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NATO Expansion: An Open Door Policy?*

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Abstract

Russia's 2022 invasion of Ukraine shook the world's security architecture and ultimately led to Finland and Sweden officially joining NATO in 2023 and 2024 respectively. A key question which arises then, is what determines NATO membership? Is there an open door policy or are accession decisions based on geopolitics? This paper develops a predictive model assessing the probability of joining NATO for several European countries. The model is based on logistic regression and shows that the most important determinants of NATO membership are past geopolitics such as EU and USSR memberships. Less important factors include the strength of economy, political stability and geography. Using a sample from 1979 to 2020, the model predicts that Sweden and Finland were highly likely to join NATO, while the probability of Ukraine's accession is low.

Keywords: NATO, geopolitics, military spending, economic growth, panel data, logistic regression.

JEL classification: H56, C23, C24

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1. Introduction

The North Atlantic Treaty Organization (NATO) is a military alliance between countries in North America and Europe. NATO was established after the World War II and during the Cold War period it was openly opposed to the Soviet Union. The end of the Cold War and the collapse of the USSR made NATO the largest military and political organization in the world. The main purpose of the NATO alliance is to guarantee the safety and freedom of its members through political and military means (Jackson 2006, Michaels 2013).

NATO membership comes with many benefits, such as the reduction of existential fears and increased economic growth. Article 5 of NATO's founding charter, the Washington Treaty(1949) which sets out NATO's collective defense commitments, states that an attack in a member country is an attack on all member countries. Furthermore, military spending can decrease as an externality of joining the alliance (Murdoch (1995), Sandler (1993), Sandler and Hartley (2001), Riddle et al. (2007)), with the free funds directed towards more productive sectors. George and Sandler (2018) note that neighboring ally armies can bolster a country's defense capabilities, potentially enabling free-riding behavior among alliance members. According to Williams and Neumann (2000), there is evidence of this fact in the disparity between U.S. military expenditure and that of European nations, which continues to widen. Odehnal and Neubauer (2020) documents free riding in terms of security. According to the dire forecast made by Rynning (2019), if NATO disbands, its former partners will remain independent nations with smaller military forces than required. Without NATO, US influence over China and Russia would decline, Atlantic alliance spin-offs would cease to exist, and European partners and Canada would have to increase military spending to compensate for their inadequate security. This last point has been witnessed in the UK, France's and Germany's 2025 increase in military spending in the aftermath to Trump's election and his lack of willingness to defend NATO allies.

Pranjić (2013) finds that the security enhancements that accompany NATO membership have a direct positive impact on growth, foreign direct investment, and employment and lead to a general improvement in the living standards. Utrero-González et al. (2019) shows that the

prospect of strengthening military alliance partnership and membership has a positive impact on economic growth (Dimitriou et al. (2024), Li et al. (2024)). This trend may be attributed to the redirection of funds from defense expenditures toward more economically productive sectors (Banerjee et al. 2023).

Many nations wish to join NATO because of these advantages, and as a result, NATO grew over time. It is unclear, nevertheless, which factors influence the decisions for accession. This is the primary question that we aim to answer.

NATO has an open door policy, at least in theory. Candidate members must meet five types of requirements outlined in the Membership Action Plans (MAP)(North Atlantic Treaty Organization (1949)): political and economic, military, resource, security, and legal issues. Above all, the potential members must be able to support collective military defence and adhere to democratic and individual freedom principles. In addition to ensuring adherence to NATO's security strategy upon joining—which entails having no territorial disputes and sufficient safeguards and procedures—new alliance members are expected to allocate a sufficient portion of their budget to military spending.

Szayna (2001) contends, however, that NATO has both explicit and implicit criteria for evaluating new member admission. The size of the military, historical occurrences, international ties, and strategic position are some examples of the implicit criteria. At least two implicit admission requirements are supported by Baker III (2002). The first is that the candidate must be Western, and the second is that the candidate has significant security concerns in common with other Westerners. While Antonenko and Giegerich (2009) notes that some of Russia's neighbours seek membership largely to dissuade the risk of potential Russian attack, Holas (2018) demonstrates that country size and stability are important for NATO countries.

This study introduces an econometric approach to identify the determinants of NATO membership. Using logistic regression on panel data from 46 countries (1979–2020), it finds that geopolitical alignment, such as EU membership or historical ties to the USSR, plays the dominant role. Macroeconomic factors are also important, but less so than geopolitics. Being a member of the EU or having a sizable economy greatly raises the likelihood of entering,

whilst being a former USSR member greatly lowers it.

