, boats and other floating structures	26.3	6.0
IMPORTS							
2010				2020			
1.	Salt, sulphur, earth, stone, plaster, lime and cement	20.9	96.19	1.	Salt, sulphur, earth, stone, plaster, lime and cement	26.0	46.75
2.	Pharmaceutical products	0.5	2.36	2.	Ships, boats and other floating structures	25.6	46.02
3.	Inorganic chemicals, compounds of precious metals, isotopes.	0.3	1.29	3.	Inorganic chemicals, compounds of precious metals, isotopes.	2.8	5.05
				4.	Edible fruit, nuts, peel of citrus fruit, melons	0.5	0.85
				5.	Electrical, electronic equipment	0.2	0.34

Source: Compiled by author based on data from UN COMTRADE.

While Polish exports to Algeria are characterized by a relatively high degree of diversification, having regard to its commodity structure, this can by no means be said of Polish imports from that country (Table 2.7). In 2010, practically all Polish imports from Algeria consisted of commodities from the "Salt, sulphur, earth, stone, plaster, lime and cement" group, which accounted for a huge 96.19% of all imports. In 2020, commodities from two groups clearly dominated, namely, again, "Salt, sulphur, earth, stone, plaster, lime and cement" (46,75% of total imports) and "Ships, boats and other

floating structures" (46.02%). Thus, commodities from the above two groups represented as much as 92.77% of the total value of Polish imports from Algeria.

Table 2.8. Top five commodity groups in Poland's trade with Morocco in 2010 and 2020

Item	Commodity group	Value (USD m)	Share (%)	Item	Commodity group	Value (USD m)	Share (%)
EXPORTS							
2010				2020			
1.	Salt, sulphur, earth, stone, plaster, lime and cement	19.9	14.22	1.	Vehicles other than railway, tramway	106.7	26.03
2.	Nuclear reactors, boilers, machinery, etc.	17.1	12.26	2.	Nuclear reactors, boilers, machinery, etc.	74.1	18.08
3.	Electrical, electronic equipment	15.8	11.29	3.	Electrical, electronic equipment	34.1	8.32
4.	Tools, implements, cutlery, etc., of base metal	13.1	9.39	4.	Cereals	32.8	8.01
5.	Iron and steel	9.5	6.76	5.	Essential oils, perfumes, cosmetics, toiletries	28.3	6.91
IMPORTS							
2010				2020			
1.	Salt, sulphur, earth, stone, plaster, lime and cement	33.4	21.40	1.	Articles of apparel, accessories, not knit or crochet	206.8	33.50
2.	Articles of apparel, accessories, not knit or crochet	33.2	21.26	2.	Vehicles other than railway, tramway	86.0	13.94
3.	Edible vegetables and certain roots and tubers	20.0	12.84	3.	Articles of apparel, accessories, knit or crochet	59.0	9.56
4.	Ores, slag and ash	15.3	9.79	4.	Salt, sulphur, earth, stone, plaster, lime and cement	43.9	7.11
5.	Edible fruit, nuts, peel of citrus fruit, melons	14.5	9.28	5.	Edible vegetables and certain roots and tubers	42.7	6.91

Source: Compiled by author based on data from UN COMTRADE.

Morocco is also Poland's important trading partner. A comparison of the structure of Polish exports to that country in 2020 and in 2010, i.e., at the beginning of the period analyzed in this chapter, shows a very clear (and undoubtedly desirable) change towards a marked increase in importance of high and medium high-tech, high-value-added products (Table 2.8). The three main commodity groups in Polish exports to Morocco

were: "Vehicles other than railway, tramway" (26.03% of total exports), "Nuclear reactors, boilers, machinery, etc." (18.08%), and "Electrical, electronic equipment" (8.32%). The other items of the top five commodity groups in Polish exports to Morocco in 2020 were "Cereals" (8.01%) and "Essential oils, perfumes, cosmetics, toiletries" (6.91%). Compared to the commodity structure of Polish exports to Morocco in 2010, commodities of the "Salt, sulphur, earth, stone, plaster, lime and cement" and "Electrical, electronic equipment" groups heavily lost in importance.

Clear changes in significance within the top 5 commodity groups also took place in Polish imports from Morocco in 2020 compared to the 2010 levels (Table 2.8). Commodities from the "Articles of apparel, accessories, not knit or crochet" group turned out to be a definite leader (33.5%) in this respect in 2020, which, combined with commodities from the related group "Articles of apparel, accessories, knit or crochet" (9.56%) accounted for more than 43% of the total Polish imports from Morocco in that year. In addition, a very steep drop in Polish imports from that country over the analyzed period was seen in the share of the "Salt, sulphur, earth, stone, plaster, lime and cement" commodity group, from 21,40% in 2010 to 7.11% in 2020. A similar trend also occurred in the case of goods from the "Edible vegetables and certain roots and tubers" group (decrease in share from 12.84% in 2010 to 6.91% in 2020).

An analysis of the commodity structure of Poland's trade with its main partners among the Arab states must not leave out Egypt (Table 2.9). In 2020, commodities from the "Vehicles other than railway, tramway" group clearly dominated in Polish exports to that country (19.41%); interestingly, in 2010 the share of this commodity group was a mere 3.66%. Both in 2010 and in 2020, commodities from the "Nuclear reactors, boilers, machinery, etc." group had a strong and stable position in Polish exports to Egypt (with a share of 13.89 and 12.91%, respectively). The other items of the top five commodity groups in Polish exports to Egypt in 2020 were: "Edible vegetables and certain roots and tubers" (10.98%), "Electrical, electronic equipment" (6.90%), and "Paper & paperboard, articles of pulp, paper and board" (5.44%). Only one of them, namely "Electrical, electronic equipment" was ranked in that leading group in 2010, and additionally its significance in Polish exports to Egypt was then greater (as its share of total Polish exports to Egypt was 9.40%).

The structure of Polish imports from Egypt over the period under study basically did not see any major changes. Both in 2010 and in 2020, they were dominated by commodities from the "Plastics and articles thereof" group (with a share of 14.12% and 17.50%, respectively) and commodities from the "Articles of apparel, accessories, not knit or crochet" and "Articles of apparel, accessories, knit or crochet" groups (with a joint share of 23.56% and 19.40%, respectively). Fruit and vegetables also traditionally have a significant, albeit not so important, position in Polish imports from Egypt.

Table 2.9. Top five commodity groups in Poland's trade with Egypt in 2010 and 2020

Item	Commodity group	Value (USD m)	Share (%)	Item	Commodity group	Value (USD m)	Share (%)
EXPORTS							
2010				2020			
1.	Nuclear reactors, boilers, machinery, etc.	32.4	13.89	1.	Vehicles other than railway, tramway	72.1	19.41
2.	Mineral fuels, oils, distillation products, etc.	26.1	11.19	2.	Nuclear reactors, boilers, machinery, etc.	48.0	12.91
3.	Copper and articles thereof	22.2	9.50	3.	Edible fruit, nuts, peel of citrus fruit, melons	40.7	10.96
4.	Electrical, electronic equipment	21.9	9.40	4.	Electrical, electronic equipment	25.6	6.90
5.	Tools, implements, cutlery, etc., of base metal	13.4	5.74	5.	Paper & paperboard, articles of pulp, paper and board	20.2	5.44
IMPORTS							
2010				2020			
1.	Plastics and articles thereof	6.9	14.12	1.	Plastics and articles thereof	34.2	17.50
2.	Articles of apparel, accessories, knit or crochet	6.4	13.19	2.	Edible fruit, nuts, peel of citrus fruit, melons	25.2	12.93
3.	Edible vegetables and certain roots and tubers	5.7	11.61	3.	Articles of apparel, accessories, not knit or crochet	23.9	12.23
4.	Articles of apparel, accessories, not knit or crochet	5.1	10.37	4.	Articles of apparel, accessories, knit or crochet	14.0	7.17
5.	Carpets and other textile floor coverings	3.4	7.02	5.	Aluminium and articles thereof	13.6	6.96

Source: Compiled by author based on data from UN COMTRADE.

Conclusions. Development prospects for trade between Poland and the Arab states

The trade significance of the Arab states for Poland was increasing throughout the 2010s. While those countries are not and probably will not be Poland's major trading partner, without any doubt this region of the world has a great economic potential, which consequently provides a reasonable basis to presume a further growth in mutual trade between Poland and the Arab states.

What undoubtedly presents a way forward for Poland and Polish enterprises to further develop their commercial presence in the Arab states' markets is the consistent drawing on their comparative advantages in the production and export of articles of the agri-food, cosmetic, or furniture industries [Radło, 2021; Fronczek, 2018; Szczepaniak, 2018]. The great export potential of the Polish agri-food sector arises not only from the high competitiveness of Polish agricultural and food products (in terms of price and quality) but also from the specificity of the Arab states, i.e., the prevailing climatic conditions, limited resources of arable land, or access to water, which obviously generates high import demand for food materials and products.

Poland has been a highly valued exporter of those commodities to the Arab states' markets, but its export potential in this respect remains large and not fully untapped. This is largely a consequence of the fact that the Arab states' markets are not easy for Poland and for Polish enterprises due, among other things, to the existing broad-based cultural differences, legal and institutional regulatory framework, insufficient knowledge of the local markets, and a lack of efficient distribution channels. It is also worth noting that markets outlets, especially in the wealthy Arab states, OECD members, have for years been the target of keen competition, which involves the USA, Japan, and the EU member states, but also increasingly expansive China. In this field, Poland will find it very difficult to substantially increase its presence in the markets concerned.

The development of Poland's mutual trade with the Arab states will be determined to a large extent by the level of economic and social development in these countries, and thus by the real purchasing power of local consumers, as well as (which is particularly important in the case of countries such as Syria or Yemen), stabilization of the internal situation, which will significantly affect the security of trade relations, including the level of transaction costs associated with trading with these Arab countries.

In addition, it is worth paying attention to yet another aspect that may stimulate the growth of mutual trade between Poland and the Arab states in the future, namely the perception and use of the Arab states to a much greater extent than at present, as a kind of trade hub, through which Polish goods could be distributed further, mainly to reach other Muslim countries in Africa and Asia [Rzeczpospolita, 2019].

To sum up, it is clear from the analysis that in the analyzed period 2010–2020, trade between Poland and the Arab states was strongly diversified in terms of size and structure, which was a consequence of both the level of economic and social development, the tradition of mutual trade, and the internal political situation in some Arab states.

The Arab states were not important trading partners for Poland during that period relative to Poland's overall foreign trade, but nevertheless mutual trade in the second decade of the twenty-first century increased significantly (suffice it to say that while at the beginning of the period, i.e., in 2010, the value of that trade amounted to less

than USD 2.2 bn, whereas in 2020 it was already just over USD 6.9 bn (i.e., more than a threefold increase), which should be viewed as a positive development.

In the years ahead, this situation is unlikely to change; however, with the consistent use of Poland's comparative advantages in international trade, combined with an active policy of promoting Polish exports and active search for new markets for Polish goods by Polish companies, as well as with greater political stability of some Arab states and an increase in the level of development of the Arab countries, it can be assumed that the presence of Poland and Polish enterprises in the Arab states' markets will be gradually increasing.

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Chapter 3

Foreign Direct Investment between the Arab States and Poland

Tomasz M. Napiórkowski

Introduction

Foreign direct investment (FDI) is an indispensable element of the globalization process. It plays a major role in shaping long-term relations between the economies involved [OECD, 2021a]. It also influences the economic development of both the source and host countries, e.g., by contributing to their innovation performance and competitiveness [Napiórkowski, 2017; Sekuloska, 2015; Gamariel, Hove, 2019; Raeskyesa, Suryandaru, 2020]. FDI hosting increases economic growth of the receiving country. This arises from the positive impact of FDI on all factors of production: physical capital (through new investments [Pegkas, 2015; Lo Hong, Li, 2016]), labor resource (through offering higher-than-average wages [Tomohara, Takii, 2011; Javorcik, 2015]), technology level (through its transfer [Liu, Agbola, Dzotori, 2016; Svedin, Stage, 2016]) and human capital (through knowledge transfer [Temiz, Gökmen, 2014; Wang, Wu, 2016]). Firms undertaking investments abroad their home country have access to new resources, new markets and strategic assets, and the opportunity to achieve a higher efficiency level [Dunning, 1998].

The purpose of this chapter is to analyze FDI between the Arab states and Poland. The first part describes FDI stock[1], the second part – FDI[2] flows, and the third part presents an FDI-related income[3] analysis.

1. FDI stock between the Arab states and Poland

In terms of FDI stock, the Arab states group is mainly an investment target (Chart 3.1). The excess of the value of FDI stock from Poland in the Arab states over the value of FDI stock of the Arab states in Poland was growing between 2010 and 2019 by an average of EUR 17.25 m annually. The available data supports the assumption that the trend will be maintained. The value of FDI stock from the Arab states in Poland increased over the period 2010–2019 by 33%, reaching EUR 70.4 m, following a decline from EUR 105.2 m in 2018 (Chart 3.2). However, the decline is not a cause for concern, as throughout the analyzed period the value of FDI stock of the Arab states in Poland was growing by an average of EUR 1.56 m annually. At the same time, the overall value of FDI stock in Poland increased by 33%, which translates into a small increase in significance of FDI stock from the Arab states. Between 2010 and 2019, Polish FDI in the Arab states increased by 139% (by an annual average of EUR 18.81 m) to EUR 254.1 m (Chart 3.3). The attractiveness of the Arab states to Polish investors is emphasized by the fact that during the same period the value of Polish FDI stock in the world decreased by 32%. As a result of those changes, in 2019, 1.12% of FDI stock located by Polish investors targeted the Arab states. By comparison, in 2010 the proportion was only 0.32%.

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1 "Foreign Direct Investment (FDI) stocks measure the total level of direct investment at a given point in time, usually the end of a quarter or of a year. The outward FDI stock is the value of the resident investors' equity in and net loans to enterprises in foreign economies. The inward FDI stock is the value of foreign investors' equity in and net loans to enterprises resident in the reporting economy" [OECD, 2021a].

