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Empirical Paper

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Impact of economic conditions on (restricted) immigration to the United States: The Polish case

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Abstract: Throughout the twentieth century, United States has been the most desirable destination for international migrants, primarily due to its economic performance and also to American values – work ethics and tolerance of ethnic diversity. This paper aims to test if selected economic indicators might influence international migration. To this end a time series analysis was performed with time series regression model, where lagged values of various macroeconomic indicators were tested for a significant impact on migration flows. This paper also cast a light on U.S. labour migration's legislation and history, as well as current migrant stock characteristics. It gives specific attention to Polish migrant population, as Polish Americans constitute the largest Polish diaspora worldwide. The results of the analysis show that U.S. immigration volumes are sensitive to American unemployment rate and American GDP growth (pull factors). However, analysing Polish migration volumes to the U.S. a significant correlation with selected American indicators was not revealed. On the contrary, Polish migration flows to the U.S. were correlated with Polish economic growth and the Polish unemployment rate fluctuations (push factors).

Keywords: Polish migration to the United States, immigration to the United States, impact of business cycle on labour migration, international labour migration, United States immigration law **JEL Classification:** F22 – International Migration, K37 – Immigration Law, J61 Geographic Labor Mobility

1 Introduction

The United States (U.S.) has been an attractive destination for migrants since the mid-19th century. One of the major pull factors has been the economic supremacy of the U.S. since the beginning of the 20th century. The U.S. has been an unquestionable global leader in terms of the total value of final output, with its share in the global GDP ranging between 20% and 30%.

American work ethics and its ethnic diversity combined with ease of starting and doing business [World Bank: Doing Business, 2019] led migrants to believe that they could succeed by combining their talents with hard work.

According to the Gallup Institute survey results, in 2012 the U.S. was the most desirable global destination for potential migrants. The survey estimated that over 150 million adults worldwide would be willing to migrate to the U.S., while countries on the list such as UK, Canada, and France did not exceed 50 million indications. The U.S. was particularly favored by potential migrants from China (22 million), Nigeria (15 million), and India (10 million) [Clifton, 2012].

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Although Poland is currently not among the top 10 countries of origin from the U.S. perspective, the U.S. was historically one of the two major destinations for Polish emigrants. After World War II (WW2) nearly 600,000 Polish citizens permanently emigrated to the U.S. This official figure is likely underestimated, as it embraces only those migrants who legally entered the U.S., with a work permit. Yet, a large group of migrants entered the country on tourist visas and began to work in the U.S., despite the lack of a formal work permit. The inflow of Polish emigrants to the U.S. was not constant over time. Despite different bureaucratic barriers, it is likely that economic conditions both in Poland and the U.S. were important for these migration flows.

The aim of this study is to present the U.S. as a target country for Polish immigration after WW2 and to reveal factors of macroeconomic nature, which could have influenced migration flows between these countries in the period 1994–2018. To the author's best knowledge, such analysis assessing the impact of macroeconomic variables (unemployment rate, GDP growth, per capita GDP, incoming FDI and gross capital formation) on labor migration between Poland and the U.S. has not been yet performed, and hence this paper fills the research gap in the existing academic literature. It also adds value to the existing research by discussing the importance of the push and pull factors [Lee, 1966; Massey et al., 2011; de Haas, 2011] of macroeconomic nature in the Polish migration to the U.S..

In the first section of the paper the history of American immigration-related legislation was analyzed, with a subsequent description of the American immigrant population. In the following section, Polish migration to the U.S. and the Polish immigrant population in the country are presented. Finally, an attempt was made to discover the correlation between the macroeconomic indicators and immigration volumes. To this end, correlational analysis was performed in a time series regression.

2 Legal aspects of immigration to the U.S.

The history of large-scale immigration to the U.S. dates back to the mid-19th century, when during the Industrial Revolution, the U.S. became a popular destination for migrants from all over the world. At that time, most immigrants worked for lower wages than the natives, which already inflicted resentment and negative attitudes toward immigrants in the American society. This triggered subsequent actions of the U.S. authorities, aimed at hampering the immigrant inflow, especially concerning immigrant workers of undesirable ethnic background and personal characteristics.