The remainder of the paper is organised as follows. Section 2 introduces the methodology and the estimated model, Section 3 presents the data, Section 4 includes the main results, Section 5 offers a discussion, and Section 6 concludes the paper.

2. Methodology and Model Description

We employ the logistic (logit) regression to analyse the determinants of NATO membership. The logit model is a binary response model where the response probability is a logistic function of the explanatory factors, see e.g., Wooldridge (2002).

Logit models offer distinct advantages for binary dependent variables. In contrast to linear probability models, logistic regression does not suffer from unrealistic predictions of probabilities that fall outside 0 and 1. Additionally, the S-shaped curve of the logistic function captures diminishing marginal effects as probabilities approach the extremes. Finally, logistic models avoid the heteroskedasticity inherent in the linear probability model.

The logistic regression model for NATO membership can be equivalently formulated using a latent variable approach. In this framework, we conceptualize an unobservable continuous variable $y^*_{i,t}$ that represents the underlying propensity or utility for country i at time t to join NATO. This latent variable is linearly related to the explanatory variables:

$$y^*_{i,t} = \mathbf{x}_{i,t}\boldsymbol{\beta} + \varepsilon_{i,t}, \tag{2.1}$$

where $\mathbf{x}_{i,t}$ is the vector of covariates, $\boldsymbol{\beta}$ is the vector of parameters, and $\varepsilon_{i,t}$ is the error term that is assumed to follow the standard logistic distribution with cumulative distribution function $\Lambda(\varepsilon_{i,t}) = e^{\varepsilon_{i,t}}/(1 + e^{\varepsilon_{i,t}})$.

The observed binary outcome $y_{i,t}$ (NATO membership) is determined by whether the la-

tent propensity $y^*_{i,t}$ exceeds a threshold, conventionally set to zero:

$$y_{i,t} = \begin{cases} 1 & \text{if } y^*_{i,t} > 0; \text{country } i \text{ is a NATO member at time } t, \\ 0 & \text{if } y^*_{i,t} \leq 0; \text{country } i \text{ is not a NATO member at time } t. \end{cases} \tag{2.2}$$

The above threshold specification has the following interpretation: a country joins NATO if its underlying propensity (utility, net benefit) for membership exceeds a critical value. The probability of NATO membership can be expressed in terms of the latent variable:

$$P(y_{i,t} = 1|\mathbf{x}_{i,t}) = P(y^*_{i,t} > 0|\mathbf{x}_{i,t}) = P(\mathbf{x}_{i,t}\boldsymbol{\beta} + \varepsilon_{i,t} > 0|\mathbf{x}_{i,t}) = P(\varepsilon_{i,t} > -\mathbf{x}_{i,t}\boldsymbol{\beta}|\mathbf{x}_{i,t}). \tag{2.3}$$

Given the symmetric nature of the logistic distribution, this equals:

$$P(\varepsilon_{i,t} > -\mathbf{x}_{i,t}\boldsymbol{\beta}|\mathbf{x}_{i,t}) = P(\varepsilon_{i,t} < \mathbf{x}_{i,t}\boldsymbol{\beta}|\mathbf{x}_{i,t}) = \Lambda(\mathbf{x}_{i,t}\boldsymbol{\beta}). \tag{2.4}$$

Thus, we recover the standard logistic regression model:

$$P(y_{i,t} = 1|\mathbf{x}_{i,t}) = \Lambda(\mathbf{x}_{i,t}\boldsymbol{\beta}) = \frac{e^{\mathbf{x}_{i,t}\boldsymbol{\beta}}}{1 + e^{\mathbf{x}_{i,t}\boldsymbol{\beta}}} \tag{2.5}$$

The latent variable $y^*_{i,t}$ is the net utility or benefit a country derives from NATO membership, incorporating both observable factors (through $\mathbf{x}_{i,t}\boldsymbol{\beta}$) and unobservable idiosyncratic elements (through $\varepsilon_{i,t}$). While we never observe $y^*_{i,t}$ directly, differences in $\mathbf{x}_{i,t}\boldsymbol{\beta}$ across countries can be interpreted as differences in their underlying propensity for NATO membership. A country with a higher value of $\mathbf{x}_{i,t}\boldsymbol{\beta}$ has a stronger predisposition toward membership, even if both countries have the same observed status. The coefficient β_j represents the marginal effect of covariate $x_{j,i,t}$ on the latent propensity $y^*_{i,t}$.

