SILESIAN UNIVERSITY OF TECHNOLOGY PUBLISHING HOUSE

SCIENTIFIC PAPERS OF SILESIAN UNIVERSITY OF TECHNOLOGY 2024
ORGANIZATION AND MANAGEMENT SERIES NO. 197

FOREIGN DIRECT INVESTMENTS IN POLAND AND CHINA – INVESTMENT DYNAMICS 2010-2021

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Purpose: The purpose of the present paper is study the level and dynamics of foreign direct investments (FDIs) in Poland and China as countries that have been growing at completely different rates in the last 11 years. This is largely the effect of different transformation variants implemented by both countries in the second half of the XX century. In order to evaluate a given economy's ability to export capital abroad and to absorb capital imported from other countries, it is especially important to analyse the investment balance in terms of *inflow* to the country and *outflow* abroad.
Methodology: The review of source materials and literature as well as statistical and comparative analysis methods were used in the paper. The base for analysis included documents published by the National Bank of Poland (NBP), Ministry of Commerce of the People's Republic of China (MOFCOM), OECD and World Bank statistics.
Findings: Taking into account the differences between Poland and China in terms of the GDP and FDI dynamics, the following research questions were asked:
– do the GDP dynamics correspond to the dynamics of investment in the form of foreign direct investments (FDIs) in both of the aforementioned countries?
– if the investment balance classifies Poland as a capital importer and China as a capital exporter, then how did this classification change in 2010-2021?
– did the pandemic affect the investment dynamics in 2020?
Keywords: foreign direct investment (FDI), directional presentations of FDI, outflow, inflow, pandemic, Poland/China.
Category of the paper: viewpoint, conceptual paper.
JEL classification[1]: F21, F41, F63, Y10.

[1] American Economic Association, https://www.aeaweb.org/econlit/jelCodes.php

1. Introduction

The transfer of capital through foreign direct investments (FDIs) has far-reaching consequences for the production and sales carried out by transnational enterprises that are often a source of technologies and innovations, thereby affecting the competitiveness of the adopting economy. Thus, FDIs are largely responsible for the growth of the contemporary global economy. The level and dynamics of foreign direct investments is important for the evaluation of the given economy's ability to export capital abroad and to absorb capital imported from other countries. It is however necessary to remember that FDI is one of the most ambiguous terms in international economics. Foreign direct investments are often presented as a stable international capital movement that increases the production capacity and complements currency shortages. However, the reality is more complex, because investments make a direct contribution to the production capacity, but can displace domestic investors (Akyüz, 2017).

An analysis of the International Investment Position (IIP) is especially important, because IIP is a breakdown of receivables and liabilities between residents and non-residents at a specific time (usually at the end of the year). According to the European Central Bank's classification (Guideline of the European Central Bank, 2004/2014), the statistics of balance of payments and international investment position feature the following:

- foreign direct investments,
- portfolio investments,
- financial derivatives,
- other investments,
- reserve assets.

In essence, IIP is the difference between the values of foreign assets and liabilities (Górniewicz, 2016). If a country's liabilities exceed its assets, the given country is a net debtor, otherwise it is a net creditor (Frejtag-Mika, 2009). If the classification is limited solely to foreign direct investments, it can be stated that a country is a debtor when its capital import is higher than capital export during longer periods of time. On the other hand, a country with larger capital export than its capital import becomes a creditor.

A negative or positive investment balance in terms of FDIs can also affect one of the main macroeconomic parameters: the gross domestic product (GDP) dynamics – overall and *per capita*. For comparative purposes, two economies with a completely different investment dynamics were selected, i.e. Poland and China. These states were selected based on the overall and *per capita* gross domestic product dynamics in 2010-2021.

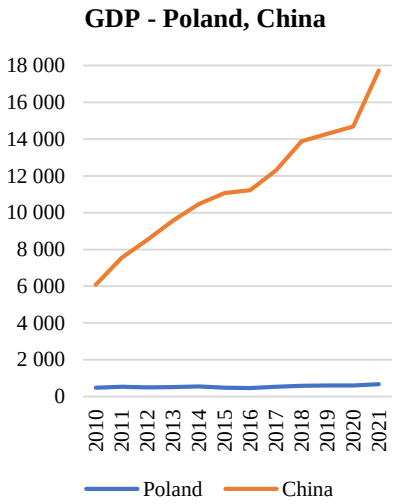
Table 1.

GDP – Poland/China, 2010-2021

GDP	Poland	China
	(billions USD $)	
2010	480	6 090
2011	528	7 550
2012	499	8 530
2013	521	9 570
2014	542	10 480
2015	478	11 060
2016	473	11 230
2017	527	12 310
2018	587	13 890
2019	597	14 280
2020	597	14 690
2021	674	17 734

Comments: 1 billion USD = 1 USD x 10^9.

Source: World Bank national accounts data, and OECD National Accounts data files: https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locatio; https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?end=2021&locations=CN-PL&start=1960&view=chart



Comments: 1 billion USD = 1 USD x 10^9.