2 "Foreign Direct Investment (FDI) flows record the value of cross-border transactions related to direct investment during a given period of time, usually a quarter or a year. Financial flows consist of equity transactions, reinvestment of earnings, and intercompany debt transactions. Outward flows represent transactions that increase the investment that investors in the reporting economy have in enterprises in a foreign economy, such as through purchases of equity or reinvestment of earnings, less any transactions that decrease the investment that investors in the reporting economy have in enterprises in a foreign economy, such as sales of equity or borrowing by the resident investor from the foreign enterprise. Inward flows represent transactions that increase the investment that foreign investors have in enterprises resident in the reporting economy less transactions that decrease the investment of foreign investors in resident enterprises" [OECD, 2021b].

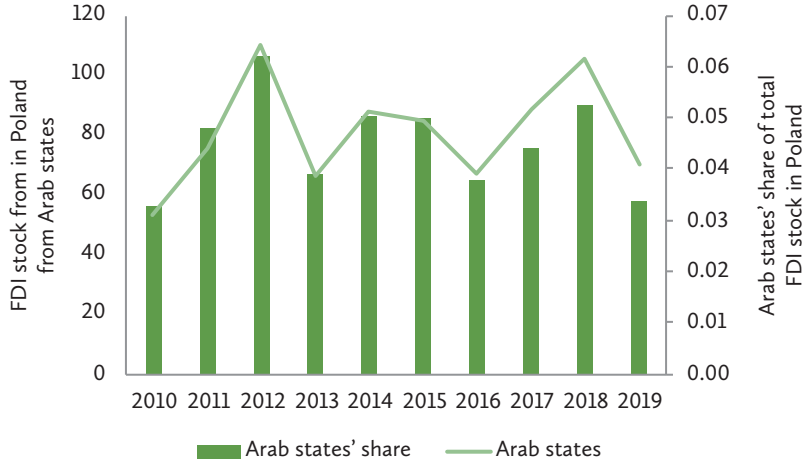
3 "Direct investment income is part of the return on the direct investment position; that is, the return on equity and debt investment. Direct investment income is calculated on an accrual basis, i.e. it is recorded as it accrues regardless of the payment term However, as debt instruments involving financial intermediaries related through a foreign direct investment relationship are excluded from direct investment, so is the debt income between them" [NBP, 2018, p. 59].

Chart 3.1. Value of net FDI stock between the Arab states and Poland (EUR m)

Note: Net value has been calculated as the value from the Arab states minus the value in the Arab states. Thus, negative values indicate greater investments by Poland in the Arab states.

Source: Compiled by author from the National Bank of Poland (NBP) [2021a, 2021b] data.

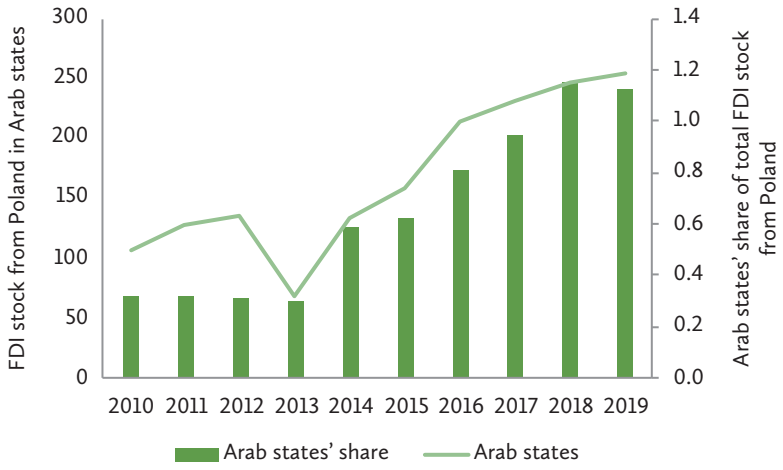
Chart 3.2. FDI stock from the Arab states in Poland (EUR m) and the share of those investments in total FDI stock in Poland (%)



Source: Compiled by author from NBP [2021a] data.

Of the analyzed group of Arab states, Djibouti, Yemen, the Comoros, Libya, Mauritania, Palestine, Somalia, Sudan, and Syria do not have any FDI stock in Poland or their investments are relatively low (equal to or smaller than EUR 0.1 m). Likewise, as a foreign investor, Poland has FDI stock only in Algeria, Saudi Arabia, Egypt, Lebanon, Libya, Morocco, Oman, Tunisia, and the United Arab Emirates (UAE).

Chart 3.3. FDI stock from Poland in the Arab states (EUR m) and the share of those investments in total FDI stock from Poland (%)



Source: Compiled by author from NBP [2021b] data.

In 2010–2013, the largest source of FDI stock from the Arab states was the UAE (with an average of 34.29% of all FDI stock in Poland from the analyzed group; Table 3.1). Between 2014 and 2019, this role was taken over by Kuwait (with an average share of 63.53%). In 2019, the value of FDI stock from Kuwait in Poland was EUR 55 m (78.1%), trailed slightly by the UAE with EUR 49.3 m (70%). Unfortunately, the value of FDI stock from the Arab states in Poland was negative for many of the analyzed economies. During the period 2013–2017, the highest negative values of FDI stock were reported for Egypt, but in 2019 FDI stock from Morocco had the lowest value (EUR 37.7 m).

Looking at the above group of Arab states, it can be seen that Poland invariably maintains its highest FDI stock in the UAE. In 2010–2019, an average of 76.82% of Poland's direct investments in the Arab states were located in the UAE. The second-ranked destination country for FDI stock from Poland in the analyzed period was Morocco. While in the years 2010–2013 a rising trend was visible (in 2013, FDI stock from Poland in Morocco amounted to EUR 31.9 m, i.e., 47.61% of the total value of FDI stock from Poland in the region concerned), in subsequent years the role of Morocco as a country hosting FDI stock from Poland declined. In 2019, 22.94% of FDI stock from Poland in the Arab states was located in Morocco. As is the case with being a source of FDI stock, Egypt performs the worst in terms of hosting FDI stock from Poland. While some improvement has been witnessed in this area since 2016, Polish FDI stock in Egypt represented a mere 0.71% of FDI stock in the region in 2019.

Table 3.1. Share of selected Arab states in the value of FDI stock from the Arab states group in Poland (%)

Country/Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Algeria	0.0	0.0	0.0	–8.0	–3.0	–3.1	–0.3	–0.1	–0.5	0.0
Saudi Arabia	27.8	1.3	0.3	–0.8	–0.7	2.1	0.3	–1.1	16.7	17.8
Bahrain	0.0	18.2	14.4	25.9	20.2	24.1	0.0	–0.1	0.0	–0.4
Egypt	0.4	0.1	0.3	–16.5	–17.1	–23.6	–25.6	–10.0	–2.9	–2.7
Iraq	0.0	0.0	0.0	–0.2	0.0	–0.1	0.0	0.0	0.0	0.0
Jordan	0.4	0.0	0.0	–0.2	–0.1	–0.1	–3.7	0.0	–0.5	0.1
Qatar	0.0	0.0	0.0	0.0	–1.0	–0.4	–0.1	–0.2	0.1	1.1
Kuwait	27.4	19.8	13.8	22.6	58.4	59.9	77.3	58.7	48.7	78.1
Lebanon	–0.2	29.6	23.6	32.6	21.6	20.1	22.5	14.8	12.4	–4.7
Morocco	14.4	8.1	6.7	1.4	0.6	–7.1	–8.6	–0.3	–8.8	–53.6
Oman	0.0	0.0	0.0	–0.2	–0.3	–4.4	–0.3	–0.1	–0.2	–0.4
Tunisia	–1.1	0.8	1.5	–3.8	–0.8	0.2	–1.6	2.0	–0.9	–5.5
UAE	28.5	22.0	39.5	47.0	22.3	32.2	40.2	36.4	35.9	70.0

Note: Data for each year is ranked from the highest (green) to the lowest (red) values.

Source: Compiled by author from NBP [2021a] data.

Table 3.2. Share of selected Arab states in FDI stock from Poland in the Arab states group (%)

Country/Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Algeria	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0
Saudi Arabia	0.9	1.1	2.1	2.1	0.5	0.4	0.4	0.2	0.0	0.7
Egypt	1.7	0.6	2.7	–34.9	–16.1	–13.6	1.2	0.6	0.2	0.7
Jordan	0.1	0.2	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lebanon	0.4	0.5	0.3	0.0	–0.3	0.1	0.0	0.0	0.0	0.0
Libya	6.8	–1.8	–1.0	6.6	–0.9	–0.4	–0.3	0.0	0.2	0.1
Morocco	9.8	18.8	20.0	47.6	32.1	27.8	21.9	24.2	23.2	22.9
Oman	0.2	0.2	0.1	0.1	5.6	–0.7	–0.1	0.1	0.1	0.0
Tunisia	0.9	1.1	0.5	0.0	0.2	3.8	2.4	2.0	2.4	0.4
UAE	78.9	79.3	73.9	78.5	78.8	82.4	74.5	72.8	73.9	75.3

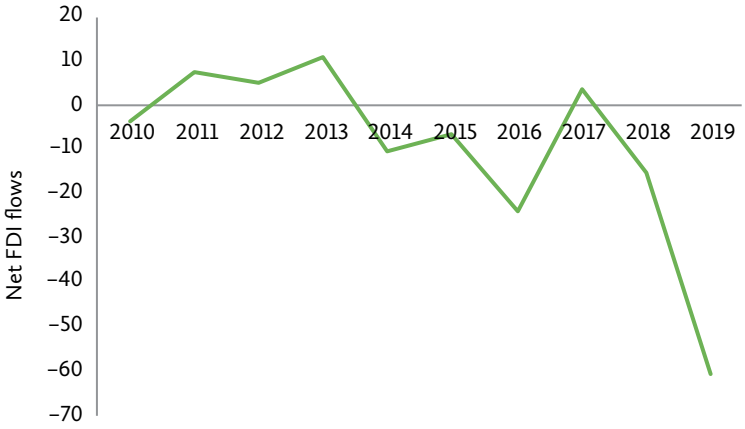
Note: Data for each year is ranked from the highest (green) to the lowest (red) values.

Source: Compiled by author from NBP [2021b] data.

2. FDI flows between the Arab states and Poland

As with FDI stock, Poland is a net investor also in terms of flows with the Arab states (Chart 3.4).

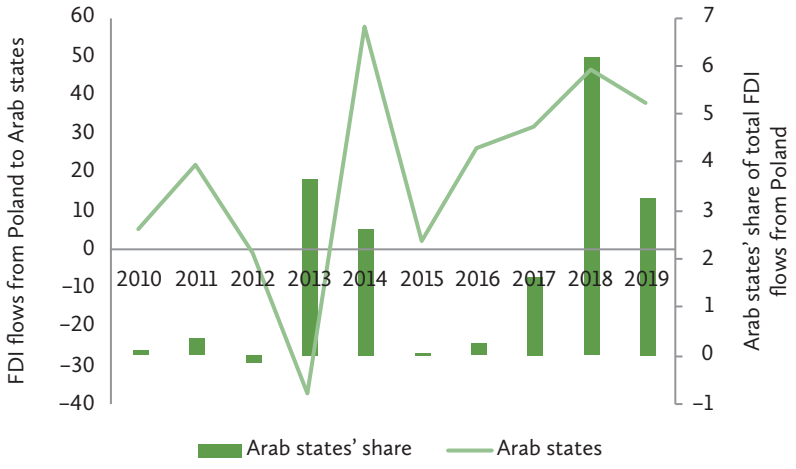
Chart 3.4. Value of net FDI flows between the Arab states and Poland (EUR m)



Note: Net value has been calculated as the value from the Arab states minus the value in the Arab states. Thus, negative values indicate greater investments by Poland in the Arab states.

Source: Compiled by author from NBP [2021a, 2021b] data.

Chart 3.5. FDI flows from Poland to the Arab states (EUR m) and the share of the Arab states in total FDI flows from Poland (%)

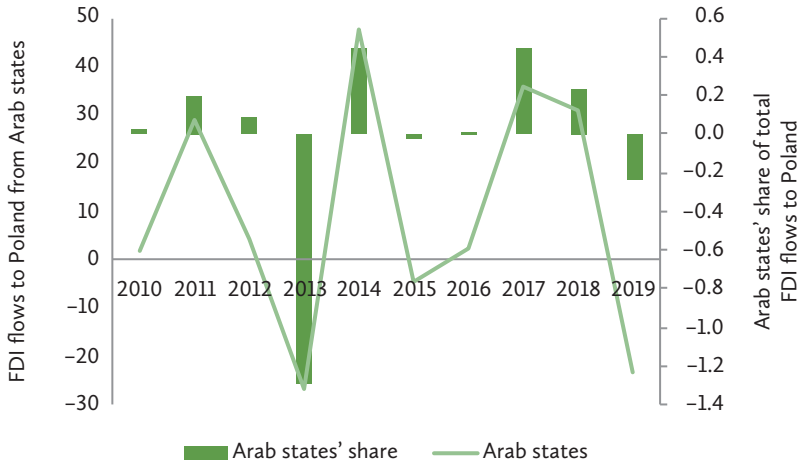


Source: Compiled by author from NBP [2021b] data.

The value of FDI flows from Poland to the Arab states was growing by an annual average of EUR 4.72 m more than the value of corresponding FDI flows from the Arab states to Poland. Again, as in the case of FDI stock, the changes witnessed in recent years suggest that some Arab countries are an attractive partner for Polish enterprises. This observation is supported by a significant increase in FDI flows from Poland to the area under analysis in 2010–2019 (Chart 3.5). While in 2010 the value of those flows was only EUR 5.4 m (which represented 0.1% of all FDI flows from Poland), in 2019 their value was higher by 596.3% (EUR 37.6 m) and represented 3.26% of total FDI flows from Poland. The average annual value of FDI flows from Poland to the Arab states in 2010–2019 was growing by EUR 4.61 m. Unfortunately, FDI flows from the Arab states to Poland in 2019 were negative (–EUR 23.2 m), representing a significant drop from 2018 (EUR 31 m; Chart 3.6). At this point, it should be noted that FDI flows are traditionally characterized by greater variance than FDI stock, hence such steep changes in flow value are not surprising.

In the case of FDI flows from the Arab states to Poland, actual activity is noticeable only for some of the economies concerned. These are Algeria, Saudi Arabia, Bahrain, Egypt, Jordan, Qatar, Kuwait, Lebanon, Morocco, Oman, Tunisia, and the UAE[4]. As regards the Arab states as the destination of Polish FDI flows, these are actually only Algeria, Saudi Arabia, Egypt, Jordan, Libya, Morocco, Oman, Tunisia, and the UAE.