We estimate the parameters $\boldsymbol{\beta}$ using maximum likelihood estimation (MLE). For a sample

of n countries, the likelihood function is:

$$L(\boldsymbol{\beta}) = \prod_{i=1}^{n} P(y_{i,t}|\mathbf{x}_{i,t}, \boldsymbol{\beta}) = \prod_{i=1}^{n} [P(y_{i,t} = 1|\mathbf{x}_{i,t})]^{y_{i,t}} [P(y_{i,t} = 0|\mathbf{x}_{i,t})]^{1-y_{i,t}}. \tag{2.6}$$

which by substituting the logistic probabilities becomes:

$$L(\boldsymbol{\beta}) = \prod_{i=1}^{n} \left[\frac{e^{\mathbf{x}_{i,t}\boldsymbol{\beta}}}{1 + e^{\mathbf{x}_{i,t}\boldsymbol{\beta}}}\right]^{y_{i,t}} \left[\frac{1}{1 + e^{\mathbf{x}_{i,t}\boldsymbol{\beta}}}\right]^{1-y_{i,t}}. \tag{2.7}$$

Positive coefficients indicate that an increase in the corresponding variable increases a country's underlying propensity for NATO membership. To interpret the estimated coefficients we convert them to odds ratios using $\text{OR}_j = e^{\beta_j}$, which are interpreted as the marginal change in the odds of joining NATO for a marginal change in the corresponding regressor.

The regressor set $x_{i,t}$ includes various country-level variables, such as government size, macroeconomic and political stability indicators, military spending, and other factors that affect a country's probability of joining NATO such as the distance between a country's capital and Moscow. Specifically, the model we estimate is:

$$\begin{aligned} NATO^{*}_{i,t} = \beta_0 + \beta_1 lngdp_{i,t} + \beta_2 lnpop_{i,t} + \beta_3 open_{i,t} + \beta_4 gov_{i,t} + \beta_5 gcf_{i,t} + \beta_6 miligdp_{i,t} \\ + \beta_7 polistab_{i,t} + \beta_8 EU_{i,t} + \beta_9 USSR_{i,t} + \beta_{10} distance_{i,t} + u_{i,t} \end{aligned} \tag{2.8}$$

where $lngdp$ is the logarithm of per capita gdp, $lnpop$ is the logarithm of population, $open$ is trade openness, gov is central government spending, gcf is gross capital formation, $miligdp$ is military spending, $polistab$ is a political stability indicator, EU is an EU membership dummy variable, $USSR$ is a USSR membership dummy variable and $distance$ contains the distance of a country's capital to Moscow. Table 1 provides further details on these variables.

Military spending and political stability are key predictors in the model as certain levels are direct prerequisites in joining NATO. Population, government expenditure, and GDP per capita capture macroeconomic conditions. We additionally include the $EU_{i,t}$ and $USSR_{i,t}$ dummy variables to capture memberships in these organizations. Such memberships cap-

Table 1: List of Variables

Variable Name	Description
NATO	whether the country is a member of NATO (dummy variable)
lngdp	the logarithm of GDP per capita (Contant 2010 U.S.)
lnpop	the logarithm of total population
open	sum of imports and exports as a percentage of GDP
gov	general government final consumption expenditure (percentage to GDP)
gcf	gross fixed capital formation (percentage to GDP)
miligdp	military expenditure (percentage to GDP)
polistab	political stability index (from 1996)
EU	whether a country is a member of the European union (dummy variable)
USSR	whether a country was a member of the USSR (dummy variable)
distance	the distance from the capital of a country to Moscow

Data Sources: World Bank Development Indicators, Stockholm International Peace Research Institute, The Global Economy

ture geopolitics, trade, institutions and culture, and therefore are expected to be important determinants of NATO membership.

3. Data

Our analysis employs an unbalanced panel dataset encompassing 46 countries worldwide over a 42-year period spanning from 1979 to 2020. Annual military expenditure data were obtained from the Stockholm International Peace Research Institute (SIPRI), while political stability indices were taken from the Global Economy database. The remaining variables come from the World Bank Development Indicators. As evidenced in the descriptive statistics presented in Table 2, military spending averages 2.05% of GDP across our sample, which is close to the global mean military expenditure (SIPRI, 2022).