Figure 1. GDP – Poland/China, 2010-2021.

Source: World Bank national accounts data, and OECD National Accounts data files: https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locatio; https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?end=2021&locations=CN-PL&start=1960&view=chart

The selected countries' GDP dynamics in the last 11 years demonstrates huge differences in both economies. Aside from obvious differences in absolute values, the GDP behaves differently. In Poland, GDP is maintained at a similar level in the aforementioned period – the starting value increased by 40% in 11 years, including some drops (2012, 2015-2016), whereas China experienced a dynamic GDP growth by over 190% in the same period. Moreover, when compared to Poland, China did not experience any GDP drops in that period, even during the pandemic (2020-2021).

The differences between the countries are also confirmed by GDP *per capita.* Admittedly, the breakdown of absolute values is inverse, because GDP per capita is higher in Poland than in China, however the growth dynamics demonstrate that the Chinese population is becoming richer and these differences can become equal in the coming years. This phenomenon contributes to the implementation of Xi Jinping's (President of the People's Republic of China) concept, the main determinant of which is to build a Chinese society of moderate prosperity (Bernat, 2015). Internal consumption is becoming the growth driver that replaces export generated by international corporation branches.

Table 2.
GDP per capita – Poland/China, 2010-2021

GDP *per capita*	**Poland**	**China**
	(USD $)	
2010	12 613	4 551
2011	13 880	5 614
2012	13 097	6 301
2013	13 697	7 020
2014	14 271	7 636
2015	12 579	8 016
2016	12 447	8 094
2017	13 865	8 817
2018	15 469	9 905
2019	15 732	10 144
2020	15 743	10 409
2021	17 841	12 556

Source: World Bank national accounts data, and OECD National Accounts data files: https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locatio; https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?end=2021&locations=CN-PL&start=1960&view=chart

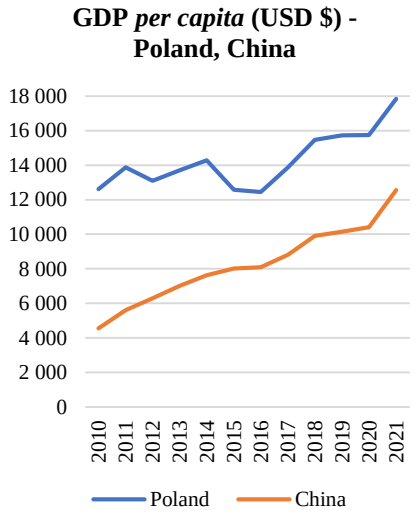


Figure 2. GDP per capita – Poland/China, 2010-2021.

The GDP values and dynamics, both overall and *per capita*, confirm that Poland and China are developing at completely different rates, thereby distinguishing China as a dynamic economy and Poland as a static economy. Taking into account these differences, the following research questions were asked:

- do the GDP dynamics correspond to the dynamics of investment in the form of foreign direct investments (FDIs)?
- if the investment balance classifies Poland as a capital importer and China as a capital exporter, then how did this classification change in 2010-2020?
- did the pandemic affect the investment dynamics in 2020?

2. Foreign direct investments (inflows and outflows) in Poland and China in 2010-2021

When analysing foreign direct investments, if was firstly noted that there are large differences between the values presented by the statistical authorities in both countries and analogous data published by the OECD.

Table 3.
Foreign direct investment (inflows and outflows abroad) during of the year 2010-2021, presented by Central Bank in Poland (NBP) and Ministry of Commerce of the People's Republic of China (MOFCOM) versus OECD data – differences

net in USD million	**POLAND**				**CHINA**			
	FDI inflows		**FDI outflows**		**FDI inflows**		**FDI outflows**	
	OECD	**NBP**	**OECD**	**NBP**	**OECD**	**MOFCOM**	**OECD**	**MOFCOM**
	1	*2*	*3*	*4*	*1*	*2*	*3*	*4*
2010	12 800	13 873	6 149	7 226	243 703	114 730	57 954	68 810
2011	15 953	20 620	1 028	8 156	280 072	123 990	48 421	74 650
2012	12 441	6 059	2 905	716	241 214	121 070	64 963	87 800
2013	3 626	2 734	-451	-1 346	290 928	133 910	72 971	107 840
2014	17 612	14 266	4 701	2 898	268 097	128 500	123 130	123 120
2015	13 063	15 268	3 172	4 995	242 489	135 580	174 391	145 670
2016	16 596	15 689	12 389	11 599	174 750	133 710	216 424	196 150
2017	9 537	9 176	1 908	2 170	166 084	136 320	138 293	158 290
2018	16 376	15 989	1 239	891	235 365	138 310	143 027	143 040
2019	13 326	13 510	1 674	1 854	187 170	141 230	136 910	136 910
2020	13 650	13 833	1 104	1 295	253 096	149 340	153 721	153 710
2021	24 822	29 573	1 783	1 819	333 979	180 960	128 037	178 819