The first major anti-immigration policy act was the Chinese Exclusion Act of 1882 [*Chinese Exclusion Act of 1882*], which banned immigration of Chinese workers to the U.S. for a period of the subsequent 10 years. This was followed by the Immigration Act of 1891 [*Immigration Act of 1891*], which added certain rules and mechanisms for dealing with migrants from countries other than China, as well as banned certain individuals from migrating to the U.S., based on their individual characteristics (polygamists, criminals, people with diseases, etc.).

The Immigration Act of 1917 [*Immigration Act of 1917*] – also known as the Asiatic Barred Zone Act – consolidated a list of undesirable immigrants based on their personal characteristics (including, criminals, beggars, prostitutes, persons with mental illnesses, as well as political radicals), introduced literacy requirement (understood as the ability to read 40 words in immigrants' mother tongue), as well as banned immigration from most Asian countries. However, it did not apply to migrants working in some professions (e.g., government officials, doctors, lawyers, civil engineers, or teachers). As per geographical exclusions, the act did not apply to Philippines, an American colony at that time. Also, it did not cover Japan, as the Japanese government agreed to limit emigration of Japanese citizens to the U.S. "voluntarily", based on the Agreement of 1907. In return, the Agreement provided Japan with certain guarantees (e.g., that the U.S. would not impose further restrictions on Japanese immigration to the U.S. or that Japanese students would be admitted to San Francisco public schools) [*Agreement of 1907*].

Only 4 years later the U.S. Congress passed the Immigration Restriction Act of 1921, also known as the Emergency Quota Act [*Emergency Quota Act of 1921*]. Although the Emergency Quota Act was initially aimed at temporarily limiting the influx of Jews, who were fleeing en masse from Eastern Europe at that

time, it turned out to have left a long-lasting mark on the American immigration policy. The act introduced the maximum annual quotas of immigrants who could be accepted in the U.S. (national origins quota), which were calculated as 3% of "the number of foreign born persons of such nationality resident in the United States" as determined by the census of 1910. The reference to the year 1910 was made as the year of the most recent U.S. population census at the time when the bill was passed.

The Emergency Quota Act was soon considered a too lenient approach and hence the subsequent Immigration Act of 1924 [*Immigration Act of 1924*], also known as Johnson–Reed Act, further reduced immigrant quotas, previously introduced by the Immigration Restriction Act, from 3% to 2%. Moreover, it referred to the earlier Population Census (that of 1890), as it a provided lower base for immigrants' share calculation. The Johnson–Reed Act further limited the quota of migrants from outside of the Western Hemisphere and made legal immigration to the U.S. from Africa and the Arab countries basically impossible.

However, during the first half of the 20th century, there were some exceptions in tightening the immigration policy by the U.S. government, just to mention the Mexican Farm Labor Agreement, which was a part of the *Bracero program* introduced in 1942. It allowed for a temporary migration of Mexican agricultural workers to the U.S. to work on American farms, granting them certain rights and privileges (e.g., decent living conditions, minimum wage, or an assurance that they would be protected against compulsory military service). The reason for introducing this program was the anxiety of the U.S. government that the Southern States would lose much of their farm labor due to American engagement in the Second World War (WW2) [Scruggs, 1960].

Another example was the Displaced Persons Act of 1948, which was intended for European war refugees after WW2.

A real breakthrough in the U.S. immigration policy occurred in 1965, when the Immigration and Nationality Act [*Immigration and Nationality Act of 1965*], also known as the Hart–Celler Act, was passed by the U.S. Congress. The act abolished the national origins quota and introduced a seven-category preference system, which in fact removed the strong preference for Western Europeans and instead gave preference to the immediate relatives of U.S. citizens.

In order to hamper illegal migration to the U.S., the Immigration Reform and Control Act was passed in 1986. It banned hiring of illegal immigrants, while legalizing most of the illegal immigrants who came to the U.S. before 1982 [*Immigration Reform and Control Act of 1986*]. However, the outcomes were ambiguous. Despite the Immigration Reform and Control Act, illegal migration to the U.S. grew from 3.2 million in 1986, when the act was passed, to over 11 million in 2010 [Wasem, 2013].