Table 2, shows that mean of $NATO$ over all country and time observations is 0.433, which means that about 43% of the country-year observations are on NATO members. The mean of EU is 37% and of $USSR$ 24%. Therefore, there is significant representation in the sample. Table 3 presents NATO, EU and USSR memberships. Some countries were not part of NATO or the USSR, while there are three former USSR countries that joinned NATO.

Table 2: Descriptive Statistics

Variables	Obs	Mean	Std.Dev.	Min	Max
NATO	1932	0.433	0.496	0	1
lngdp	1635	9.662	1.085	6.552	11.626
lnpop	1932	15.944	1.465	12.655	19.615
open	1634	92.805	52.183	0.000	408.362
gov	1635	18.321	4.169	0	30.324
gcf	1637	23.928	5.451	-0.693	57.990
miligdp	1618	2.051	1.283	0	11.148
polistab	1005	0.448	0.730	-2.139	1.760
EU	1932	0.373	0.484	0	1
USSR	1932	0.239	0.427	0	1
distance	1932	2431.457	1509.364	0	7817

Variable descriptions can be found in Table 1.

Table 3: Country Accession Years in NATO, USSR and the EU.

Serial	Country	NATO	EU	USSR
1	United States	1949	-	-
2	United Kingdom	1949	1973-2020	-
3	France	1949	1958	-
4	Netherlands	1949	1958	-
5	Belgium	1949	1958	-
6	Luxembourg	1949	1958	-
7	Canada	1949	-	-
8	Denmark	1949	1973	-
9	Norway	1949	-	-
10	Portugal	1949	1986	-
11	Italy	1949	1958	-
12	Greece	1952	1981	-
13	Turkey	1952	-	-
14	Germany	1952	1958	-
15	Spain	1982	1986	-
16	Poland	1999	2004	-
17	Hungary	1999	2004	-
18	Czech Republic	1999	2004	-
19	Estonia	2004	2004	1940-1990
20	Latvia	2004	2004	1940-1990
21	Lithuania	2004	2004	1940-1990
22	Slovak Republic	2004	2004	-
23	Slovenia	2004	2004	-
24	Romania	2004	2007	-
25	Bulgaria	2004	2007	-
26	Croatia	2009	2013	-
27	Albania	2009	-	-
28	Montenegro	2017	-	-
29	North Macedonia	2020	-	-
30	Finland	2023	1995	-
31	Sweden	2024	1995	-
32	Switzerland	-	-	-
33	Ireland	-	1973	-
34	Austria	-	1995	-
35	Cyprus	-	2004	-
36	Malta	-	2004	-
37	Armenia	-	-	1936-1991
38	Azerbaijan	-	-	1936-1991
39	Belarus	-	-	1922-1991
40	Bosnia	-	-	-
41	Georgia	-	-	1936-1991
42	Kazakhstan	-	-	1936-1991
43	Moldova	-	-	1940-1991
44	Russia	-	-	1922-1991
45	Serbia	-	-	-
46	Ukraine	-	-	1922-1991

The average natural logarithm of GDP per capita is 9.662, with significant variation (standard deviation of 1.085), ranging from 6.552 to 11.626. The population size, represented as a natural logarithm, averages 15.944, with significant cross-country variation (standard deviation of 1.465). Trade openness varies greatly, averaging 92.805% of GDP but ranging from complete closure (0.000) to highly linked economies (408.362%). The average government size is 18.321% of GDP, while gross capital formation averages 23.928%. Military spending accounts for an average of 2.051% of GDP, however certain nations devote much more resources to defense (up to 11.148%).

4. Results

4.1. Determinants of NATO membership

Tables 4 and 5 report the estimation results for various specifications of the regressor set $x_{i,t}$. All regressions include the six basic economic variables found in growth regressions: $lngdp$, $lnpop$, $open$, gov, gcf, and $miligdp$.

The results in Table 4 include regressions where policy variables enter individually. The economic factors are significant, with GDP per capita and population size being positive and statistically significant consistently across all specifications. A 1% increase in GDP per capita corresponds to approximately 0.7-0.9% higher odds of NATO membership, while a similar increase in population is associated with $0.5 - 0.7$% higher odds. However, the institutional and geopolitical factors exhibit the most pronounced effects overall. EU membership is the strongest predictor, with EU nations having approximately 5.5 times higher odds of NATO membership compared to non-EU countries. Conversely, former USSR status substantially decreases membership probability, reducing odds by approximately 69%. Geographic proximity to Russia is also important—countries located $1,000$ kilometers farther from Moscow have approximately 35% higher odds of NATO membership. Political stability shows a positive but more modest association.