Comments:
1) for inflows: (+) signifies capital inflows to the country, (-) signifies the withdrawal of capital from the country,
2) for outflows: (+) signifies capital outflows abroad, (-) signifies the withdrawal of capital from abroad

Source:
1) reports from the National Bank of Poland:
- Foreign direct investment (inflows) in Poland in 2010 broken down by country and economic zone, (similarly the following years), https://www.nbp.pl/home.aspx?f=/publikacje/zib/zib.html
- Foreign direct investment (outflows) in Poland in 2010 broken down by country and economic zone, (similarly the following years), https://www.nbp.pl/home.aspx?f=/publikacje/pib/pib.html

2) reports from the Ministry of Commerce of the People's Republic of China:
- Foreign direct investment (inflows) in China in 2010 broken down by country and economic zone, (similarly the following years), http://images.mofcom.gov.cn/wzs/202211/20221102151438905.pdf

– Foreign direct investment (outflows) in China in 2010 broken down by country and economic zone, (similarly the following years) http://images.mofcom.gov.cn/fec/202211/20221118091910924.pdf

3) OECD and IMF reports: Most recent FDI statistics for OECD and G20 countries 2005-2021, https://data.oecd.org/fdi/fdi-flows.htm

The differences concern data from both countries and do not form any regular pattern. In addition, the deviations of several dozen percent take both negative and positive values, depending on the year.

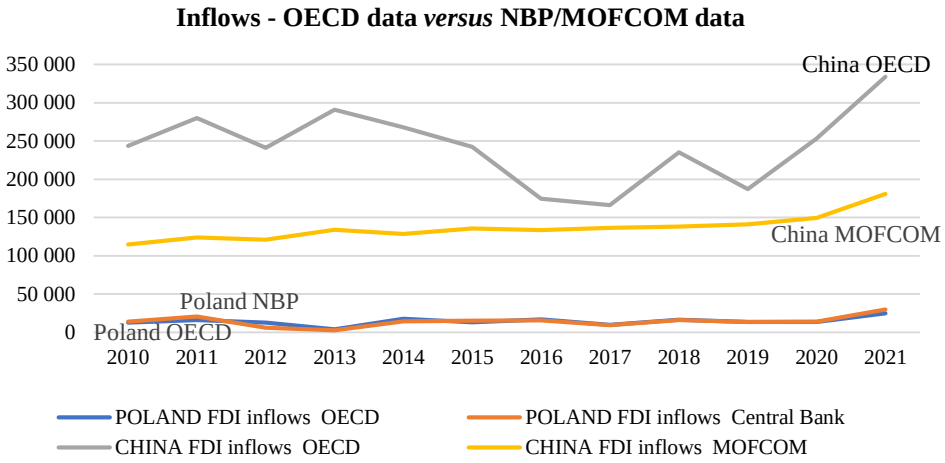


Figure 3. OECD data versus NBP/MOFCOM data – Poland/China inflows.

Based on:

1) reports from the National Bank of Poland:
   – Foreign direct investment (inflows) in Poland in 2010 broken down by country and economic zone, (similarly the following years) https://www.nbp.pl/home.aspx?f=/publikacje/zib/zib.html
   – Foreign direct investment (outflows) in Poland in 2010 broken down by country and economic zone, (similarly the following years) https://www.nbp.pl/home.aspx?f=/publikacje/pib/pib.html
2) reports from the Ministry of Commerce of the People's Republic of China:
   – Foreign direct investment (inflows) in China in 2010 broken down by country and economic zone, (similarly the following years), http://images.mofcom.gov.cn/wzs/202211/20221102151438905.pdf
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3) OECD and IMF reports: Most recent FDI statistics for OECD and G20 countries 2005-2021, https://data.oecd.org/fdi/fdi-flows.htm

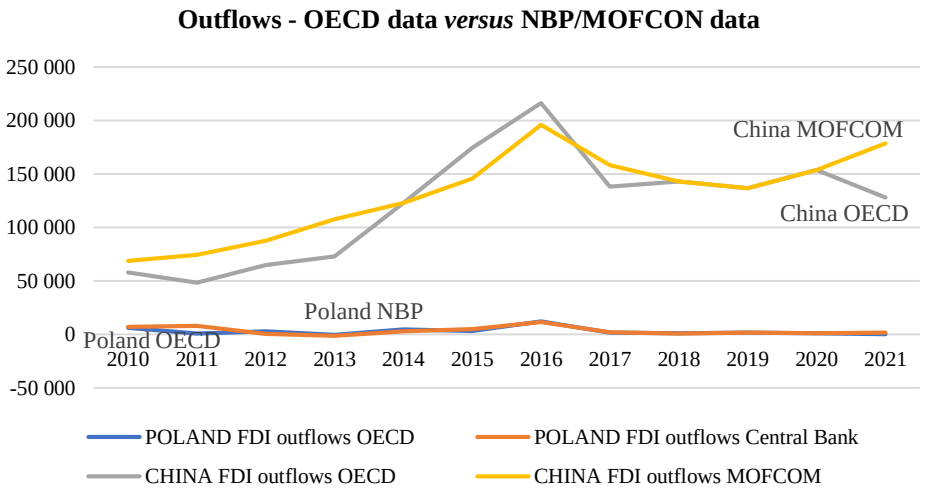

Figure 4. OECD data versus NBP/MOFCOM data – Poland/China outflows.