Chart 3.6. FDI flows from the Arab states to Poland (EUR m) and the share of the Arab states in total FDI flows to Poland (%)



Source: Compiled by author from NBP [2021a] data.

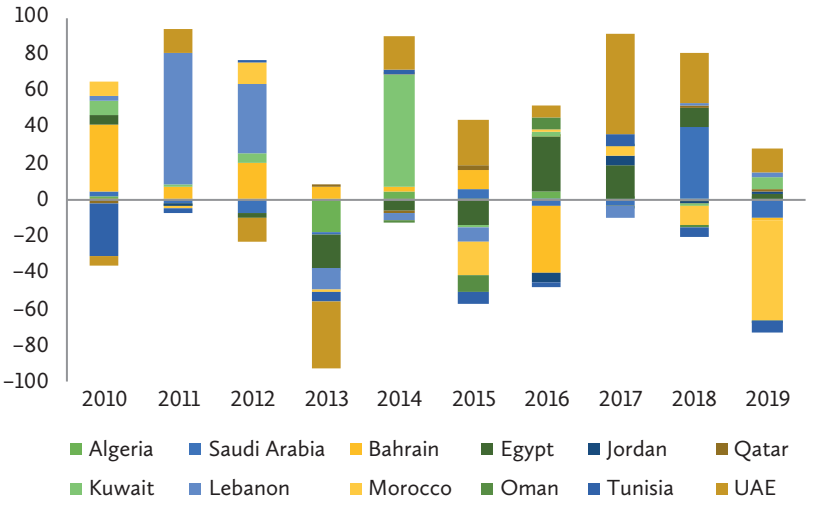
4 What should be noted is that while in 2010 about 47.4% of FDI flows from the Arab states to Poland came from Syria, in subsequent years this activity virtually decreased to zero.

Table 3.3. FDI flows from selected Arab states to Poland (EUR m)

Country/Year:	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Algeria	0.10	0.00	0.00	–5.50	2.60	0.00	2.30	0.10	–0.40	0.60
Saudi Arabia	0.10	–0.70	–0.60	–0.30	0.00	2.00	–1.60	–1.20	20.40	–5.20
Bahrain	1.40	2.20	1.60	2.20	1.50	3.50	–21.40	–0.10	–0.20	–0.30
Egypt	0.20	–0.10	–0.20	–5.70	–3.50	–4.70	17.30	8.20	5.70	1.10
Jordan	0.00	–0.10	0.00	0.00	0.00	0.00	–2.50	2.50	–0.40	0.40
Qatar	–0.10	0.00	0.00	0.10	–0.80	0.70	0.20	–0.10	0.30	0.70
Kuwait	0.30	0.40	0.40	–0.20	37.00	–0.20	1.10	–0.10	–0.70	3.80
Lebanon	0.10	24.00	2.90	–3.50	–2.20	–2.80	0.00	–2.70	0.40	0.90
Morocco	0.30	–0.70	0.90	–0.50	0.10	–6.00	0.80	2.30	–5.60	–28.40
Oman	0.00	0.00	0.00	0.00	–0.10	–3.50	3.70	0.10	–0.10	–0.10
Tunisia	–1.10	–0.60	0.10	–1.60	2.10	–1.90	–1.90	2.60	–2.70	–3.50
UAE	–0.20	4.30	–1.00	–11.40	10.50	8.50	4.20	24.10	14.30	6.70

Note: Data for each year is ranked from the highest (green) to the lowest (red) values.
Source: Compiled by author from NBP [2021a] data.

Chart 3.7. Share of selected Arab states in FDI flows from the Arab states to Poland



Source: Compiled by author from NBP [2021a] data.

As shown in Table 3.3 and Chart 3.7, in 2019, the UAE was the source of the greatest FDI inflows from the Arab states to Poland (EUR 6.7 m). An analysis of FDI flows to Poland from the analyzed group of economies cannot identify a single leader

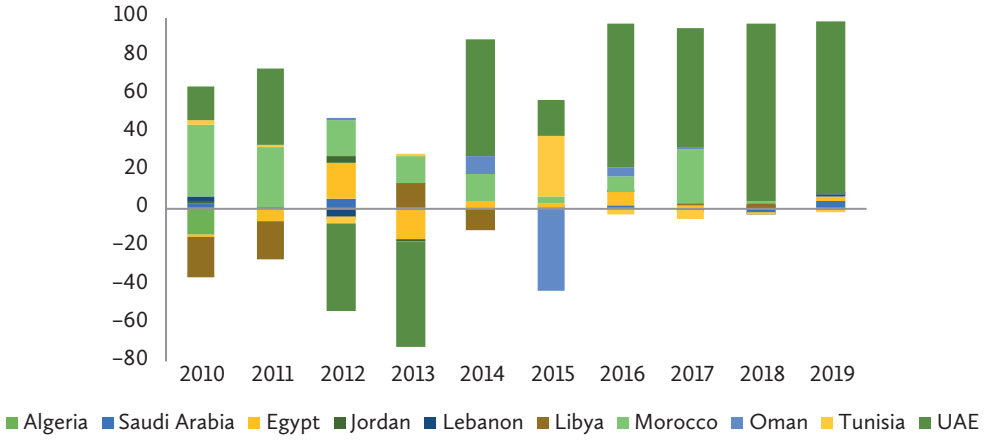
(key FDI source) throughout the period 2010–2019. Nonetheless, such leaders can be identified on a per year basis. Saudi Arabia was a source of the greatest FDI flows to Poland in 2018, while Bahrain was such a leader in 2010 and 2013. Egypt and Kuwait ranked first in this category in 2016 and 2014, respectively. In 2011 and 2012, Lebanon was the key investor from the Arab states. In the remaining years (2015, 2017, and 2019), the highest FDI flows in the analyzed group came from the UAE.

Table 3.4. FDI flows from Poland to selected Arab states (EUR m)

Country/Year:	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Algeria	–2.70	–0.10	0.00	0.00	0.10	0.00	0.10	0.00	0.00	0.00
Saudi Arabia	0.40	0.10	0.90	–0.70	–0.80	0.10	0.10	–0.40	–1.10	1.60
Egypt	–0.30	–3.20	3.80	–13.10	2.90	0.30	2.00	0.60	0.00	0.80
Jordan	0.20	0.00	0.60	–0.70	0.00	0.00	–0.10	0.00	0.10	0.00
Lebanon	0.50	0.20	–0.80	0.00	–0.10	0.00	0.10	–0.10	–0.10	0.20
Libya	–4.20	–9.80	–0.10	10.50	–7.80	0.00	0.00	0.10	1.00	–0.40
Morocco	7.50	15.00	3.70	12.20	9.90	0.70	2.40	10.40	1.00	0.00
Oman	0.00	0.00	0.10	0.00	7.20	–8.30	1.10	0.50	0.00	0.10
Tunisia	0.40	0.50	–0.70	0.30	0.30	6.10	–0.80	–1.50	–0.60	–0.50
UAE	3.50	19.00	–8.90	–45.60	45.90	3.40	21.30	22.30	46.10	35.80

Note: Data for each year is ranked from the highest (green) to the lowest (red) values.
Source: Compiled by author from NBP [2021b] data.

Chart 3.8. Share of selected economies in FDI flows from Poland to the Arab states



Source: Compiled by author from NBP [2021b] data.

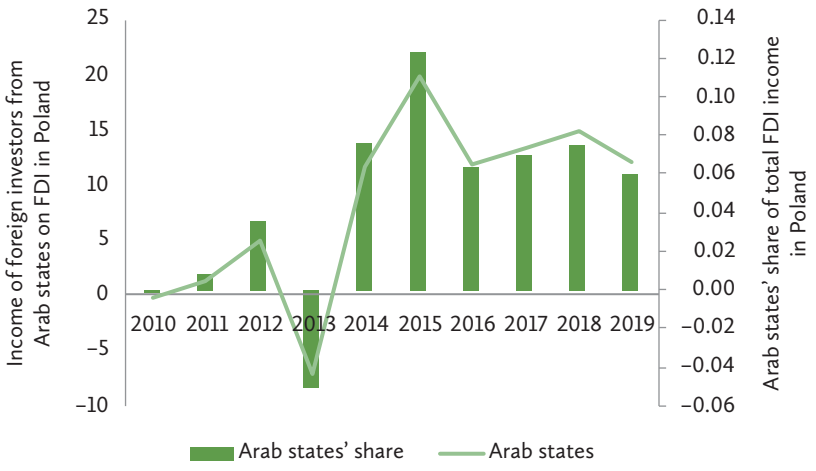
Regarding the Arab states as the destination of FDI flows from Poland, the UAE is the clear leader (key host country for those investments), with EUR 35.8 m invested from Poland in 2019 (Table 3.4, Chart 3.8). While in 2010–2013 relatively high FDI flows from Poland went to Morocco, the value of those investments started falling dramatically after that period.

3. Income on FDI between the Arab states and Poland

Income or loss for the Arab states on FDI in Poland is generated by only eight of the analyzed 22 economies, i.e., by Saudi Arabia, Bahrain, Kuwait, Lebanon, Morocco, Syria, Tunisia, and the UAE. As regards income or loss generated by Polish investors, it is attributable to investments in Saudi Arabia, Egypt, Lebanon, Libya, Morocco, Oman, Tunisia, and the UAE.

The Arab states' income on FDI in Poland reached its highest level (EUR 19.9 m) in 2015. (Chart 3.9). In 2019, it was EUR 12.1 m and represented 0.06% of the total income on FDI in Poland. In the recent few years, the share has invariably remained at 0.06% – 0.07%.

Chart 3.9. Income of foreign investors from the Arab states on FDI in Poland (EUR m) and the Arab states' share of total FDI income in Poland



Source: Compiled by author from NBP [2021a] data.

The highest income in 2014–2019 was achieved by the UAE (EUR 11.2 m, 92.6% of the income of the analyzed group of economies in 2019; Table 3.5 and Chart 3.10).

In the other countries, the analyzed income did not exceed EUR 1 m. Interestingly, in 2010–2013 it was the UAE that reported the highest losses on its investments. Between 2014 and 2019, the highest losses were associated with Lebanese investments (one exception being 2016, when Saudi Arabia led this ranking).

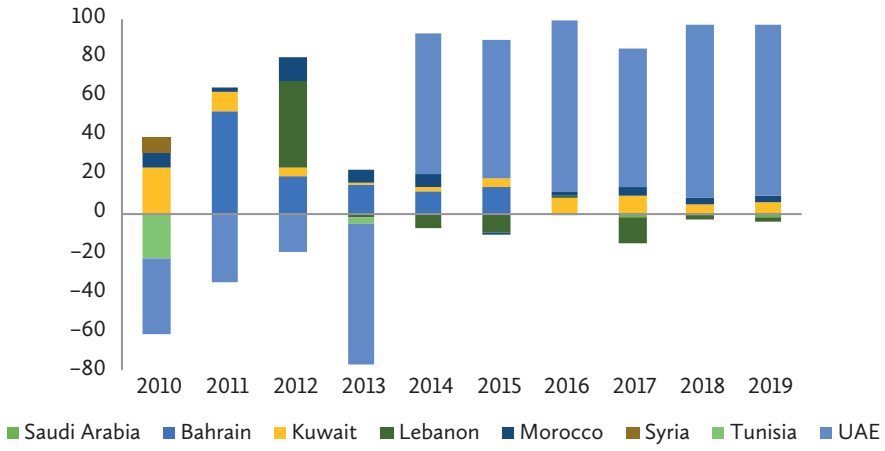
Table 3.5. Income of selected foreign investors from the Arab states on FDI in Poland (EUR m)

Country/Year:	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Saudi Arabia	0.00	0.00	0.00	0.00	0.00	0.00	–0.10	–0.30	–0.10	–0.20
Bahrain	0.00	2.20	1.60	1.80	1.60	3.50	0.00	0.00	0.00	0.00
Kuwait	0.30	0.40	0.40	0.20	0.20	1.10	0.90	1.70	0.80	0.80
Lebanon	0.00	0.00	3.70	–0.20	–1.00	–2.50	0.20	–2.60	–0.40	–0.30
Morocco	0.10	0.10	1.00	0.80	0.90	–0.30	0.20	0.80	0.50	0.40
Syria	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tunisia	–0.30	0.00	0.00	–0.50	0.00	0.00	0.00	0.00	0.00	0.00
UAE	–0.50	–1.50	–1.70	–9.20	10.00	18.10	10.70	13.70	14.00	11.20

Note: Data for each year is ranked from the highest (green) to the lowest (red) values.

Source: Compiled by author from NBP [2021a] data.

Chart 3.10. Share of selected economies' income in the Arab states' income on FDI in Poland

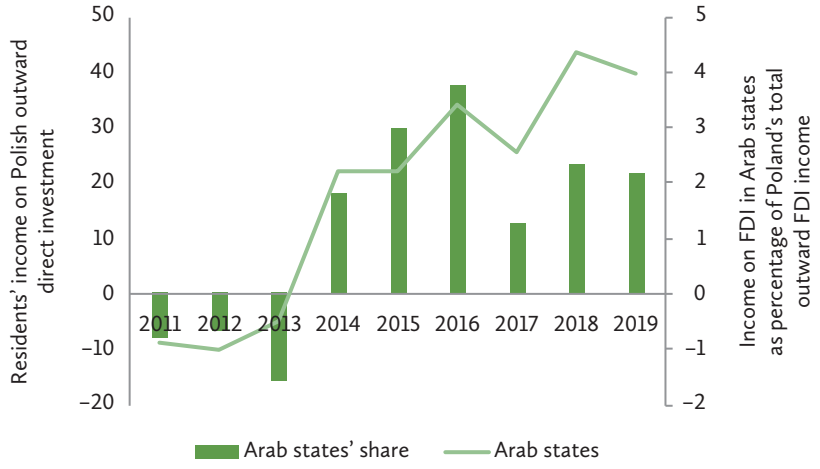


Source: Compiled by author from NBP [2021a] data.

Polish residents' income on Polish FDI in the Arab states reached its highest level in 2018 (EUR 43.5 m), following an almost continuous growth throughout the

analyzed period. Despite the fact that in 2011–2013 Polish investors reported losses, profitability of Polish FDI in the Arab states has been growing and, if the current trend is maintained, it will keep growing in the years to come.

Chart 3.11. Residents' income on FDI from Poland in the Arab states (EUR m) and the Arab states' share of income on FDI from Poland in the world (%)



Source: Compiled by author from NBP [2021b] data.