3 U.S. as an immigration country

According to the 2010 Census ["The Foreign-Born Population in the United States." 2010], in 2010, approximately 40 million first-generation migrants lived in the U.S., which represented 12.9% of the country's population. The highest number of first-generation immigrants (those born outside the U.S.) was of Mexican origin (11.7 million, or about 29% of the total immigrant population) followed by Chinese (2.2 million, about 5% of the immigrant population), Indians and Filipinos (1.8 million, about 4% of the immigrant population of each group), Vietnamese, as well as the citizens of El Salvador (1.2 million, about 3%), and Cubans and Koreans (1.1 million, about 3% of the total immigrant population).

Despite the highest share of Mexicans in the total immigrant population of the U.S., a relatively low percentage of Mexican immigrants obtained American citizenship (23%). This percentage was significantly lower than the average for the entire immigrant population (44%). One of the explanations for this relatively low percentage could be the relative ease of traveling between the home and host country for Mexican immigrants, which reduces the need to obtain citizenship for this group. Emigrants from the South of the border often remain in a more temporary status (relying on the U.S. residence permit) as they travel back and forth to their home countries. On the contrary, the immigrant populations with the highest share of individuals who become American citizens were the Vietnamese (75%), followed by the Filipinos (65%) and Chinese (57%).

The Mexican immigrant population is also characterized by their relatively low educational attainments. The share of Mexican immigrants with a bachelor's degree or who had completed higher education in 2019 was the lowest among all the immigrant groups, and equal to 5%. The best performers in this category were immigrants from India (74%), as well as from China and the Philippines, with a share of over 50% in both the cases. It is also worth noting that the share of immigrants who completed higher education was almost identical as among Americans (27% and 28%, respectively). The most popular major among first-generation immigrants was engineering (33%).

The results of the 2010 Census also show the geography of the U.S. brain drain. The majority of the immigrants with a higher education originated from Asia, and most of them were from India. As many as 70% of immigrants from India worked in the so-called primary labor market jobs, i.e., those related to management, business, science, and art. Similarly, over half of the Chinese immigrant population was hired in the primary sector of the labor market (52%). On the contrary, the respective share for Mexican immigrants was as low as 9%.

This characteristic is reflected in the earnings of these ethnic groups – the median salary of Indians was the highest among the analyzed immigrant groups and amounted to US\$70,577 per year, the Chinese earned on average US\$50,018, while the Mexicans' earnings were the lowest and amounted to an average of US\$23,810.

Moreover, there was a significant difference between the American-born and immigrant populations regarding remuneration. The median earnings of the former amounted to US\$42,328, which was significantly higher than the median earnings of immigrants, amounting to US\$33,130 in the analyzed period.

The large proportion of well-educated individuals in the Asian immigrant population can stem from the U.S. immigration policy. Work visas have been recently offered almost exclusively to highly skilled individuals, and particularly to world-class specialists in science, arts, education, business, and sports, as well as to prominent professors, scientists, and business executives. Low-qualified employees could apply for work visas only if they were engaged in a profession that was currently in high demand on the U.S. labor market.

However, the total number of all employee visas offered by the U.S. was estimated at approximately 140,000 each year. Moreover, the prerequisite for obtaining such a visa is a prior guarantee of employment with a U.S. company or institution or, in the case of investors, a declaration of investment in the U.S. market within 2 years, with several underlying conditions [U.S. Department of State: Employment-Based Immigrant Visas].

For those who do not meet any of the abovementioned criteria, an additional 50,000 visas are offered yearly within the visa lottery program. The allocation of visas under this program differs by country, as they are subject to country quotas.

The limited possibility of legal migration to the U.S. is confirmed by the "Not coming to America" report ["Not Coming to America – Why the U.S. Is Falling behind in the Global Race for Talent." 2012], whose authors conclude that the position of the U.S., as a country of immigration, is seriously threatened. According to the report, barriers for immigrants are serious reasons for the outflow of capital from the U.S. to locations where it is easier to find higher qualified or cheaper labor. Moreover, the biggest challenges that the American economy is currently facing are shortage of human capital in innovative industries, shortage of a young workforce resulting from an aging population, and the record low growth of new enterprises.