Based on:
1) reports from the National Bank of Poland:
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- Foreign direct investment (outflows) in Poland in 2010 broken down by country and economic zone, (similarly the following years) https://www.nbp.pl/home.aspx?f=/publikacje/pib/pib.html

2) reports from the Ministry of Commerce of the People's Republic of China:
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- Foreign direct investment (outflows) in China in 2010 broken down by country and economic zone, (similarly the following years), http://images.mofcom.gov.cn/fec/202211/20221118091910924.pdf

3) OECD and IMF reports: Most recent FDI statistics for OECD and G20 countries 2005-2021, https://data.oecd.org/fdi/fdi-flows.htm

When searching for the reason of those differences, it was determined that according to the objectives announced by the statistical authorities in both countries with reference to capital transfer, they are focused mainly on investment control. In consequence, foreign direct investments are presented by them as an annual cash flow summary, featuring analogous components for total FDI inflows to the country and for total FDI outflows abroad, including:

- equity (shares and other forms of equity participation),
- reinvestment of earnings,
- debt instruments.

This makes it impossible to directly compare them with data on direct investments in the country's balance of payments (BOP) and data on the international investment position (IIP), presented as broken down in assets and liabilities. In essence, the statistical authorities view cash flow information (negative or positive values) within these components as more useful, because they are fundamental for controlling the national economy's capacity to invest abroad and absorb foreign capital.

On the other hand, the Organisation for Economic Cooperation and Development (OECD) aggregates the data to ensure the cohesion of the FDI statistics with other macroeconomic statistics, including those concerning the balance of payments (BOP) and the international investment position (IIP). As of 2014, The OECD's *Benchmark Definition of Foreign Direct Investment, 4th edition* (BMD4) and the IMF's *Balance of Payments and International Investment Position Manual, 6th edition* (BPM6) provide guidance on the compilation of FDI statistics. BPM6 and BMD4 recommend that aggregate FDI statistics, be presented according to the asset/liability principle rather than the directional principle as has been the recommendation in previous editions of international guidelines.

On an asset/liability basis, direct investment statistics are organized according to whether the investment relates to an asset or a liability for the country compiling the statistics. However, the asset/liability presentation does not show the direction of influence as the directional presentation does. In fact, the directional presentation is more useful for examining the natures and motivations for FDI, so the guidelines recommend that the detailed FDI statistics by country and by industry be published according to the directional presentation.

As OECD explains in document named: *Implementing the latest international standards for compiling foreign direct investment statistics asset/liability versus directional presentation,* under the directional presentation, the direct investment flows and positions are organized according to the direction of the investment for the reporting economy – either outward or inward. So, for a particular country, all flows and positions of direct investors resident in that economy are shown under "outward investment" and all flows and positions for direct investment enterprises resident in that economy are shown under "inward investment".

Figure 5 shows the building blocks used to construct the directional presentation of the FDI positions. The outward investment position consists only of positions of resident parents, and the inward investment side consists only of positions of resident affiliates.

Country's outward investment is equal to:
resident parents' equity in and lending to foreign affiliates
minus
foreign affiliates' equity in and lending to resident parents

Country's inward investment is equal to:
foreign parents' equity in and lending to resident affiliates
minus
resident affiliates' equity in and lending to foreign parents

Figure 5. Constructing directional presentations of FDI positions.

Source: Implementing the latest international standards for compiling foreign direct investment statistics asset/liability versus directional presentation, OECD, December 2014, https://www.oecd.org/daf/inv/FDI-statistics-asset-liability-vs-directional-presentation.pdf

Under the directional presentation, reverse investment is subtracted to derive the amount of total outward or inward investment of the reporting country. Reverse investment is when an affiliate invests in its parent. So, if a resident parent borrows money from one of its foreign affiliates, this is subtracted in calculating the reporting country's outward investment because it reduces the amount of money that that country's parents have invested in their foreign affiliates. Similarly, if a resident affiliate lends money to its foreign parent, this is subtracted

when calculating inward investment because it reduced the amount of money that the foreign parent has invested in that country.

The differences in FDI presentation between the statistical authorities in the countries and OECD are a result of both different objectives for creating the statistics and a different manner of data aggregation. In general, OECD statistics adjust the statistical authorities result (*in minus*) by adding capital operations done by subsidiaries in relations with their parent companies.