Table 3.6. Residents' income on FDI from Poland in the Arab states (EUR m)

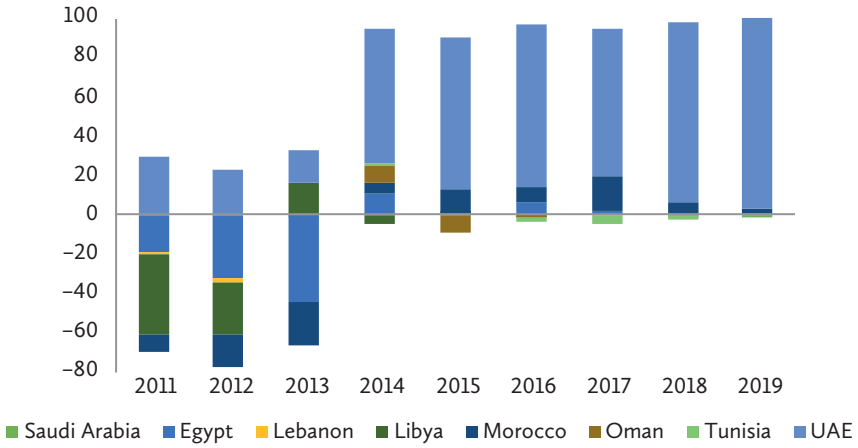
Country/Year:	2011	2012	2013	2014	2015	2016	2017	2018	2019
Saudi Arabia	0.00	0.00	–0.10	0.00	0.00	0.00	0.00	–0.40	–0.20
Egypt	–4.10	–6.00	–6.20	2.70	0.20	2.10	0.60	0.00	0.40
Lebanon	–0.20	–0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Libya	–8.70	–4.80	2.30	–1.30	0.10	–0.10	0.00	0.30	0.00
Morocco	–2.00	–3.00	–3.10	1.20	3.20	2.90	4.80	2.70	0.60
Oman	0.00	0.00	0.00	2.10	–2.60	–0.50	0.00	0.00	0.00
Tunisia	0.00	0.00	0.00	0.30	0.00	–0.70	–1.50	–0.60	0.00
UAE	6.30	4.20	2.30	16.90	21.10	30.40	21.50	41.50	38.90

Note: Data for each year is ranked from the highest (green) to the lowest (red) values.
Source: Compiled by author from NBP [2021b] data.

The highest income is invariably achieved by Polish investors on FDI in the UAE (Table 3.6 and Chart 3.12). The income reached EUR 41.5 m in 2018 and was slightly lower in 2019 (EUR 38.9 m, i.e., 98% of total income on Polish FDI in the Arab states

in 2019). Investments in the other described economies yield relatively low income (apart from the above, the highest income was EUR 4.8 m in 2017 on FDI in Morocco) or generate losses (Egypt and Libya in 2011–2014, Oman in 2015, Tunisia in 2016–2018, and Saudi Arabia in 2019).

Chart 3.12. Share of Polish investors' income on FDI in selected Arab states



Source: Compiled by author from NBP [2021b] data.

Summary

The purpose of this chapter was to analyze foreign direct investment (FDI stock, flows, and related income) between the Arab states and Poland. The following key observations can be made on the basis of the study:

1. The presence of Polish investors in the Arab states and those from the Arab states in Poland concentrates on a small number of countries.
2. Poland's key partner in terms of FDI from the Arab states is the UAE.
3. Both in terms of stock and flows, Polish involvement in the Arab states is greater than that of the Arab states in Poland. In other words, Poland is a net investor.
4. Consequently, income related to Polish investors' FDI in the Arab states has been rising and is greater than income derived by the Arab states from FDI in Poland.
5. The trends observed suggest that Poland's FDI involvement in the Arab states will be growing.

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Chapter 4

Dimensions of Culture and Innovation Linkages in the Arab States and in Poland

Małgorzata Stefania Lewandowska

Introduction

The ability to communicate and negotiate with representatives of other cultures, or communication multiculturality, is an indispensable feature both in decision-making and in achieving business success.

In this context, the purpose of this study, in its theoretical layer, is to define the notion of culture and overview the latest version of Hofstede's typology of culture, where its six dimensions are defined: "power distance", "individualism", "masculinity", "uncertainty avoidance", "long-term orientation", and "indulgence".

In the empirical layer, the purpose of the study is to examine the relationships between the individual features of national cultures and innovation linkages, which are a significant driver of the innovation performance of countries.

The analysis was initially intended to cover Poland and 22 Arab states (Algeria, Bahrain, the Comoros, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Qatar, Saudi Arabia, Somalia, Sudan, Syria, Tunisia, the United Arab Emirates (UAE), Yemen, the West Bank and Gaza), but for nine of them (Bahrain, the Comoros, Djibouti, Mauritania, Oman, Somalia, Sudan, Yemen, the West Bank and Gaza) full data is not available and they have therefore been excluded from the analysis.

The results enable Poland's position in this respect to be identified and similarities and differences in the position of the Arab states to be shown on the respective relationship maps.

1. Culture and its dimensions

The Latin term "cultura" means "cultivation" and it originally referred to the cultivation of soil. Over time, the word began to include everything that can be "cultivated" is any way [Krąpiec, 1999]. The cultivation of human soul was first referred to by Marcus Tullius Cicero, who mentioned "the culture of the spirit" which was said to be fostered by philosophy [Cicero, 1997].

It its broad sense, "culture" includes all that is natural in nature and that is or has been processed by human mind [Daszkiewicz, 2010].

According to Hofstede [1991, p.5], national culture is "the collective programming of the mind that distinguishes the members of one group or category of people from others".

National culture shapes attitudes, values, behaviors, competences, and perceived priorities in a given nationality [Dedoussis, 2004; Shahin, Wright, 2004].

Hofstede [2011], and then Minikov [2013], noticed that culture is a critical factor when it comes to the social and economic classification of countries.

In the opinion of those researchers, there are three features that can be used to define national cultures. They include attitude toward authority, self-concept, and the way people respond to conflict [Hofstede, Hofstede, 2005].

Based on research conducted in 1967–1970 among IBM employees in 71 branches of the company in 40 countries across the world, Hofstede proposed a typology of the dimensions of culture which largely determined further research on national and organizational culture [Venkateswaran, Ojha, 2019].

Originally, Hofstede's model described four dimensions of culture ("power distance", "individualism", "masculinity", and "uncertainty avoidance"), but following subsequent stages of research, the classification was expanded in 1991 by a fifth dimension ("long-term orientation"), and in 2010 by a sixth one – "indulgence" [Hofstede, Hofstede, Minkow, 2010; Minkov, Hofstede, 2012].

While the concept of applying numerical measures to compare entire nations gives rise to much controversy [Danik, 2017, p. 81], and the interpretation of results was often criticized [McSweeney, 2002; Tung, 2008; Sasaki, Yoshikawa, 2014] and alternative typologies of culture are proposed (GLOBE), Hofstede's proposal remains a leading approach to studying various aspects of international business [Dikova, Rao Sahib, 2013].

The individual dimensions of this typology are overviewed below.

"Power distance" (measured by the Power Distance Index, PDI) is defined as the extent to which less influential members of institutions (such as family, school, local community) or organizations expect and accept an uneven distribution of power.

Countries with a low "power distance" usually have democratic governments and corruption is a rare phenomenon there. What is more, subordinates expect consultation

(and not merely instructions on what to do), and income distribution across society is fairly egalitarian.

In contrast, in countries with a high "power distance" employees are afraid to disagree with their superiors. Division of society into classes is accepted, and there is unequal access to resources, education, etc. [Hofstede et al., 2010, pp. 61–66].

German and English-speaking Western countries are characterized by a low "power distance", whereas Eastern European, Latin, Asian, and African countries exhibit higher scores.

"Individualism" (measured by the Individualism Index, IDV) indicates to what extent people from different nations are integrated into groups.

The opposite of individualist cultures are collectivist cultures in which people from birth onwards are strongly bound to the groups to which they belong.

"Individualism" does not mean selfishness. It means, however, that a person is expected to make individual choices and decisions. On the other hand, "collectivism" does not mean closeness. It indicates that community members "know their place" in life, which is strongly determined socially.

In collectivist cultures, members of one's own group are favored over those considered strangers, also in business situations. Thus, establishing closer business relations involves meeting the partner, making friends with them, and hence integrating them into one's own group.

People in an individualist society resemble single atoms, while those in collectivist societies are more like "atoms fixed in a crystal" [*The 6-D model of national culture*, online]. Western countries seem to be more individualist and Eastern ones – more collectivist [Hofstede et al., 2010, pp. 92–124].

"Masculinity" (measured by the Masculinity Index, MAS) characterizes societies in which gender roles (those played by men and women) are clearly distinguished.

In a "masculine" society, men should be assertive and tough, strongly focused on success.

In countries with a "feminine" culture, people seek balance between work and family, feel sympathy for the weak (instead of admiration for the strong). Rivalry is not supported so openly. There is minimum emotional and social role differentiation between genders. The "femininity" of culture achieves high scores in the Scandinavian countries and the Netherlands, and is moderately high in France, Spain, and Korea. On the other hand, high "masculinity" indexes characterize Japan and Italy [Hofstede et al., 2010, pp. 135–170].

"Uncertainty avoidance" (measured by the Uncertainty Avoidance Index, UAI) means the degree to which representatives of a given culture feel threatened in new and uncertain situations.

"Unicertainty avoidance" has nothing to do with risk avoidance or with following rules. It has to do with anxiety and distrust in the face of the unknown, and conversely, with a wish to have fixed habits and rituals that reduce uncertainty.

A low level of the Uncertainty Avoidance Index means that people tolerate new ideas, perceiving them as interesting. They are also comfortable with ambiguity and chaos, and thus changing jobs is not a problem for them. On the other hand, in countries with a high Uncertainty Avoidance Index, people try to minimize new and unstructured situations. A low UAI level is observed in the English-speaking and Scandinavian countries [Hofstede et al., 2010, pp. 202–216].

"Long-term orientation" (measured by the Long-Term Orientation index, LTO) means attaching importance to activities that ensure future prosperity, in particular to perseverance and thrift.

In a "long-term-oriented" culture, the world is believed to be in flux, and preparing for the future is always needed.

In countries with "long-term orientation", people believe that important events in life will occur in the future and that it is always worth learning from other countries. What is more, such countries can be expected to have a high savings rate, which results in greater funds being available for investment.

In contrast, representatives of the "short-term orientation" pay attention to tradition, "saving face", meeting social commitments; they attach importance to the past and are strongly focused on the present. In a "short-term-oriented", the world is essentially as it was created.

The most "long-term-oriented" are East Asian countries, followed by Eastern and Central Europe. South and North European countries are less long-term-oriented, while the USA, Latin American, African, and Muslim countries are "short-term-oriented" [Hofstede et al., 2010, pp. 235–276].

"Indulgence" (measured by the Indulgence Index, IVR) means propensity for relatively free gratification of basic and natural human desires related to enjoying life and having fun.

Societies with a high Indulgence Index usually have a higher percentage of very happy people who attach greater importance to leisure and freedom of speech. The opposite of "indulgence" is "restraint", where people believe that enjoying life should be limited and strictly controlled by social norms, with duty, and not freedom, being the normal state of existence [Hofstede et al., 2010, pp. 277–298]. A high Indulgence Index characterizes the Scandinavian countries, the United Kingdom, and a low index prevails in the Central and Eastern European countries.

2. Dimensions of culture, innovation performance, and innovation linkages in the Arab states and in Poland

This part of the chapter presents the results of the author's own research on the relationship between the culture dimensions described above and innovation linkages (which is a significant factor strengthening the innovation performance of enterprises and countries). The research was conducted for a group of selected Arab states and for Poland.

The **data concerning culture dimensions** comes from the geerthofstede.com website, where results of the Values Survey Module are published [VSM, 2013, online).

The original survey of culture dimensions conducted by Hofstede concerned forty countries [Hofstede, 1980]. Employees from a further ten countries participated in a subsequent survey of 1984 [Hofstede, 1984]. The questions in the latest surveys cover all the six dimensions of culture.

The dimensions of culture are evaluated on a scale from 0 to 100 (with minor exceptions for several countries) and describe: "power distance" (synthetic PDI, low value: 0, high value: 100, except Malesia 104 and Slovakia 104); "individualism" (synthetic IDV, low value (representing collectivism): 0, high value: 100; "masculinity" (synthetic MAS, low value (representing femininity): 0; high value: 100, except Slovakia 110); "uncertainty avoidance" (synthetic UAI, low value: 0, high value: 100, except Guatemala 101, Greece 112, Portugal 104); "long-term orientation" (synthetic LTO, low value (representing long-term orientation): 0, high value: 100); "indulgence" (synthetic IVR, low value (representing restraint): 0, high value: 100).

The Arab states as a group (Egypt, Iraq, Kuwait, Lebanon, Libya, Saudi Arabia, and the UAE) achieved the following levels of synthetic indexes: for "power distance" PDI: 80, for "individualism" IDV: 38, for "masculinity" MAS: 53, for "uncertainty avoidance" UAI: 68, for "long-term orientation" LTO: 23, for "indulgence" IVR: 34 [*The 6-D model of national culture*, online].

By comparison, Poland achieved the following levels of synthetic indexes in the individual culture dimensions: for "power distance" PDI: 68, for "individualism" IDV: 60, for "masculinity" MAS: 64, for "uncertainty avoidance" UAI: 94, for "long-term orientation" LTO: 38, for "indulgence" IVR: 29.

Data concerning innovation linkages has been sourced from the Global Innovation Index [Global Innovation Index, 2020]. The study, launched in 2011 by a consortium of research organizations, allows the level of innovation to be compared between economies around the world. The index is calculated as the average of the innovation input sub-index and the innovation output sub-index. The ratio of the output sub-index score to the input sub-index score (innovation efficiency ratio) is also calculated.

The first sub-index consists of five pillars: institutions, human capital and research, infrastructure, market sophistication, and business sophistication.

The second sub-index (outputs) consists of two types of outputs: knowledge and technology outputs and creative outputs. The first group of innovation inputs, defined as business sophistication, includes a sub-index describing innovation linkages.

It is a synthetic index which comprises elements such as:

- business/university collaboration,
- prevalence of clusters,
- R&D expenditure financed by abroad,
- number of deals on joint ventures and strategic alliances,
- number of joint patent applications.