The report also points to the migration strategies of other countries, which enabled them to effectively attract the most talented immigrants. These, among others, include attracting the highest skilled workforce by granting residence and work rights to foreigners with top qualifications, assistance in integration of immigrants, or creating a system of incentives for American specialists and experts working abroad to induce their return to the U.S.

According to the authors of the report "Emigrate and Return," the U.S. is losing its attractiveness as a country of economic migration and remains an attractive destination country only for those with already developed migrant networks [Wiśniewski and Duszczyk, 2007].

However, no radical changes in the US immigration policy are expected, as the American government seems to be aware of the country's attractiveness for international migrants and seems to be able to lure additional foreign workforce whenever it is needed.

4 Polish migration to the U.S.

Documented history of Polish migration to the U.S. dates back to the period of the partitions of Poland by Prussia, Russia, and Austria and relates to the uprising against Tsar Nicholas I. After suppression of the uprising, approximately a thousand people fighting on the Polish side are believed to have fled to the U.S. The first Polish enclave in the U.S. was established in 1845 in Texas, when Fr. Leopold Moczygemba brought a group of about 800 Poles from Silesia to the town of Panna Maria [Historia Polonii w Stanach Zjednoczonych].

The period when the migration of Poles to the U.S. became more dynamic was at the turn of the 19th and 20th centuries, when low-skilled people of Polish origin migrated to America to work in factories and shipyards. The population of Polish origin in the U.S. at that time was characterized by a strong cultural bond with their homeland culture. Polish immigrants gathered around Polish churches, which they built themselves. Back then Polish schools and hospitals were established in the proximity of Polish parishes.

During that period, Polish migrants hardly invested in education of their children. The outcome was the lack of social mobility of the second generation of Polish Americans, who were most likely to perform similar work as those performed by their parents.

The dynamic influx of Poles into the U.S. lasted until the end of the First World War. Despite their strong cultural bond with Poland, after the end of the war few migrants decided to return to their homeland – according to available data, as little as 4% of the Polish immigrants decided to return to Poland, while the vast majority settled in the U.S.

Until 1945, Polish immigrants settled in large U.S. industrial centers. The most popular migrant destinations among Poles were Chicago, New York, Detroit, and Boston. The choice of the largest industrial centers was neither unique for the U.S. nor for the Polish migrant population. However, immigrants from Poland distinguished themselves from other ethnic groups with a high tendency to assimilation. In many cases they did not teach their children Polish, and communicated with them only in English, which was aimed at accelerating their integration into American society. This way, unlike other ethnic minorities, despite the relatively large presence of Polish immigrants in American cities, only two large Polish enclaves emerged, i.e., Jackowo in Chicago and Greenpoint in New York.

The second wave of Polish migration to the U.S. was the post-WW2 migration. After the Yalta Conference the American government accepted about 120,000 Polish political refugees, as a compensation for leaving Poland under the Soviet sphere of influence. However, the Americans were meticulous in controlling the established quotas and until 1980 it was relatively difficult for Poles to obtain the political refugee status in the U.S. In that very year, the American Congress passed the Refugee Act of 1980, which resulted in increased immigration to the country and enabled about 30,000 Poles to stay in the U.S. after the imposition of martial law in the forthcoming years.

After 1990, the so-called political emigration from Poland was no longer the case and the dynamics of Polish migration to the U.S. gradually decreased. It was even more visible after 2004, when Poles, due to Poland's accession to the European Union (EU), acquired the right to legally reside and take up employment in the EU countries. As migration data reveal, the major destination for Polish migrants at that time was the United Kingdom, which lured over 690,000 Polish migrants in the post-accession period [Okolski and Salt, 2014].

Apart from lack of legal barriers to settle and work for Polish immigrants, the United Kingdom's popularity among Polish migrants stemmed from its geographical proximity relative to the U.S., which translated into low travel costs.

At that time, the possibilities of legal emigration to the U.S. were still limited to migration of highly qualified specialists, family reunions, and the visa lottery – a U.S. government program launched in 1994, allowing 50,000 workers per year to obtain permanent, legal residence in the U.S. The program was designed for all citizens of qualified countries, who met the basic requirements (including at least secondary education or the relevant professional experience). Under the Green Card lottery, Poles obtained up to 3,851 visas annually, with the numbers gradually decreasing (e.g., in 2018 it was 863) [U.S. Department of State: Diversity Visa Program Statistics].