The capital flow analysis is also hindered by other statistics of national or international organisations, which use different methodologies and data collection standards for statistical purposes (BPM6, BMD4, UNCTAD, Eurostat). This means, among others, that it is necessary to remain careful when using the data presented by a specific source. On a side note, due to the described discrepancies, a direction of further research on cash flows between parent companies and subsidiaries as well as the impact of their relations on the FDIs' presentation can be outlined.

3. Poland as the importer of capital versus China as the exporter of capital

It should be pointed out at the outset that both countries adopted different transformation variants in the second half of the XX century. In each of them, FDIs constituted an integral part of the reforms, a source of capital and know-how (Bernat, Huang, Mazur-Włodarczyk, 2021). Additionally, the adopted variants of FDI inflow and absorption were correlated with the adopting country's legislation and culture (Bernat, 2019).

a) Investment balance

The disparity between the economic parameters of Poland and China as countries selected for comparison is also confirmed by the FDI inflow and outflow relations in both countries. The classification of the given country's economy as a capital importer or capital exporter depends on the two following variables:

- cash flow balance, where the inflow outperforms the outflow, resulting in a negative balance and the country's classification as a capital importer,
- percentage ratio of outflow and inflow, wherein a value exceeding 100% means that investment export outperforms imported capital.

Table 4.
Balance of FDI and percentage relations

net in USD million	POLAND				CHINA			
	Balance of FDI: outflows minus inflows		**Percentage: outflow in relation to inflows**		**Balance of FDI: outflows minus inflows**		**Percentage: outflow in relation to inflows**	
	OECD	**NBP**	**OECD**	**NBP**	**OECD**	**MOFCOM**	**OECD**	**MOFCOM**
	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
2010	-6 651	-6 647	48,0	52,1	-185 749	-45 920	23,8	60
2011	-14 925	-12 464	6,4	39,6	-231 651	-49 340	17,3	60,2
2012	-9 536	-5 343	23,4	11,8	-176 251	-33 270	26,9	72,5
2013	-4 077	-4 080	-112,4	-149,2	-217 957	-26 070	25,1	80,5
2014	-12 911	-11 368	26,7	20,3	-144 967	-5 380	45,9	95,8
2015	-9 891	-10 274	24,3	32,7	-68 098	10 090	71,9	107,4
2016	-4 207	-4 090	74,7	73,9	41 674	62 440	123,8	146,7
2017	-7 629	-7 006	20,0	23,7	-27 791	21 970	83,3	116,1
2018	-15 137	-15 098	7,6	5,6	-92 338	4 730	60,8	103,4
2019	-11 652	-11 656	12,6	13,7	-50 260	-4 320	73,1	96,9
2020	-12 546	-12 538	8,1	9,4	-99 375	4 370	60,7	102,9
2021	-23 039	-27 754	7,2	6,2	-205 942	-2 141	38,3	98,8

Source: based on:
1) reports from the National Bank of Poland:
- Foreign direct investment (inflows) in Poland in 2010 broken down by country and economic zone, (similarly the following years) https://www.nbp.pl/home.aspx?f=/publikacje/zib/zib.html
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2) reports from the Ministry of Commerce of the People's Republic of China:
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- Foreign direct investment (outflows) in China in 2010 broken down by country and economic zone, (similarly the following years) http://images.mofcom.gov.cn/fec/202211/20221118091910924.pdf

3) OECD and IMF reports: Most recent FDI statistics for OECD and G20 countries 2005-2021, https://data.oecd.org/fdi/fdi-flows.htm

Due to the differences in data presentation between the statistical authorities in the countries and the OECD, the given country's classification can differ in specific years. Nevertheless, Poland was a capital importer during each year of the 2010-2020 period. The inflow and outflow ratio varied, while the most beneficial investment position was recorded in 2016 (outflow approximately 74% in relation to inflow). Similar ratios maintained over a period of 10 years clearly confirm Poland's investment position as a foreign capital debtor with minor dynamics of change and without significant prospects for changing its position.

The differences are greater for China, because MOFCOM's statistics show that China was a capital exporter in 2015-2020, while according to OECD statistics, it was an exporter only in 2016. However, from 2010, the percentage share of outflow in inflow maintained a constant upward trend. A substantial change occurred in 2015/2016, when China became a net investor for the first time ever and China's FDI outflow was higher than their inflow. In January 2022, the Ministry of Commerce of the People's Republic of China (MOFCOM) disclosed the real inflow of foreign capital to China in 2021. According to the published data, the FDI inflow was record-breaking and reached USD 173.48 billion, i.e. an increase of 20.2% year to year. At the same time, in March 2022, the State Administration of Foreign Exchange (SAFE)

published the *Report on the Balance of Payments (BOP) from 2021*, which records cash flows from and to China. According to the BOP, China recorded a net FDI increase (or net liabilities increase according to the BOP's terminology) of USD 334 billion, i.e. increase of 32% year to year (Huld, 2022).