The individual sub-indexes have been created on the basis of data from the Executive Opinion Survey 2018 questionnaire developed by the World Economic Forum [WEF, 2018], UNESCO [2019], Thomson Reuters [2018], and the World Intellectual Property Organization [2018] data.

In the Global Innovation Index 2020 ranking, Poland ranks 38th among the 131 countries ranked, and for the above-mentioned dimensions of innovation linkages, it scored as follows: business/university collaboration: 37.2 (87th in the global ranking); prevalence of clusters: 46.8 (67th); R&D expenditure from foreign sources: 0.1 (47th); number of deals on joint ventures and strategic alliances: 0.0 (65th); number of joint patent applications: 0.3 (34th).

The overall innovation linkages index, covering all the five indicators mentioned above, is 19.6 and places Poland in a very low 72nd position among the analyzed 131 economies of the world.

This synthetic index of innovation linkages, calculated for Poland and other analyzed countries, will be used in further analyses.

The results of a comparison of synthetic indexes for six culture dimensions and the synthetic index of innovation linkages for the Arab states and Poland are presented in Table 4.1.

It is worth noting that there are data gaps for many Arab states. For nine of the examined Arab states (Bahrain, the Comoros, Djibouti, Mauritania, Oman, Somalia, Sudan, Yemen, West Bank and Gaza), no data is available concerning the dimensions of culture, and for many countries where it is available, reservation is made that this is estimated data. There are also substantial data gaps relating to innovation linkages.

Chart 4.1 presents the levels of the individual culture dimensions for those Arab states for which data was available and for Poland.

In the majority of the countries studied (except Egypt, Tunisia, and Poland), the highest indexes among the six culture dimensions are seen for the “power distance”

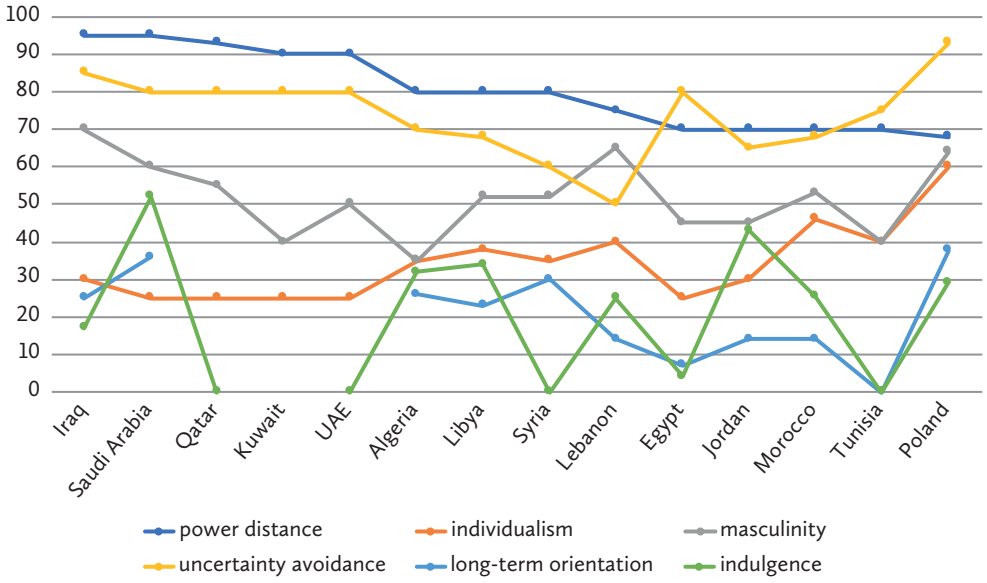
dimension, i.e., the extent to which less influential members of institutions (such as family, school, local community) or organizations expect and accept an uneven distribution of power. The index is 95 (out of 100 possible points) for Iraq and Saudi Arabia, and 93 for Qatar.

Table 4.1. Dimensions of culture and innovation linkages – a comparison of available data for all the countries under study

Country	Power distance PDI	Individualism IDV	Masculinity MAS	Uncertainty avoidance UAI	Long-term orientation LTO	Indulgence IVR	Innovation linkages	Global Innovation Index GII
Algeria	80	35	35	70	26	32	15	121
Bahrain	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	30	79
Comoros	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Djibouti	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Egypt	70	25	45	80	7	4	19	96
Iraq	95	30	70	85	25	17	n.d.	n.d.
Jordan	70	30	45	65	14	43	28	86
Kuwait	90	25	40	80	n.d.	n.d.	19	60
Lebanon	75	40	65	50	14	25	22	88
Libya	80	38	52	68	23	34	n.d.	n.d.
Mauritania	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Morocco	70	46	53	68	14	25	14	75
Oman	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	22	84
Qatar	93	25	55	80	n.d.	n.d.	26	65
Saudi Arabia	95	25	60	80	36	52	28	66
Somalia	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Sudan	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Syria	80	35	52	60	30	n.d.	n.d.	n.d.
Tunisia	70	40	40	75	n.d.	n.d.	14	65
United Arab Emirates	90	25	50	80	n.d.	n.d.	40	34
Yemen	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	16	129
West Bank and Gaza	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Arab states	**80**	**38**	**53**	**68**	**23**	**34**	**n.d.**	**n.d.**
Poland	**68**	**60**	**64**	**93**	**38**	**29**	**20**	**38**

Source: Compiled by author based on data from Hofstede [2015] and GII [2020].

Chart 4.1. Level of individual culture dimensions for selected Arab states and for Poland



Source: Compiled by author based on VSM 2013.

Among the countries under study, this index was the lowest for Tunisia (70) and Morocco (70). Hofstede [2001] noted that there is a positive relationship between "power distance" and pluralism. In a high "power distance" situation, decisions are taken on the basis of favors to subordinates and loyalty to superiors, and are not merit-based. High "power distance" nations, in which inequality is accepted, place emphasis on dependence relationships between subordinates and managers. The Arab states are such countries. In Poland, this index is relatively high for a European country at 68.

Another important dimension of culture is "individualism", whose low indexes clearly show that Arab culture is strongly "collectivist" – the most in Egypt, Kuwait, Qatar, Saudi Arabia, and the UAE, and the least in Morocco, Lebanon, and Tunisia. It is worth emphasizing that there is a negative relationship between this dimension and the "power distance" dimension. Countries with a high "power distance", such as the Arab states, are usually more collectivist. In such countries, people are more dependent on groups as well as on power figures than on individuals [Hofstede, 1984]. Employees in organizations of the Arab culture will be more collectivist in their behavior, more loyal to managers than to the organizational goals.

The majority of the Arab states are characterized by a high level of "masculinity", i.e., a culture where there is a clear division of roles between women and men. In Iraq,

the index is 70, in Lebanon 65, and in Poland 64, and it is higher than in the other Arab states under study.

The consequence of such a high level of the index is that people in the Arab states live to work. Also managers in the Arab states will be assertive and determined. Efforts will be made to focus on competition and productivity.

On the other hand, according to Bjerke and Al-Meer [1993], Arabs are believed to be close to the feminine side of the masculine-feminine continuum, as they are keen to establish friendly relations with other people. Individuals in a feminine culture "work to live", whereas people in a masculine society believe that a person "lives to work" [Hofstede, 2001]. The argument is confirmed by the score for Algeria, Kuwait, and Tunisia, where the "masculinity" index ranges around 40, indicating the "femininity" of the culture of those countries.

The culture dimension for which the Arab states score high is "uncertainty avoidance", i.e., the degree to which representatives of a given culture feel threatened in new and uncertain situations. For Iraq, the index reached 85, for Saudi Arabia, Qatar, Kuwait, the UAE, and Egypt it was 80, and for the other countries it was lower. Interestingly, the index was higher for Poland than for the Arab states and reached 93. All the Arab states are characterized by "short-term orientation", which is particularly visible for such countries as Egypt, Jordan, Lebanon, and Morocco.

In the case of the last dimension – "indulgence" – the differences between the Arab states are huge. The highest index for this dimension is reported for Saudi Arabia (52/100) and Jordan (43/100). In contrast, in Egypt it stands at a mere 4, which shows a very highly restrained culture.

The next chart aims to present the positions of selected Arab states and Poland in the Global Innovation Index (GII) ranking compared with the synthetic index of innovation linkages.

There is a visible tendency that with a decrease in intensity of innovation performance the position of the countries under study, measured by the GII, is also decreasing.

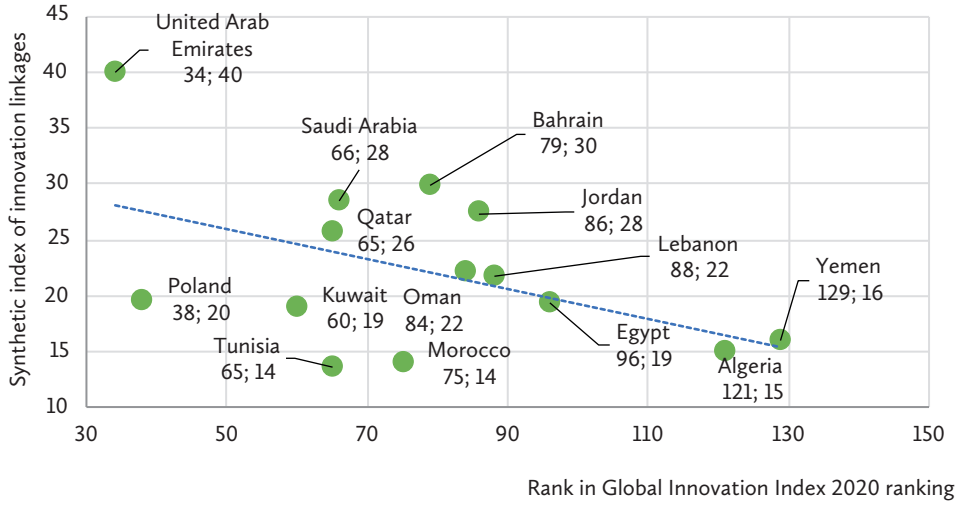
Having regard to the level of innovation performance, it should be noted that the group of countries under study is led by the UAE, ranked 34th among the 131 countries. The synthetic index of innovation linkages is also the highest there at 40. In the global ranking, the value of this index was the highest for Israel at 81.6.

The other countries for which data was available, i.e., Saudi Arabia, Qatar, Kuwait, Tunisia, while they rank lower in the innovation ranking than the UAE, significantly outperform countries such as Bahrain, Lebanon, Oman, Morocco, and Egypt.

On the other hand, Yemen and Algeria are countries with extremely low GII (129 for Yemen, 121 for Algeria) and low innovation linkages scores (16 and 15, respectively).

Poland ranks 38th in the GII ranking, and its innovation linkages index is very low (20 out of a maximum of 81.6), twice lower than in the UAE. For details see Chart 4.2.

Chart 4.2. Positions of selected Arab states and Poland in the Global Innovation Index 2020 ranking compared with the synthetic index of innovation linkages



Source: Compiled by author based on VSM 2013 and GII [2020].

3. Relationship between dimensions of culture and innovation linkages – empirical study results

This part of the chapter presents the results of a study on the potential relationships between individual dimensions of culture and the intensity of innovation linkages in selected Arab states for which data was available, and in Poland.

The level of coefficient R^2 is taken as a measure of the goodness of fit of created models to real data. It indicates what proportion of the variation of the dependent variable Y (in this case, innovation linkages) can be explained by regression, i.e., linear dependence on variable X (particular dimensions of culture). The coefficient takes the values from 0 to 1, where 0 means no fit and 1 is complete fit.

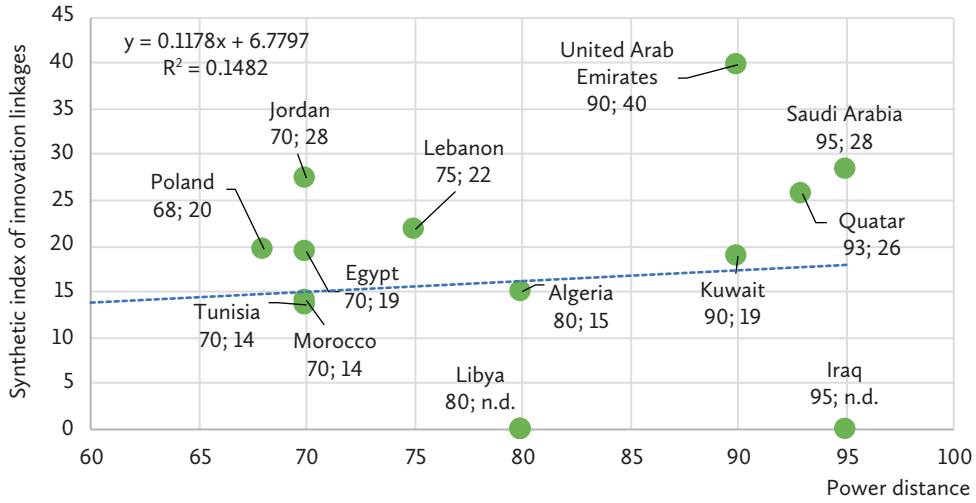
An analysis of the first dependence, carried out for the "power distance" dimension of culture and for innovation linkages for available data from 10 Arab states and Poland shows that it is of little significance, and coefficient R^2 is only 0.15.

The score for the UAE is interesting, where a very high "power distance" is accompanied by a high innovation linkages index.

In Poland, the "power distance" level is relatively high for a European country and it is accompanied by a relatively high level of innovation linkages.

Interestingly, in a similar study for 28 European Union (EU) member states, associated countries, and selected economies of the world, a clear relationship was shown to exist between a low "power distance" and high intensity of innovation linkages in the majority of the old EU member states, Switzerland, and the United States [Danik, Lewandowska, 2021].