5 Polish immigrant population in the U.S.

The 2010 Census revealed that there were approximately 10 million Americans of Polish origin living in the U.S. This makes Polish Americans the fifth largest ethnic group in the U.S. after the Germans, Irish, English, and Italians. Of the 10 million, however, only about 10% were first-generation migrants. The American Polish community is most numerous in the state of New York (986,141 people), Illinois, Michigan (854,844 people), Pennsylvania (824,146 people), and New Jersey (576,473 people), with the largest Polish population in Chicago – according to the census data, >185,000 people declared using Polish for daily communication in this city ["The Polish Community in Metro Chicago: A Community Profile of Strengths and Needs, A Census 2000 Report," 2004]).

Although people of Polish origin are statistically better educated than the average American, more than half of the Polish migrants were hired in the secondary sector of the labor market, which has not changed since the 1980s [Leven and Schwabe, 2015]. Moreover, according to the available data, children of Polish immigrants are relatively less educated than the Americans. Analysis of the Polish second-generation migrants' educated those from Mexico, Vietnam, and Italy, but less than the children of immigrants from China, India, Great Britain, and Russia. In the population of Polish immigrants in the U.S. there is also a relatively strong gender-specific income differentiation.

It is not surprising that the percentage of migrants applying for and being granted American citizenship has been decreasing – in the 1980s it was over 50% of legal residents, while in the 1990s only 17%.

It seems that the U.S. has lost much of its attractiveness for Polish migrants, and those who decide to migrate to the U.S. consider their migration in the short or medium term, and hence do not apply for American citizenship. This is evidenced by the decreasing number of immigration visas issued to Poles (see Chart 1).

While at the beginning of the 1990s it was almost 30,000 visas per year, in 2011 this number did not exceed 5,000, with a clear and steady decrease in the number of immigration visas granted to Poles since 2004.

The direct cause of the decrease in interest in the migration of Poles to the U.S. is the post-accession opening of the labor markets for Polish citizens by the EU economies, which diverted migration streams from overseas migration to intra-EU migration, as well as the Polish economic growth after 2004, which resulted in lower emigration from Poland.



Chart 1. U.S. immigration visas for Polish citizens 1992–2011, (in thousands). *Source*: Own elaboration based on the U.S. Department of State: U.S. Visa Law and Policy, Visa Statistics, Annual Reports.

It is also worth noting that after 2004 the number of non-immigrant visas granted by the American authorities to Poles decreased. Although this downward trend was not as strong as in the case of immigration visas, it should be stressed that these two trends remain to some extent interconnected, as some of the potential migrants travel to the U.S. with a non-immigrant visa, and later apply for legalization of their stay in the U.S.

6 Interdependencies between economic cycle and migration volumes

Political factors, which influenced the migration from Poland to the U.S. in the period between 1945 and 1990, ceased to play an important role in shaping Polish emigration to this country after 1990. This can be mostly explained by systemic changes in the Polish economy as well as its political transition.

In the course of this study, an attempt was made to identify the economic factors behind the migration volumes. Available data points to significant differences between Poland and the U.S. in terms of the GDP per capita (PPP) and unemployment rates. These two factors have been often used to provide economic justification for the migration of Poles to the U.S.

This study goes beyond and expands the analytical framework by studying three additional links. First, the general-level analysis was conducted. We examined the relationship between U.S. macroeconomic indicators and the total immigration volumes to the U.S. By studying the impact of the situation in the U.S., our study attempted to establish the pulling force of the U.S. economy. Second, we narrowed down the analyzed immigrant population to Poles. Thus, we were able to isolate the pulling factor of the U.S. economy on the Polish population only. This enabled us to check whether the same set of factors was responsible for migration of Polish citizens and other nationals. Third, in order to evaluate the pushing force of the Polish economy in stimulating migration to the U.S., Polish macroeconomic indicators and Polish data regarding emigration of Poles to the United States were used.

The analysis covered the period between 1994 and 2018 – a longer time span than the previous studies. The year 1994 was chosen as a starting point for the analysis for two reasons: First, as the intention was to exclude the pre-1990 period, when migration was influenced by political (on top of economic and social) factors. Second, because availability and reliability of Polish macroeconomic data prior to this period is believed to be limited.