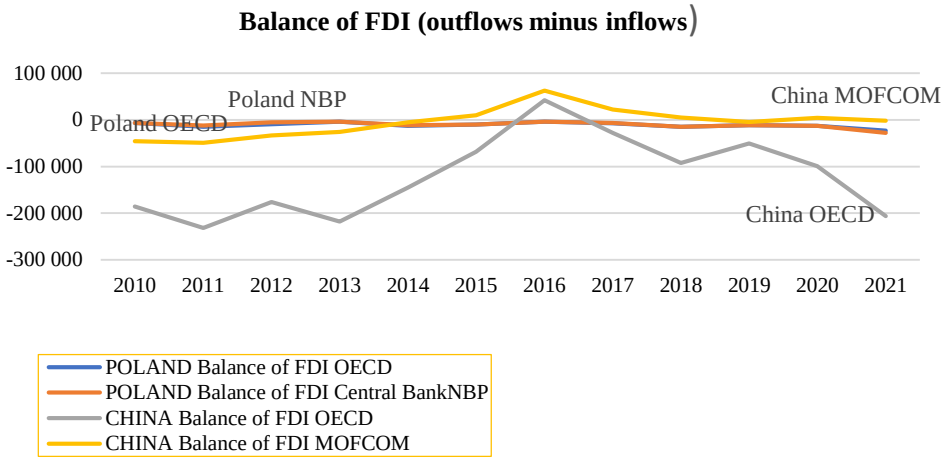

Figure 6. Balance of FDI (outflows minus inflows) Poland/China – NBP/MOFCOM versus OECD.

Based on: table 4 data.

b) Sources of capital inflow

In 2010-2021, the capital investment in Poland came from European states, including mainly EU member states. In relation to these values, other sources of capital seem to be of marginal importance.

Table 5.

Inward FDI flows by partner country, Poland/China 2010-2020/2021 (million US dollars)

	Poland					China				
	Europe	**Africa**	**America**	**Asia**	**Australia, Oceania**	**Europe**	**Africa**	**America**	**Asia**	**Australia, Oceania**
2010	14 147,8	15,8	-352,8	-322,5	1,5	628,6	no data	52,1	no data	2 408,7
2011	21 520,4	-158,0	-427,9	-93,4	-86,9	400,8		1 177,1		3 367,7
2012	6 030,3	-119,9	174,3	-6,0	9,6	1 599,0		3 563,0		3 563,1
2013	2 647,0	-181,1	331,1	5,3	17,1	8 539,6		1 904,1	194,6	5 937,9
2014	14 957,0	-14,7	-780,0	107,5	-0,9	5 826,7		2 313,6	643,3	8 883,2
2015	15 791,3	-5,1	-758,1	254,1	10,3	8 304,6		327,2	190,6	2 202,8
2016	15 541,7	17,5	14,4	116,8	-1,5	9 053,4		18 227,1	625,7	1 300,3
2017	8 050,1	34,2	784,4	316,3	-4,5	5 236,1		4 445,6	761,0	833,9
2018	15 805,5	2,2	-395,2	568,0	1,1	11 184,4		3 102,0	1 205,9	3 249,0
2019	11 095,8	-67,3	737,6	1 731,6	13,4	11 555,6		5 339,8	510,6	3 045,4
2020	13 743,8	19,7	49,8	-112,8	130,9	8 051,6		-754,7	682,4	58,7
2021	26 957,5	121,4	439,2	2 010,8	43,1	no data	no data	no data	no data	no data

Comments: the data does not take into consideration some geographical regions due to missing information, thereby not balancing with the OECD/NBP and MOFCOM's aggregate data.

Source:

1) reports from the National Bank of Poland:
– Foreign direct investment (inflows) in Poland in 2010 broken down by country and economic zone, (similarly the following years) https://www.nbp.pl/home.aspx?f=/publikacje/zib/zib.html
2) OECD statistics: https://data.oecd.org/fdi/fdi-flows.htm#indicator-chart

The aggregate data on Poland's inward FDI flows by partner country are similar to the general data on FDI inflows, but there are clear shortages in data in regards to China. According to OECD's description, the data related to China's partners is incomplete (no submissions), both in terms of geographic regions (e.g. Africa) and specified states of regions mentioned (e.g. Israel). Based on the disclosed data, it is possible to note the relatively low interest of European investors, even when compared to their involvement in Poland. At the same time, the share of US investors is increasing. However, the missing values seem to indicate cash inflows from Asia, Africa and undeclared states to China.

c) Directions of investment expansion

Poland's activity in exporting capital abroad is minor. In the last decade, European states remained the main direction of foreign investments. This is determined by Poland's membership in the EU and territorial coverage. For this reason, cross-border investments in Poland's immediate vicinity (Germany) are predominant. In 2016, it was possible to observe the highest commitment of capital in Europe and America (mainly USA), but this was a one-time occurrence. Despite deviations, the capital investment balance remained negative.