Chart 4.3. Level of "power distance" and innovation linkages in the Arab states under study and in Poland



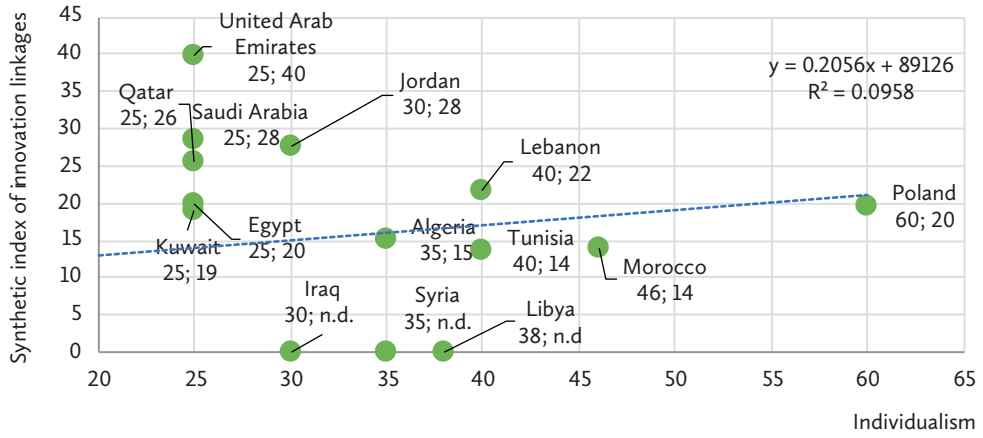
Source: Compiled by author based on VSM 2013 and GII [2020].

In the case of the analysis of the level of "individualism" and the intensity of innovation linkages, the results for the Arab states group under study and Poland are not unambiguous. A low level of coefficient R^2 (0.09) shows that the model-to-data fit is weak. The result of prior studies for the European Union countries and the USA showed a positive relationship between the high level of "individualism" and high intensity of innovation linkages [Danik, Lewandowska, 2021].

For the UAE, Qatar, Saudi Arabia, and Jordan, a reverse relationship can be seen: a high level of "collectivism" correlates with the intensity of innovation linkages. In Poland, on the other hand, "individualism" is relatively high, but it does not translate into a high intensity of innovation linkages. For details see Chart 4.4.

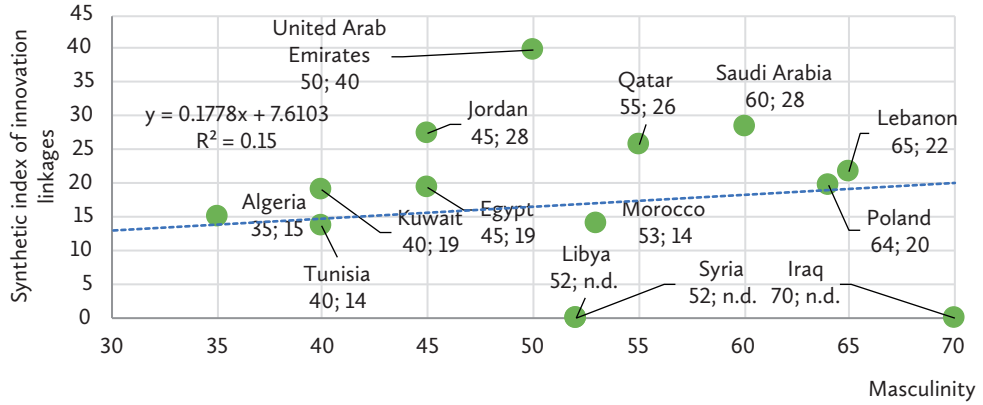
The next analyzed dimension of culture and its potential relationship with the intensity of innovation linkages is the "masculinity" of culture, i.e., a feature of a community in which gender roles are clearly distinguished.

Chart 4.4. Level of "individualism" and innovation linkages in the Arab states under study and in Poland



Source: Compiled by author based on VSM 2013 and GII [2020].

Chart 4.5. Level of "masculinity" and innovation linkages in the Arab states under study and in Poland



Source: Compiled by author based on VSM 2013 and GII [2020].

Coefficient R^2 for the entire analyzed group is 0.15, which unambiguously indicates that there is no dependence between this dimension of culture and innovation linkages for the whole population surveyed. The comparison shows that for the UAE a moderate level of "masculinity" coexists with a high level of innovation linkages. Poland's rank comes as a surprise in this comparison, as its "masculinity" dimension of culture puts it in a position close to that of Lebanon and Saudi Arabia, where the "masculine" culture definitely prevails. Algeria ranks at the opposite extreme. However, in the case of

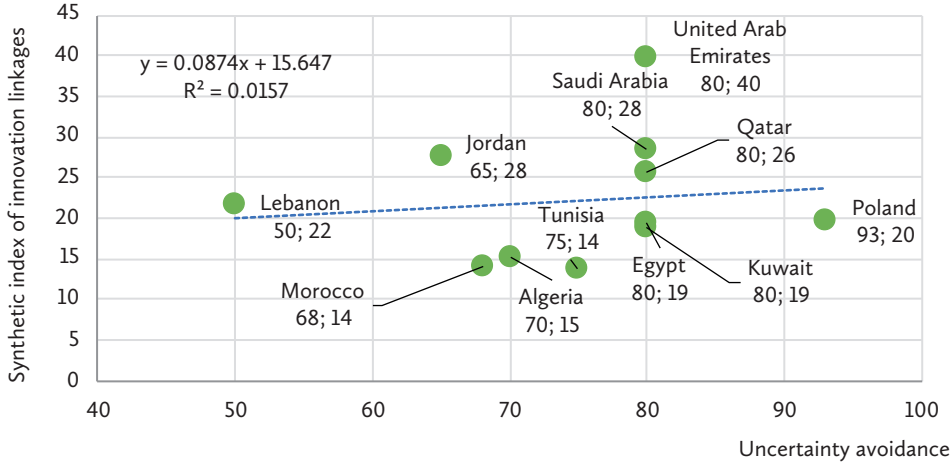
Lebanon, Poland, and Algeria, the level of innovation linkages is not high, irrespective of the values of the "masculinity" index adopted. For details see Chart 4.5.

The fourth of the analyzed dimensions of culture, which can potentially be related to the intensity of innovation linkages is the level of "uncertainly avoidance", which means the degree to which representatives of a given culture feel threatened in new and uncertain situations. In the case of this relationship, the level of coefficient R^2 is very low again (0.015).

However, it is hard to resist the impression that the high level of "uncertainty avoidance" is conducive to innovation linkages, as exemplified by the UAE but also by Saudi Arabia and Qatar.

Poland is characterized by a very high level of "uncertainty avoidance" and a low level of innovation linkages (for details see Chart 4.6).

Chart 4.6. Level of "uncertainty avoidance" and innovation linkages in the Arab states under study and in Poland



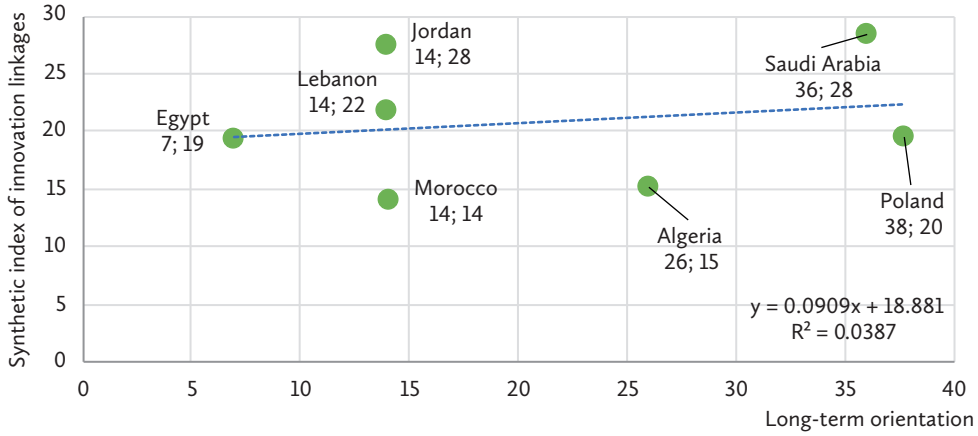
Source: Compiled by author based on data from VSM 2013 and GII [2020].

The fifth of the analyzed culture dimensions that can demonstrate potential relationships with the intensity of innovation linkages is "long-term orientation", which means attaching importance to activities that ensure future prosperity, in particular to perseverance and thrift. In the case of this dimension, the availability of data was strongly limited and the results were hard to interpret due to their high ambiguity, as is the case with studying European countries and selected economies of the world [Danik, Lewandowska, 2021].

The last, sixth, of the culture dimensions discussed is the "indulgence" level. In this case, the level of coefficient R^2 is moderately high (0.37), the highest among all

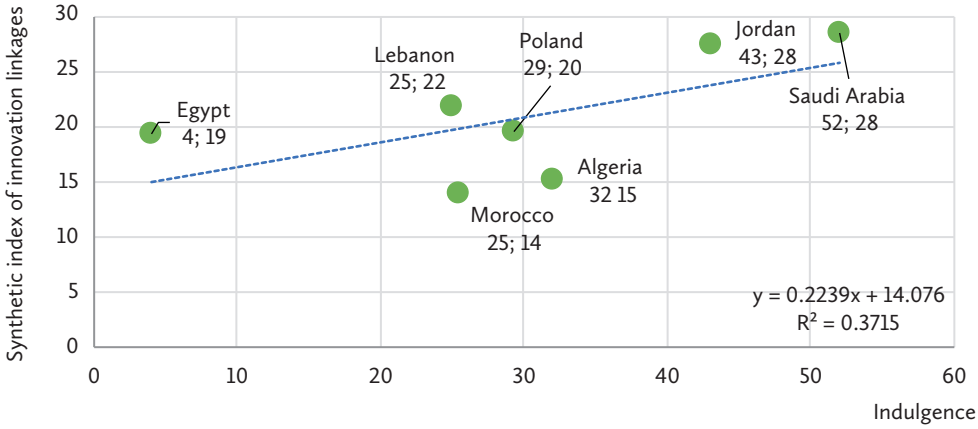
the countries concerned. Unfortunately, for this index data was available only for six Arab states and for Poland. It is clear from the data shown in Chart 4.8 that the higher the "indulgence" level and the lower the "restraint" level, the higher the level of innovation linkages.

Chart 4.7. Level of "long-term orientation" and innovation linkages in the Arab states under study and in Poland



Source: Compiled by author based on VSM 2013 and GII [2020].

Chart 4.8. Level of the "indulgence" dimension of culture and innovation linkages in the Arab states under study and in Poland



Source: Compiled by author based on VSM 2013 and GII [2020].

4. Conclusions and recommendations

The goals of this chapter are defined at two levels: theoretical and empirical. At the theoretical level, the goal was to present the definitions of culture offered in the literature and to discuss its dimensions in line with Hofstede's latest typology.

At the empirical level, the goal was to analyze in general the dimensions of culture ("power distance", "individualism", "masculinity", "uncertainty avoidance", "long-term orientation", "indulgence") for selected Arab states and for Poland, and to examine the relationships between individual features of national cultures and the intensity of innovation linkages.

The empirical layer provides much interesting information. First of all, it is clear that the Arab states, culturally similar as they may seem, show far reaching differences, which prompts the conclusion that they cannot be treated as a homogenous group.

In the majority of the analyzed Arab states, a high "power distance" is consistent with relatively low innovation linkages. The UAE is an exception, where a very high "power distance" (90 out of 100 points) is accompanied by a high level of innovation linkages, the highest in the group under study.

A comparative summary of data on "individualism" and innovation linkages is interesting. While for the majority of old EU countries and the USA there is a clear relationship between a high level of "individualism" and innovation linkages [Danik, Lewandowska, 2021], in the UAE this relationship is again reverse: a high level of "collectivism" is accompanied by intensive innovation linkages. This may result from the prevalence in that country, as well as in South Korea, of what is referred to as "horizontal collectivism", which is characterized by empathy, sociability, and cooperation. It is the opposite of "vertical collectivism", which is concentrated on internal cohesion of the group and high submissiveness of its members [Grabowski, 2010].

On the other hand, dimensions such as cultural "masculinity", "uncertainty avoidance", and "long-term orientation" seem to be unrelated in a statistically significant manner to the intensity of innovation linkages, although also here interesting relationships have been revealed.

Relatively low indexes of innovation linkages identified in the majority of the Arab states and in Poland show that those countries must place emphasis on greater interaction and cooperation between all actors of the research and development sector, including the government, private sector, and universities and research institutes, which will improve research efficiency, increase its scale, and enhance the quality of results [Ahmed, Abdalla Alfaki, 2013], and contribute to improving the innovation performance of countries and creating a knowledge-based economy [Ben Hassen, 2021].

In Poland, the dissemination of the idea of Open Innovation 2.0 is important, advocated in the Dublin Declaration as the concept that underpins the European Union's efforts. Support for innovation processes from government agencies, enhancing cooperation with universities and increasing the role of consumers, users, citizens as potential contributors to innovative solutions, play an important role in the ecosystem, which will contribute to strengthening the diffusional impact of innovation results on enterprises linked with external partners [Lewandowska, 2018].

The main implication for the economic policy of the Arab states under study is entrepreneurship education but also the need to improve the national innovation system, ITC investments, and to improve macroeconomic performance. These activities require the adoption of a comprehensive long-term strategy [Gangi, 2017; Yousif, Aboyassin, Alhmeidiyeen, Al Zoubi, 2020].

It will be a long process, as confirmed by the results of research on entrepreneurship attitudes among students of the United Arab Emirates University. The results of a survey conducted in 2017 show that the majority of the students are rather hostile to entrepreneurship. This lack of interest in engaging in one's own business arises from fear of being stigmatized for business failure but also from the social prestige associated with public sector jobs [Forstenlechner, Rutledge, 2010]. The results confirm the cultural specificities of "rentier states", encouraging at the same time the launch of educational programs aimed at modifying students' views on entrepreneurship. Such a cultural change seems unavoidable in the context of transition from an oil-based economy to a knowledge-based economy [Facchini, Jaeck, Bouhaddioui, 2021; Baumann, 2019].

A lack of "entrepreneur class" is characteristic not only of the UAE, but it is also visible in many "rentier states", which are defined as those that "regularly receive significant amounts of wealth ('rents') from external sources" [Mahdavy, 1970, p. 429; Luciani, 1990; Beblawi, 1990, pp. 87–88; Luciani, 2016, p. 117]. The "rent" is usually derived from natural resources such as oil, gas, or minerals. When "rent" is controlled by the government, there is no pressure to tax citizens [Kamrava, 2013], who are generously rewarded for political calm and the government's ability to take autonomous decisions, and they are employed in the public sector [Bjorvatn, Farzanegan, 2013], which is the main channel for the redistribution of "rent" [Yamada, 2020]. Arab states such as Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the UAE are examples of "rentier states" [Facchini, Jaeck, Bouhaddioui, 2021].