As the initial step of the analysis, stationarity of the time series under scrutiny was checked with the Phillips–Perron test [Phillips and Perron, 1988]. The test establishes whether there is a unit root in a given time series. For both time series representing immigration to the U.S. (global immigration and immigration from Poland), H0 stipulating lack of a unit root had to be rejected. H0 could not have been rejected for the time series of Polish emigration to the U.S. Consequently, the immigration series to the U.S. were differenced, while the time series representing Polish emigration to the U.S. was used in the analyses without adjustments. The lagged time series which served as explanatory variables in regressions were also checked for the presence of unit root.

The analysis was conducted in a time series regression framework using the Prais–Winsten transformation [Prais and Winsten, 1954] to account for a possibility of autoregression in error terms, i.e., to account for the fact that migration processes might have a certain inertia and once initiated (or hampered), they would continue. Furthermore, it was assumed that certain economic variables of either country of origin (Poland) or country of destination (U.S.) in year *t* can trigger migration flows in year t+1.

The model specification applied in the analysis was as follows:

 $migr_{t+1} = \alpha + \beta \cdot econ_t + u_t$, where the errors can be autocorrelated, i.e., $u_t = \rho \cdot u_{t-1} + e_t$. In this specification $migr_{t+1}$ stands for one of the two variables related to migration (migration of Poles to the US, or total migration to the US from all countries), and $econ_t$ is an economic indicator potentially influencing migration either in the country of origin (growth of GDP per capita, unemployment rate, foreign direct investment or share of investment in GDP) or in the U.S. (growth of GDP per capita, unemployment rate, foreign direct investment or share of investment in GDP). It was assumed that factors related to the Polish economy are only relevant

when studying Polish migration and not relevant for global migration. u_t is an error term that can be potentially autocorrelated. The coefficients α and β explain how the migration reacts to changes in specific economic variable. The coefficient α represents the expected level of migration when the economic variable is equal to zero, while the coefficient β presents the response of migration to a unit change in the economic variable.

The analysis revealed that American GDP growth (and also per capita GDP growth) as well as unemployment rate were a significant pulling factor for the overall immigration to the U.S., i.e., higher GDP growth and lower unemployment rate in year *t* translated into higher general immigration in year *t*+1 (see Table 1). Specifically, increased growth of GDP by one percentage point translated into higher global immigration by 43,287, while lower unemployment rate (by 1 pp.) led to 77,621 more global immigrants in the following year. This relationship, however, has not been proven valid for the Polish immigrant population. A higher GDP growth and lower unemployment rate in the U.S. did not contribute to a higher flow of Polish migration to the U.S. in the following year.

However, Polish migration to the U.S. proved sensitive to the local factors. Polish GDP growth and Polish unemployment rates were either pushing Poles to the U.S. or restraining their outflow. The higher the Polish GDP growth was, and the lower the Polish unemployment rate was, the lower was the volume of Polish migration to the United States in the following year. Specifically, increase in the growth rate by one percentage point in Poland curbed emigration to the US by 708 individuals while higher unemployment (by 1 pp.) increased it by 551 individuals.

The results of the study confirm that the GDP growth and the unemployment rate are crucial macroeconomic indicators when analyzing Polish migration to the U.S. However, in the case of immigration to the U.S., differences have been revealed between the Polish versus the general immigrant population. While Polish migration flows to the U.S. were correlated with Polish economic growth and unemployment rate, rather than those of the U.S., the respective U.S. indicators were correlated with immigration flows to the U.S. in general.

These results can have several possible explanations. The first is that the decision process and preparation phase (including sorting out formalities) last relatively long in the case of permanent overseas

	USA	
	Immigration total	Immigration from Poland
	Estimates (significance)	Estimates (significance)
U.S. variables		
Unemployment (lagged difference)	-77,621.7*	820.5957
GDP growth (lagged)	43,287.5*	-421.6084
Per capita GDP (lagged difference)	109.6*	410685
FDI to GDP	8,831,567	-87,336.7
Share of investment in GDP (lagged difference)	70,564.67	-778.4
Polish variables		
Unemployment (lagged difference)	N.A.	551.2*
GDP growth (lagged)	N.A.	-708.3***
FDI (lagged difference)	N.A.	-7.17e-08
FDI to GDP	N.A.	-25,858.7
Share of investment in GDP (lagged difference)	N.A.	-345.1

Table 1. Correlation between migration volumes and macroeconomic indicators, 1994–2018.