Table 6.
Outward FDI flows by partner country, Poland/China 2010-2020 (million US dollars)

	Poland					China				
	Europe	**Africa**	**America**	**Asia**	**Australia, Oceania**	**Europe**	**Africa**	**America**	**Asia**	**Australia, Oceania**
2010	6 761,6	-19,3	290,3	35,7	9,4	8 703,6	no data	8,9	no data	152,3
2011	8 057,0	43,8	382,4	87,6	0,8	13 733,7		-1 715,0		242,4
2012	507,9	24,7	239,7	57,3	6,3	9 646,1		-1 222,7		751,6
2013	-1 696,8	65,6	143,8	141,0	0,2	22 146,2		7 397,2	10 936,7	658,9
2014	2 666,9	-50,7	172,3	121,0	-12,0	16 429,0		11 033,5	14 781,7	609,5
2015	4 354,3	9,9	733,3	-92,7	-10,1	10 931,4		8 333,4	13 180,7	470,8
2016	8 093,3	67,2	3 448,4	-13,8	4,1	15 900,0		9 437,0	16 082,6	-335,3
2017	1 403,8	52,6	743,4	-30,5	1,3	14 441,8		9 267,9	17 915,1	-1 499,8
2018	2 600,0	-139,2	-1 534,8	-28,2	-7,2	16 097,6		6 391,0	17 158,3	795,4
2019	1 619,4	4,2	126,6	106,7	-2,4	1 722,0		7 440,8	17 816,7	201,4
2020	1 050,7	0,9	-10,1	255,2	-1,4	7 852,7		10 200,8	14 313,9	15,5
2021	1 796,5	26,1	-175,6	165,0	5,7	no data	no data	no data	no data	no data

Comments: the data does not take into consideration some geographical regions due to missing information, thereby not balancing with the OECD/NBP and MOFCOM's aggregate data.

Source:
1) reports from the National Bank of Poland:
– Foreign direct investment (outflows) in Poland in 2010 broken down by country and economic zone, (similarly the following years) https://www.nbp.pl/home.aspx?f=/publikacje/pib/pib.html
2) OECD statistics: https://data.oecd.org/fdi/fdi-flows.htm#indicator-chart

In terms of completeness of data regarding China, the outward FDI flow by partner country does not correspond to the general data. According to OECD's analogous description, the data on China's partners is incomplete due to lack of submission. However, based on the data disclosed, it is possible to note a substantial increase in investment activity in the European and American (mainly USA) markets starting from 2013. It does not match investments in Asian markets, but is maintained at a constant high level.

4. FDI dynamics during the pandemic

The COVID-19 pandemic is an example of an extreme hazard that led to an environmental, economic and social crisis. From 2020, the pandemic not only resulted in millions of infections and deaths, but also caused havoc in global economy, comparable to the global financial crisis from 2008-2009 and the Great Depression of 1929-1933 (Czech, 2020). The pandemic demonstrated that natural disasters can cause a direct global destructive economic influence on an unprecedented scale.

The pandemic has caused shot and long-term employment difficulties and labor market turbulence, output decline after the supply side impact, consumption and investment reduction, foreign trade difficulties in the anti-globalization environment, unbalanced contraction of domestic and foreign demand, resistance to industrial upgrading and transformation, increased risks of financial institutions, relatively fierce fluctuations in the capital market, etc. (Chengying He, 2020).

An analogous shock affected stock market participants, while an increase in risk aversion led to rapid price declines on stock exchanges around the world. The hazard became a source of fear of the situation in which it is increasingly probable to lose one's health, life and assets. The high level of stress during the first year of the pandemic affected the investors' willingness to make foreign direct investments constituting in essence a long-term investment form with the highest degree of risk. The period of involvement in foreign assets is substantially longer than in the case of other financial instruments, thereby losses resulting from risk realisation can be significantly more severe than in the case of realisation of adverse risk from other financial instruments.

However, the shock related to the pandemic brought different effects in different countries. In 2020, Poland experienced an immediate reduction in FDI outflow by 30-34% (OECD/NBP statistics) when compared to 2019. On the other hand, China experienced an increase in FDI outflow of over 12%.

Table 7.
Outflows FDI 2019-2021, Poland and China

net in USD million	POLAND		CHINA	
	FDI outflows		FDI outflows	
	OECD	NBP	OECD	MOFCOM
	1	*2*	*3*	*4*
2019	1 674	1 854	136 910	136 910
2020	1 104	1 295	153 721	153 710
2021	1 783	1 819	128 037	178 819

Based on table 3 data.

The reaction of foreign investors in terms of FDI inflow was calmer in 2020, because Poland experienced a slight increase in FDI inflow of 2% (mainly from re-investments). On the other hand, China experienced a higher increase, depending on the source of statistical data: 35% (OECD) or 6% (MOFCOM).

Table 8.
Inflows FDI 2019-2020, Poland and China

net in USD million	POLAND		CHINA	
	FDI inflows		FDI inflows	
	OECD	NBP	OECD	MOFCOM
	1	*2*	*3*	*4*
2019	13 326	13 510	187 170	141 230
2020	13 650	13 833	253 096	149 340
2021	24 822	29 573	333 979	180 960

Based on table 3 data.