According to Ross [2001], "rentier states" are characterized by three features. First, a small part of such a state's population contributes to wealth creation. Second, a vast majority of the population earns through "rent" distribution. Third, the income level and its distribution largely depend on the "elite". As Beblawi [1987, 1990] points out,

such an economy creates a specific mentality, "rentier mentality", where the person does not see the causal link between work and reward. This mentality characterizes not only residents of the country concerned but also residents of other countries drawing benefits from "rent", such as employees from Egypt, Jordan, and Yemen, who migrate in search of jobs in the oil sector, to then increase consumption by households, especially in rural areas [Youssef, 2004, p. 95].

In conclusion, it is worth noting that this study is not free from several constraints. Major ones include the often-questioned topicality of Hofstede's data, which concern national cultures without taking into account cultural differences at enterprise level, with data being collected at the individual person level.

Innovation linkages data, while aggregated at the country level, characterizes enterprises, as it is collected at the enterprise level.

A weakness of the study is that it does not take into account all the 22 countries of the region, but for many of them data is simply unavailable, which poses a problem for many researchers dealing with the Arab states [Górak-Sosnowska, 2007].

As regards the directions of further research, it would certainly be interesting to take a deeper dive into the results presented and to consider at least other external drivers of innovation linkages, including the already-mentioned role of "rentier state", innovation policy of the state, and religion. It would also be worth looking at the relationship between innovation linkages and cultural dimensions identified by researchers other than Hofstede, as well as the relationship between organizational culture and innovation linkages at the enterprise level, and not at the whole economy level.

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Chapter 5

Experiences of Polish Companies Operating in the Arab States

Marta Mackiewicz

Introduction

The goal of this chapter is to present successes of Polish firms operating in the Arab states' markets, as well as recommendations arising from their experiences, which can be used by entities intending to engage in activity in those markets. To achieve this goal, the case study method has been used – a qualitative method that involves a multifaceted description of the subject under analysis, based on at least several data acquisition methods. The case study aims to demonstrate models which are worth imitating (good practices) and potential errors to be avoided. For the purposes of the case study, data has been used, acquired in the course of:

- an analysis of documents provided by firms and their websites,
- in-depth interviews with executives – managers responsible for company development in the Arab markets.

The case studies have been prepared according to a pattern covering the company's business profile, the origins of its operations in the market concerned, description of operations in the Arab states, and conclusions and recommendations from the viewpoint of managers responsible for the development of the company in those markets.

A review of information gathered by Polish government institutions (Ministry of Development and Technology, Polish Investment and Trade Agency) leads to the conclusion that there are relatively few Polish firms which are successful in the Arab states, and in many of those countries there is no Polish business presence whatsoever – both in terms of export and direct investments. Many Arab states require foreign investors to cooperate with a local intermediary who holds an import license [Pawlikowska, 2017].

1. Presence of Polish firms in the Arab states

Poland's economic cooperation with the Arab states is diversified – trade agreements have been signed with some of them, while in others there is no Polish business presence at all. The United Arab Emirates (UAE) is certainly a country that offers trade and investment opportunities. It is a country with an open economy and foreign trade plays an important role in its economic development. A high income per capita and a significant trade surplus allow areas for cooperation with investors and exporters from various countries to be freely chosen. In the World Bank's report *Doing Business 2020*, which evaluates business operating conditions in individual countries, the UAE ranked 16th among the 190 economies of the world included in the ranking (in 2019 it ranked 11th). In terms of trade turnover, the UAE is Poland's third partner (after Saudi Arabia and Morocco) among the Arab states.

The largest individual Polish exporters to the UAE were Wojskowe Zakłady Mechaniczne S.A. of Siemianowice Śląskie, which in 2016 started deliveries under a contract for Rosomak armored personnel carriers, and Alstom Chorzów, which is implementing a contract for the delivery of 50 Metropolis trainsets for the third line of the Dubai Metro line.

Polish businesses operating in the UAE include enterprises from the following sectors: oil & gas, construction (Librus), installations (Sergas), IT services (Comarch), land surveying, air-conditioning (VTS Clima), furniture (MDD, Nowy Styl), medical equipment (Famed Żywiec), luxury yachts (Sunreef Yachts), and metal packaging (in 2005, Cracow-based company CANPACK built a metal can factory for Arab Can Co.). In addition, at the end of 2019, Makarun company completed the first stage of a project aimed at launching a food service (*spaghetterie*) chain. The first opened unit, seating 70 customers, is situated in The Pointe Jumeirah, a retail and entertainment and restaurant complex, reputed to be the best vantage point on the iconic man-made palm island.

What presents a non-tariff barrier and impediment for companies operating in the food sector is the requirement to submit a *halal* ritual slaughter certificate for exports of meat products. Of course, the Halal System is a non-tariff barrier existing not only in the UAE but also in all Arab states. The word *halal* means "permissible" and refers to everything that is permitted under Sharia law. Three conditions must be met for a product to be classified under the Halal System: preliminary arrangements, rules to be followed during slaughter/production, packaging and storage [Pawlikowska, 2017]. Since September 2017, the Polish Institute of Halal (PIH) has been authorized to issue Halal Certificates recognized in the UAE (authorization to issue such certificates was granted by the Dubai Accreditation Center). Another obstacle to export to the UAE is the obligation to have an Emirati intermediary or agent, but it should be added

that new regulations are being put in place that liberalize the rules for the use local intermediaries. Duty-free zones play a significant role in the UAE economy. It is worth noting that foreign companies can use special duty-free zones. Such an arrangement allows the foreign investor to retain 100% ownership, but companies in duty-free area may only operate within the free zone and are usually limited to carrying out exclusively the operations specified in their license [Pajduszewski, 2019].

Saudi Arabia is an economically developed Arab state holding substantial capital resources. Therefore, it represents the largest import potential in the region. The companies active in the Saudi market are Mokate, Mlekovita, Wawel, Agus, Nałęczowianka, and INGLOT. Greenbrier Wagony Świdnica S.A. can boast a large contract for the delivery of 1200 tank wagons. The contract was implemented in 2016–2019 for Saudi Arabia Railway. Another success was the signing of a contract by Chorzów-based company Alstom for the delivery of 69 metro wagons for the Riyadh Metro. Polish companies that have invested in Saudi Arabia include ELEKTROBUDOWA S.A., a manufacturer of power engineering equipment. The company operates through its subsidiary "Saudi Elektrobudowa" LLC incorporated in Riyadh, in which it holds a 33% stake. Another success story is BIO-GEN, a firm described later in the chapter, which deals with research and implementation of biotechnologies (in agriculture, environmental protection, etc.). Under a contract with Agriculture Solutions House ASH, new technologies and products are developed, tailored to the specificities of the local markets.

Poland's largest investor in Morocco is CANPACK S.A., which has been mentioned before. This Cracow-based company owns an aluminum can factory in Casablanca. It is one of 27 factories operated by CANPACK. The factory is equipped with a modern manufacturing line running with an annual output of 650 million pieces. The maximum capacity of the line is 950 million cans annually. It is worth mentioning that the company also operates in Saudi Arabia, where it has been recognized as a sustainability leader at the prestigious 13th edition of Arabia CSR Awards. The Sustainability Leader Award is commonly regarded as the "Green Oscars" of the Middle East and it will certainly promote the company's further development of business in the region.

A group of countries can also be identified where few Polish firms are doing business. For example, in Lebanon, Polish company Polimex-Cekop has succeeded to sign a joint-venture contract with a local operator for the reconstruction of water storage reservoirs. The company has been pre-qualified for participation in tendering procedures for the implementation of further water and sewage management projects.

Tunisia is where Polish firms export, e.g., plastics and plastic articles. The largest exporters in this field were: Coroplast Sp. z o.o. (cables and conductors, pipes), Geofizyka Toruń, Volkswagen Poznań, SE Bordnetze Polska (plastic articles), Leoni Kabel Polska, Hutchinson Poland (plastics).

The largest exporters to Libya in recent years included: Nutricia (exporting infant food), Lactima (specialized in milk products), Libpol (manufacturer of automotive components), and INGLOT (cosmetics manufacturer described further on in this chapter). This does not exhaust the list of exporters, of whom there are more than 150. Another noteworthy example in the Libyan energy market is Geofizyka Kraków, which carries on seismic surveys of oil fields.

In Algeria, all foreign firms are required to have a majority Algerian partner. This poses a certain impediment to investing in that market, but some Polish companies have managed to overcome the difficulty. For example, there is local company Alpol operating there, selling Polish window and door products, as well as service company Mega-Gaz Algiers and Levant Algérie importing food products; there is also a representative office of CENZIN in Algiers. In addition, ASSECO has started extensive cooperation in the field of digitization of the Algerian health service, police and banks. Polish companies often enter into cooperation through joint ventures.

Few Polish companies operated in Egypt, e.g., providing services in the oil and gas, and maritime transport sectors. One of the companies conducted geological and seismic surveys. However, this is still a market in the recognition phase.

Qatar is a good country to start business in the Arab states' market. Despite this, according to the National Bank of Poland data, so far Polish companies have not recorded success in this country in terms of direct investments. However, there are companies that have been exporting to Qatar for several years.

The countries with which economic relations remain at a very low level include Syria, Oman, Kuwait, Jordan, Iraq, Bahrain, Sudan, and Mauritania.

Based on a desk study, groups of countries in which Polish companies are not yet successful have been distinguished and described, as well as countries with which economic cooperation is still at a low level and those in which Polish companies can boast significant success. Presented next are case studies of three companies: INGLOT, Comarch and BIO-GEN, concluded with recommendations for those who are willing to follow in their footsteps and succeed in the very competitive, demanding markets of the Arab states.

1. Case studies

1.1. BIO-GEN

Business profile

BIO-GEN started operation in 1990 in Opole. Currently, it is headquartered in Łódź. Initially, the firm was offering probiotics for farm animals. The probiotics have been registered by the Ministry of Agriculture and have marketing authorization. Probiotic products with an improved composition are on offer to this day and are marketed both in Poland and abroad, e.g., in the countries of the European Union, the Middle East, and North Africa. Several years of research have enabled BIO-GEN to develop an innovative Krio-Flor preparation, which improves the periodic resistance of plants to spring frost. In the years 2003–2005, the company conducted intensive research on the development of Biofarma, a system of controlled breeding of medicinal leeches. The research was successful, enabling the company to offer hirudotherapy courses. The courses have provided training to thousands of hirudotherapists who treat patients with the use of leeches both in Poland and abroad. BIO-GEN's offer has been gradually expanded. New preparations appeared in the market, such as Remediant for the reclamation of water reservoirs and the Rewital soil revitalizer. Thanks to preparations for the reclamation of water reservoirs, cooperation was established, e.g., with the Royal Baths Museum in Warsaw, where the company was entrusted with the care of a complex of ponds. In 2016, BIO-GEN developed a formulation of new preparations. New manufacturing lines were launched especially for their production. The BIO-GEN offer includes Nematado Biocontrol, which supports soil nematode control, as well as the RHIZOBIUM series, which includes nine microbiological vaccines for leguminous plants.

In 2018, BIO-GEN established Q&P International Sp. z o.o., a company responsible for the organization of sales in the Qatari market and for the exchange of knowledge and technology between the two countries. The company's offer includes 43 products for agriculture, horticulture, animal breeding, and reclamation of water reservoirs.

Activity in the Arab states

The interest in the Arab countries stemmed from the origins of several employees of the company. They are well familiar with the market realities of the Gulf markets and the conditions of doing business there; they also speak Arabic. These people came to study in Poland, so they speak Polish and are able to move freely between the two cultures. What is more, they know the customs, which is helpful in the investment process,

especially when establishing new business relations. This helped the company to build trust, which is key to doing business in the Arab states. According to the company's manager responsible for international relations, however, these issues should not be overestimated – in his opinion, cultural differences are not a barrier that could have a negative impact on business dealings. This is mainly due to the fact that managers of companies in the Arab states, who are involved in international cooperation, are usually well educated, often in other countries (e.g., in the United Kingdom or India), which makes them open to different cultures and relationships.

BIO-GEN started its investments from Qatar, which is considered a prestigious country – investing in that country allows the company to enhance its credibility in the Arab states. The next step was entering the Saudi Arabian market. In order to start operations in Qatar and Saudi Arabia, BIO-GEN established its subsidiary Q&P International Sp. z o.o. In recent years, cooperation has developed strongly, with Qatar and Saudi Arabia having become important markets for BIO-GEN. Currently, representative offices of the company operate in Morocco, Tunisia, Mali, and Senegal. Investments are also planned in Sudan.

Thanks to investments in Qatar and Saudi Arabia, the company not only achieved sales growth but also increased employment by more than 200% within a year. The increase in sales translated into higher profits, which made it possible to undertake new investments. BIO-GEN invested in a laboratory for research and development. The investment amounted to approximately EUR 40 m. Currently, biological reactors are being created in it.

Speaking of specificities of investments in Arab countries, it can be noticed that business is based on relations to a greater extent than in the Western economies. It is common to rely to acquaintances and establish more personal relationships than in European countries. Interestingly, there is less tendency to save – Arabs are eager buyers, they are more used to spend their money than to save it (which people in countries such as Poland are encouraged to do), so money circulates in the economy.

What poses a constraint to the further development of the company is the shortage of staff. If the availability of employees with appropriate skills were greater, BIO-GEN could grow faster.

Another limitation arises from the procedures and formalities related to entering new markets of the Gulf countries. For this reason, it turned out to be a good solution for BIO-GEN to acquire partners from local markets. This has resulted in a better understanding of the market and the need to adapt products, as well as technical and financial facilities. Local employees have been provided with appropriate training and the branches established abroad have the right to use the corporate logo.

Lessons from the BIO-GEN case study

Polish companies that want to cooperate with partners in Arab markets should bear in mind several issues. First, the need to take care of good marketing because the Arab states are certainly not a place where a company could make savings on marketing or minimize its role. Second, in business relations it is necessary to adapt to the partner's standards. While this may seem to be an obvious recommendation, Polish companies do not always remember about it – it is important to take care of the image (which includes not only the appearance, but also the place of stay or welcome gifts). Third, it should be kept in mind that Arabs use financial instruments common in foreign trade. Polish companies sometimes (wrongly) tend to be reluctant to employ such instruments, they often require prepayment, advance payments, etc. from partners, which is not a normal practice in the Arab markets.