Source: Own elaboration based on World Bank: GDP Growth (annual%), World Bank: Foreign Direct Investment, net inflows, World Bank: Gross Capital Formation (% of GDP), World Bank: Unemployment, total (% of total labor force), U.S. Census Bureau: U.S. Visa Law and Policy, Visa Statistics, Annual Reports.

*Significant at 0.1 level.

**Significant at 0.05 level.

***Significant at 0.01 level.

migration, and hence the choice of the destination country is not likely to be dependent on short-term economic fluctuations. Since the U.S. was a global leader in terms of GDP and was also ranked top ten in terms of per capita GDP throughout the analyzed period, it is likely that the short-term economic fluctuations did not play a major role in choosing the exact time of migration.

Another possible explanation is the role of Polish migrant networks [Erdmans, 1998]. The role of migration networks in the job search process has been extensively discussed in the literature starting from the 1970s [Granovetter, 1995], as their importance results from imperfect information about the labor market [Goyal, 2011]. Therefore personal contacts [Doeringer and Piore, 1971] are used as a source of information for migrants (and potential migrants) about employment opportunities in the destination country. This was likely the case with the Polish migration to the U.S., as Polish migrants might have used the networks to identify job opportunities on the U.S. labor market prior to migrating and migrate only after being notified by their network about potential employment prospects, rather than by being influenced by economic cycle.

Also, the correlation between the Polish business cycle and Polish emigration to the U.S. suggests that the business cycle in the country of origin might have played a role in the migration process and could be considered as a push factor triggering actual migration decision at a given point of time.

Migration to the U.S. is a complex endeavor from the Polish migrants' standpoint. This results from numerous formalities as well as considerable geographical distance. Hence the time span between the decision on the overseas migration and the migration itself was usually long, and not dependent on the short-term economic cycle of the U.S. economy. Those Poles who applied for the U.S. residence permit had made this decision relatively long before the actual migration took place. That said, it seems that the Polish business cycle might have been a direct migration trigger for migrants who managed to obtain residence permits in the U.S.

7 Conclusions

The reason for the U.S. attractiveness for immigrants in the 20th century was not only the resilient American economy, which has been the world's largest economy in terms of total GDP in the discussed period, but also American values – work ethics and tolerance of ethnic diversity. All these factors contributed to a large share of first-generation migrants in the country's population.

Polish immigrants constituted a relatively numerous ethnic group in the U.S. – according to the U.S. Census of 2010, nearly 10 million Americans of Polish origin lived in the U.S., which amounted to approximately 4% of the U.S. population. While Polish immigration history dates back to the times of the partitions, it should be noted that its nature changed over time – between 1945 and 1990 push factors of political nature came into play, as Poland remained under the Soviet sphere of influence.

After Poland's accession to the EU and the subsequent opening of the European labor markets to Polish citizens, the migration of Poles to the U.S. gradually decreased, as the U.S. was no longer as attractive a migration destination, as it was before 2004. Unlike in the case of intra-EU migration, Polish citizens had to face several legal problems when considering permanent migration to the U.S., including obtaining appropriate permits, which in most of the cases was a time-consuming process. Otherwise, they could apply for tourist visas and risk working illegally. The latter, however, seemed unjustified, as salaries in the developed EU countries (where Poles were subject to legal employment) were similar to those offered in the U.S., and Polish migrant networks in some of these European countries were at least equally well developed. Another important obstacle was the considerable geographical distance between the two countries.