The evaluation of reactions in the first and the second year of the pandemic allows for assessing the differences in foreign investor behaviour in terms of FDI inflow and domestic investors in terms of FDI outflow both in Poland and China. In contrast, the following year (2022) showed that the foreign investment market in both countries had calmed down enough to start catching up - both on the inflows and outflows side. I Poland FDI inflows increased by more than 86-100% (OECD/NBP statistics) when compared to 2019. In China, growth was slightly lower, but exceeded 2019 levels by 78-28% (OECD/MOFCOM statistics) to 2019.

5. Discussion

Opening up the economy and the success of market reforms implemented in Poland at the beginning of the 1990s made the Polish economy an appealing place for international enterprises to continue their activity (Jóźwik, 2016; Cieślik, Goczek, 2018). Beforehand, the activity of foreign capital companies was small and was limited nearly exclusively to small industry enterprises (Cieślik, 2019) and joint venture from 1986 as result of relaxation and opening up the Polish economy, implementation of pro-market reforms in the form of Balcerowicz's plan that corresponded with the Washington Consensus package at the turn of the 1980s and 1990s, and then due to Poland's accession to the OECD in 1998, and to the EU in 2004, the importance of international enterprises and their foreign direct investments in the Polish economy increased substantially (Kania, 2006). During the last decade, Poland recorded a substantial FDI inflow, however the level of invested capital remains at a similar level, with one-year deviations in plus and in minus. After the first years of growth, the FDI outflow is devoid of significant dynamics. This translates into the static gross domestic product (GDP).

FDI outflow behave similarly in Poland. Apart from the fact that the FDI outflow is substantially lower than capital inflow, it is also devoid of dynamics. Aside from a one-off increase in 2016, the recent years have demonstrated foreign investments of 1 to 2 USD billion per year. This points to a certain territoriality of the domestic capital and lack of motivation to make foreign investments.

The Chinese economy behaves completely differently, because all parameters demonstrate a strong dynamic growth. Starting with the gross domestic product (GDP), through FDI inflow and FDI outflow, no parameter has shown a breakdown in growth dynamics (aside from few one-year decreases) in the last decade.

It is interesting, because Chinese investments in Europe and USA were almost non-existent ten years ago. China's investment expansion is related to a change in the Chinese authorities' approach to foreign investments. China's mission to buy up companies in Europe is a part of a plan called "Made in China 2025", designed to turn the country into a manufacturing superpower (Delcker, 2016).

Foreign capital investments constitute one of the ways in which China wants to modernise its economy and implement the main assumptions of the new Chinese industrial policy. Althrough FDIs are commonly treated around the world as a desired source of supplying economies from the outside, competed for intensely by host countries, China's active role as an investor raises great concern precisely because of the capital's country of origin. Chinese FDIs are often treated as Trojan horses for the economies in which they are allocated. The links between the Chinese companies and the authorities and their capital support is viewed as an indirect risk of achievement of political objectives. The asymmetry concerning the western companies' access to the Chinese market reinforced these concerns. It is possible to provide the behaviour of Chinese investors in Cambodia as an example, where it does not generate spillover effects in the host economy, but only activates the Chinese entities (Bernat, 2019).

Aside from a change in the Chinese companies' growth model and the Chinese government's support for foreign capital expansion which raise doubts (push factors), the investment incentives system developed by European factors has played an important role (full factor). Chinese investors utilised lower stock prices (undervaluation between the stock's market value and book value) of EU enterprises and acquired large share packages of companies from different industries at attractive prices, thereby taking actual control over many entities. For this reason, Chinese investments are relatively highly diversified by industry (Bąkowska, 2017). At the same time, new Chinese capital became a serious challenge for many countries, all the more that there is a large institutional and cultural distance between the receiving countries and the capital's country of origin (Meunier, 2018; Bernat, 2019).

Contrary to expectations, the COVID-19 pandemic had not major impact on China's investment dynamics, both in terms of FDI inflows and outflows. From China's perspective, the pandemic had a substantially greater impact on the country's internal situation, because difficulties in foreign trade in the anti-globalisation environment, uneven contraction of

domestic and foreign demand, resistance against industrial modernisation and transformation, increased risk of financial institutions, relatively high fluctuations in the capital market within a short time became apparent (Chengying He, 2020). However, as noted by Chinese economists, in the long-term, the COVID-19 pandemic accelerated the reconstruction of the global value chain (Yiyan et al., 2022) and contributed to the optimisation of China's economic structure to maintain a stable growth trend. When faced with opportunities and challenges related to economic growth during the pandemic, China somewhat alleviated the pressure on international macro-economic indices and is seeking new internal balance (China macroeconomic analysis…, 2022). In terms of internal policy, China implemented various instruments to promote consumption, stimulate investments as well as expand production and export. An effective combination of this series of instruments allows China to achieve overall economic growth in the post-pandemic period (Wenjun Fang, 2021). This, in turn, can translate into further increase in the FDI dynamics in China.

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