A manager's advice for those willing to enter into business relations with the Arab states:

- forget the sentence: "Because this is how we do it",
- do not follow stereotypes,
- employ a local interpreter.

1.2. INGLOT

Business profile

INGLOT is a cosmetic company manufacturing a wide range of cosmetics based on innovative formulas (a total of about 2500 different SKUs – stock keeping units). Innovative products include a personalized makeup palette and an eyeliner known as one of the most durable cosmetics available in the market. The personalized reusable palette was the first concept of this type in the market (so-called Freedom System) for individual matching of products selected by customers. Another unique product offered by INGLOT is Duraline – a transparent liquid that can be freely mixed with makeup products, making them waterproof and prolonging their durability. About 95% of personal care and makeup products are manufactured in the laboratories of the research and development center located in Przemyśl. This allows the company to follow quick-to-market strategies – the time from product development to production is short because all processes take place in the same location. Products can also be quickly made available for sale because the company is not dependent on subcontractors. Thanks to this, it can quickly respond to trends and launch new cosmetics colors on the market in line with current fashion. For ten years, the company has been GMP (Good

Manufacturing Practices) certified, which means that the best production conditions and high quality of ingredients used in production are ensured. Most of the products are vegan, which is confirmed by the V-Label certificate (V-Label controls cosmetics both in terms of the origin of raw materials and animal testing). The company appears on the PETA list as a cruelty-free brand.

The research is also carried out in cooperation with universities, e.g., together with the AGH University of Science and Technology and IC-EM (International Center for Electron Microscopy for Materials Engineering), advanced research is carried out on the structure of selected cosmetic products and on the possibility of better use of microscopic imaging in development research (the university has modern measuring devices).

The first products launched by the company on the domestic market in 1983 were nail polishes. The company opened its own island stands, where its full product range was presented, without being limited to a small space in drugstores or cosmetics stores that offer products from many manufacturers. INGLOT started its foreign expansion in 2005. The first country was Canada, with the first foreign store opened in Montreal. The second country was the UAE (Dubai). The United States has also become a very important market, where stores were established in prestigious locations. Currently, INGLOT products are sold in 90 countries and in more than 950 locations. Sales are also carried out through 80 online platforms. Production takes place in Poland. Franchising was chosen as a foreign development model. Master franchiser Retailer Apparel Group helped the company to enter the Arab markets.

Activity in the Arab states

The introduction of the O2M nail polish, in particular in the Arab markets, marked an important step in the history of the company. The product passes air and water vapor into the nail plate. This innovative "breathable" polish is produced with the addition of a polymer, which is commonly used in the manufacture of contact lenses. The new technology, based on natural ingredients, was created to protect the nail plate and ensure its healthy appearance. The O2M nail polish range is one of INGLOT's flagship products. Importantly, they have gained enormous popularity among women in the Arab states. One of their advantages is that they do not limit the access of water to the skin during ritual washing before prayer. In the Arab states, eye makeup cosmetics are also very popular, especially those with shiny particles and glitter. The popularity of these products has contributed to the rapid development and opening of points of sale in many countries.

The specificity of the Arab market turned out to be extremely beneficial in contrast to the European market, where breathable polishes are not that much appreciated by customers. Approval of this product line by a religious authority resulted in a rapid increase in sales in all countries where there were franchise outlets. However, this does not mean that export experiences were similar in all countries. Starting development in the Arab market from Dubai was beneficial from the company's point of view because the investment process is relatively uncomplicated in the country, openness to investments is high, and in addition, it is possible to introduce new technologies to the market without the need to obtain relevant certificates, permits, etc. The situation is different in Kuwait and Egypt, where it is necessary to register each product. Cosmetic products are verified in detail, and when registering, the composition and formulas must be presented as with pharmaceutical products. Currently, a significant part of the products carry the Halal Certificate, which confirms compliance of the product with the principles of Islam.

Lessons from the INGLOT case study

Manager's advice for those willing to enter into business relations with the Arab states:

- find an experienced partner and invite them to cooperate,
- start with small, opening markets (such as Qatar).

1.3. Comarch

Business profile

Comarch is a company established in 1993. It specializes in the design, implementation, and integration of advanced IT systems, programming tools, and network tools and infrastructures. Comarch is perceived as a key IT supplier for large organizations. The main recipients of the company's products and services are the telecommunications, financial services, and insurance services sectors, as well as large companies, public administration and the small and medium-sized enterprise (SME) sector. The company's first major contract was the implementation of an IT system for Telekomunikacja Polska S.A. After just a few years in business, Comarch was recognized as a technological leader by the Davos Economic Forum. It has been listed on the Warsaw Stock Exchange since 1999.

Activity in the Arab states

Comarch started its operations in the UAE almost two decades ago. This coincided with the UAE's moving away from oil as its main source of revenue and the inflow of investments from various countries to Dubai. Importantly, Dubai was a very attractive market due to the fact that it offered huge development opportunities. With its convenient geographical location – at the interface of Europe and Asia – the country is well placed for watching global trends as they emerge, and therefore Dubai was one of the first foreign markets that Comarch decided to enter. Comarch embarked on its expansion to the UAE market from Poland, without setting up an office in Dubai at the onset. The strategy consisted in selecting tenders in which the company could take part. The first contract was concluded in 2000 for a billing system for Dubai Internet City. At that time, Dubai was at a completely different stage of development than it is today – it was a place of very intensive expansion and modernization in virtually all areas. Due to its limited business experience in international markets at the time, Comarch decided to enter the UAE market through a local partner. After just one year, its first subsidiary and first office were already operating in Dubai. Currently, there are two companies operating in the region – one in Riyadh and the other in Dubai. Local employees are employed there, but it is also a place where Polish employees can develop their career paths in a different business environment. Currently, several dozen people work in the Dubai office, although many areas of operation are still served from Poland. The Dubai office deals with local sales, customer relations, consulting, and aftersales service. This last component is very important for UAE customers. Due to the fact that the country opened widely to investment, there was a risk that suppliers of products and services from other countries would not be available if, after a certain period of time from the original sale, a need arose to launch additional functionalities, deploy changes, or fix errors. Guaranteed availability and aftersales service are particularly important for customers such as banks and other financial institutions, telecom operators, and airlines. It is these customers that Comarch serves. They include major telecom operators, airlines, and the airport, as well as banks and fuel networks, including Etihad Airways, which is the second largest airline in the region after Emirates, as well as Etisalat, one of the largest telecom operators in Dubai, and Dubai Airports, operator of one of the largest air hubs in the world.

In addition to cooperation with these clients, Comarch can boast, e.g., the use of Comarch IoT Connect to create a new IoT connectivity platform serving the Saudi market. This telecommunications project was carried out by Comarch Middle East FZ-LLC in the UAE and Comarch Saudi Arabia Co. in Saudi Arabia.

In Yemen, Comarch provided BSS systems for mass customers (CRM, orders, billing, and charge collection) for Public Telecommunication Corporate, and an intelligent BSS system was developed for TeleYemen to support the development of converged telecommunications services.

Very strong competition is a big challenge for companies operating in the UAE. The largest IT solution providers in the world are headquartered in Dubai. This is the result of a conscious strategy of the Gulf countries, which decided not to build their own IT sector, but rather to focus on purchasing the latest and best technologies available in the market. This means that companies operating in this sector do not compete with local entities but must be prepared to compete with companies from around the world. The market is able to absorb an unlimited number of innovations, provided of course, that they bring value to the business. It is necessary to compete with quality and propose state-of-the art solutions. In Comarch's business area, companies from India and China, which are more competitive in terms of price, are trying to enter the UAE market. It is therefore necessary to focus on quality: substantive excellence, good work methodology, on-time delivery, and aftersales service. Due to the keen competition, Comarch offers its latest and most refined innovative solutions in the Arab market. In particular, these are IoT platforms as well as devices and systems based on machine learning or artificial intelligence.

Apart from relatively high profits, Comarch has gained valuable experience through its activities in the Arab states. Especially its UAE operations stimulated the introduction of newer, more unique solutions. This was prompted by the need to adapt to the needs of the market, where digitization processes unfolded at a very fast pace. The United Arab Emirates is a country where a significant part of services has moved to the digital world, including contacts with public administration. In Saudi Arabia, digitization took place by leapfrogging (many of the stages that other countries had gone through were missed). This process required the development in a short period of time of many applications that the country needed to leapfrog into the digital world in various areas of life.

In the opinion of the respondent, a manager in charge of the UAE market, running a business in the Arab states, although it has its own specificity, does not differ from what is known to managers from Europe or the USA. Executives, especially in Dubai, are often foreigners or people who have been educated abroad. The mix of cultures and global trends constantly raises the bar for competing companies – "the last best experience is the minimum requirement for further products and services". Cultural issues that should be kept in mind are not a problem – there are so few of them that anyone can handle them effortlessly.

The main areas of Comarch's activity in the Arab states are the creation of loyalty systems and their operation as well as the automation of processes. The company specializes in communication systems. Its achievements include projects in the area of smart parking – cardless charge collection and IoT projects – remote detection of failures in water supply networks. Water is a relatively expensive resource, which is why the implementation of this solution has contributed to significant savings by reducing water losses.

Lessons from the Comarch case study

The business culture is a mix of three cultures: European, Arab, and Asian. The key is to be present at the customer's location – both at the sales stage, during project implementation, and after its completion. What poses a challenge for companies wishing to enter the Arab market is the issue of the calendar. In the Gulf countries, the working week runs from Sunday through Thursday. Adapting to this calendar requires good organization of work and building dedicated processes to manage contracts from this market.

Manager's advice for those willing to enter into business relations with the Arab states:

- apply precision marketing – it is crucial to reach the decision-making group with information,
- recognize market needs – the product must perfectly match the needs of the market, it must address the needs of the customer (you need to think about whether the company will be able to implement the project locally); for customers from Arab countries, the guarantee of continuity of services is extremely important, as are the credibility of the company and the availability of aftersales service,
- start-ups offering unique products have good prospects because the UAE is not afraid of the risks associated with introducing innovations, and start-ups receive public support and can count on many amenities.

Conclusions

The case studies show that the Arab market is very demanding, but it also provides unlimited development opportunities to Polish companies. Due to keen international competition, it is necessary to develop innovative technologies or unique solutions that are not offered by other companies. In the case of countries such as the UAE, Saudi Arabia, or Qatar, there is an innovation gap between these countries and Poland,

especially in areas such as digitization and Industry 4.0. Therefore, entering these markets poses a big challenge – it requires creativity, following trends, staying ahead of the competition in offering products and services based on state-of-the art solutions. Competing on price is definitely not a strategy for success.

It may be more difficult for Polish firms to operate in this competitive market because companies from some countries receive government support, e.g., they receive government guarantees for contracts concluded with public institutions, can benefit from reduced rates in air transport or count on quick visa processing for customers they invite to their country. Polish companies must rely on innovative solutions and private contacts.

Although cultural conditions are not a constraint to running a business, it is worth having a local partner because business contacts are based on interpersonal relationships. It is believed that cooperation is better if relations go beyond purely business issues – talking about family during the first meeting should not be surprising [Uksik, 2014]. A local partner can help in this respect. It is worth noting that executives of Arab companies often operate in a diversified international environment, where social norms must be sufficiently flexible for such a business community to work well together.

The experience of managers familiar with the Arab world shows that it is advisable to enter the Gulf markets by starting from a small but prestigious market. Qatar is such a market – gaining recognition and recommendations of local partners opens many doors in other countries.

Managers emphasize that one should not be misled by stereotypes about Arab culture because it often turns out that they do not have much to do with reality, and running a business does not deviate from the standards adopted in Western countries. Importantly, one should not think in terms accepted in the Polish market; instead, it is worth opening up to what local partners or associates advise. Solutions that work in Poland will not necessarily be effective in the Arab states. Learning about local customs can help to avoid investment failures and, in particular, to reach people who make business decisions.

Start-ups that offer innovative services or products face good prospects. They can count on generous government support, especially in the UAE.

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SGH Publishing House

The area occupied by the Arab states, especially those located in the Middle East, is widely perceived as the cradle of human civilization. A growing significance of the Arab world in the contemporary global economy has been witnessed nowadays. The results of research conducted by academics of the Warsaw School of Economics, published in this monograph, show a progress in the development of Polish-Arab cooperation over the past decade, as reflected, among other things, by the growth in the overall value of trade and foreign direct investment. Despite cultural differences and geographical distance, as well as developmental disparities between the Arab states themselves, the Arab world thus offers great opportunities for Poland's economic involvement.

Obszar zajmowany przez państwa arabskie, w szczególności zlokalizowane w regionie określanym jako Bliski Wschód, jest powszechnie postrzegany jako kolebka ludzkiej cywilizacji. Obecnie obserwuje się wzrastające znaczenie świata arabskiego we współczesnej gospodarce globalnej. Opublikowane w niniejszej monografii wyniki badań przeprowadzonych przez naukowców Szkoły Głównej Handlowej w Warszawie wskazują na postępujący w ostatniej dekadzie rozwój współpracy polsko-arabskiej, wyrażający się m.in. we wzroście ogólnej wartości wymiany handlowej czy inwestycji zagranicznych. Pomimo odmienności kulturowej i dystansu geograficznego, a także rozbieżności rozwojowych między samymi państwami arabskimi, kierunek arabski stwarza więc duże szanse na zaangażowanie Polski pod względem gospodarczym.

يُنظر إلى المنطقة التي تتواجد عليها الدول العربية، ولا سيما تلك الواقعة في المنطقة المعروفة باسم الشرق الأوسط، على أنها مهد الحضارة الإنسانية. في الوقت الحالي، يمكننا أن نلاحظ الأهمية المتزايدة للعالم العربي في الاقتصاد العالمي الحديث. تشير نتائج البحوث التي أجراها علماء وخبراء من جامعة وارسو للاقتصاد والتجارة SGH والمنشورة في هذه الدراسة إلى التطور التدريجي للتعاون البولندي العربي في العقد الماضي، والذي تم التعبير عنه، من بين أمور أخرى، في زيادة القيمة الإجمالية للتجارة والاستثمارات الأجنبية. وعلى الرغم من الاختلافات الثقافية والمسافة الجغرافية، فضلاً عن الاختلافات التنموية بين الدول العربية نفسها فإن الاتجاه العربي يوفر فرصًا كبيرة لمشاركة بولندا من الناحية الاقتصادية.

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ISBN 978-83-8030-497-0