Hence it seems that Poland's EU membership, which enabled the Polish workforce to take up employment in any of the EU member states, combined with the Polish economic growth in the 21st century, significantly contributed to gradually decreasing the attractiveness of the U.S. as an immigration country for Polish migrants. The statistical analysis conducted for the purpose of this paper confirmed the correlations between the immigration volumes and the three macroeconomic indicators: GDP growth, per capita GDP, and unemployment rate. However, differences were revealed between the Polish and the overall immigrant populations in this regard. In the case of Polish migrants, it was domestic (Polish) indicators (push factors),

which tended to prevail over those of the destination country (U.S.). On the contrary, the total immigration volumes in the U.S. were correlated with the American GDP growth and its unemployment rate (pull factors).

This leads to the conclusion that while general immigration to the U.S. proved sensitive to economic fluctuations, Polish migrants were not likely to base their decision regarding migration to the U.S. on the American business cycle. On the contrary, it seems that the condition of the economy in their country of origin could have been a direct migration trigger, with Polish migrant networks facilitating the migration process.

The study results are in line with the existing literature on the relevance of the push and pull factors from the U.S. perspective – it is claimed that the pull factor in the form of the booming American economy has always been predominant in influencing the U.S. immigration volumes [Jerome, 1926; Portes and Rumbaut, 2014].

Another interesting link can be made to the results of the study by Sridhar et al. [Sridhar, Reddy and Srinath, 2013], who claim that the pull factors are of higher importance for potential migrants with higher level of education, than those with lower educational attainments. The fact that the education levels among immigrants to the US are rising since the 1980s seems to confirm the research findings by Sridhar and explains the discovered link between the overall U.S. immigration dynamics and the U.S. GDP growth.

However, it should be noted that the education levels in the analyzed timeframe rose also for the Polish migrant cohort in the U.S. [Leven, 2013]. Nonetheless, in this case the predominant importance of the push factor of the poor economy in the home country was revealed, and the correlation between American business cycle and migration from Poland has not been significant.

Three possible explanations for that fact can be introduced: First, the quality of education has not been taken into account when formulating conclusions regarding the rising education levels of Polish migrants – it might be the case that migrants who are responsive to the high U.S. GDP growth (pull factor) might be not only those with relatively high educational attainments, but also those with the most market-relevant degrees – e.g., in science, engineering etc. Second, Poles might not be as responsive to pull factors of economic nature, as claimed by Jancewicz et al., who studied return migrations between Poland and the United Kingdom [Jancewicz et al., 2020]. Third, Poles might have relied on the migrant networks in the job search process, rather than basing their migration decision on the economic growth in the U.S. Finally, this limited responsiveness of Polish migrants to the U.S. business cycle might have also resulted, as already mentioned, from the formal aspects of the immigration process, which tended to be time-consuming: once the process had been initiated, it might have taken several months for an individual to complete it. In this case, migration itself might have taken place long after the initial trigger for migration occurred.

As in most labor migration analyses, limitations of the analysis carried out within this research project should be outlined. First, it must be acknowledged that the reasons of economic nature are not sufficient to fully explain the rationale behind international labor migrations – to provide a full picture of the analyzed phenomenon, an interdisciplinary approach to migration studies should be applied, as suggested by Samers [Samers, 2010]. Although interdisciplinary approach to migration analysis is indeed of paramount importance, it is believed that economics is one of the disciplines that can significantly contribute to explaining the rationale behind human migration as well as to analyzing its aftermath. Hence, this paper should be regarded as contribution to the academic discussion on the Polish migration to the U.S., which aims at filling existing research gaps, rather than neglecting the outcomes of existing studies in this thematic area within other disciplines [see e.g., Sakson, 2005; Sosnowska, 2010; Fiń, 2014; Majcher, 2014; Kozaczka, 2020].

Second, as in most migration studies, the relevance and quality of quantitative data on international labor migration should be discussed. The issues with accuracy of labor migration data have been acknowledged by scholars, as well as by the officials responsible for collecting the data ["SEEMIG National Strategy for enhancing migration data production and utilization for Hungary", 2014]. Hence, in order to ensure the highest possible reliability of datasets used, the data regarding Polish migration to the U.S. used for statistical analysis carried out in this paper was retrieved from the U.S. Department of State. Nonetheless, it is admitted that while these data can be perceived as accurate in terms of reflecting legal immigration volumes, they fail to capture illegal immigrants. As such, they should be regarded as indicative

for trends, and not perceived as the nominal values reflecting the accurate number of Polish immigrants in the United States in the analyzed period.

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