Military expenditure is positive and statisically significant in three out of four specifications, aligning with the alliance's emphasis on defense capability commitments. Trade

openness similarly shows a consistent positive relationship, suggesting that internationally integrated economies are more inclined toward NATO membership. These findings collectively indicate that NATO membership is determined by a combination of factors, including economic development, institutional alignment with Western organizations, and geopolitical considerations regarding Russia.

Table 5 includes regressions with various combinations of the policy variables on stability, EU and USSR membership and distance from Moscow. Economic development continues to show significant influence on NATO membership probability, though with more nuanced effects. Institutional and geopolitical factors remain the dominant determinants when considered jointly. EU membership retains its position as the strongest predictor (coefficients between 1.680 and 2.017), translating to approximately $5.5 - 7.5$ times higher odds of NATO membership—a substantial effect that persists across all specifications. Former USSR status consistently shows significant negative association (coefficients between -0.592 and -0.987), reducing membership odds by $45 - 63\%$. Geographic distance from Moscow maintains its significant positive relationship (coefficient of 0.0003) in models where it appears. Notably, political stability loses statistical significance when combined with other geopolitical factors, suggesting its effect may be captured by these institutional variables. Military expenditure shows moderate positive significance in two out of the four new models, while trade openness is statistically significant in only one of these specifications. The comprehensive model 7, which is our prefered specification because it incorporates all variables, reveals a hierarchical pattern of importance: institutional alignment (EU membership) exerts the strongest influence, followed by geopolitical positioning (USSR status and distance from Moscow), then economic development factors, with political stability showing the least marginal effect. These findings show that geopolitical and institutional factors are important in determining NATO membership.

4.2. Predictions

In this section, we will employ the previous estimates to predict the probability of joining NATO, for each non-NATO country. The results can be used to examine which are the coun-

Table 4: Logistic Regression Estimation Results: Part 1

Model:	1	2	3	4
Dep Var:	NATO	NATO	NATO	NATO
lngdp	0.653***	0.844***	0.793***	0.920***
	(0.113)	(0.077)	(0.082)	(0.074)
lnpop	0.599***	0.529***	0.715***	0.716***
	(0.077)	(0.063)	(0.062)	(0.063)
open	0.005***	0.002	0.009***	0.008***
	(0.002)	(0.002)	(0.002)	(0.002)
gov	0.073***	-0.022	0.017	0.044**
	(0.027)	(0.018)	(0.017)	(0.017)
gcf	-0.014	-0.020	-0.026*	-0.024*
	(0.016)	(0.014)	(0.014)	(0.013)
miligdp	0.055	0.272***	0.189***	0.154**
	(0.098)	(0.063)	(0.063)	(0.065)
polistab	0.299*			
	(0.175)			
EU		1.697***		
		(0.149)		
USSR			-1.169***	
			(0.217)	
distance				0.0003***
				(0.00005)
Constant	-17.57***	-17.31***	-19.80***	-22.42***
	(1.671)	(1.521)	(1.451)	(1.502)
Observations	998	1543	1543	1543

Notes: Standard errors in parentheses. ***: $p < 0.01$, **: $p < 0.05$, *: $p < 0.1$.

Table 5: Logistic Regression Estimation Results: Part 2

Model:	5	6	7	8
Dep Var:	NATO	NATO	NATO	NATO
lngdp	0.475***	0.306***	0.278***	0.634***
	(0.122)	(0.13)	(0.133)	(0.0869)
lnpop	0.570***	0.571***	0.573***	0.558***
	(0.081)	(0.081)	(0.083)	(0.066)
open	0.002	0.003	0.003	0.004**
	(0.002)	0.002)	(0.002)	(0.002)
gov	0.020	0.013	0.032	-0.006
	(0.024)	(0.024)	(0.025)	(0.018)
gcf	0.005	0.015	0.020	-0.008
	(0.017)	(0.017)	(0.017)	(0.014)
miligdp	0.136	0.190*	0.128	0.239**
	(0.101)	(0.103)	(0.107)	(0.067)
polistab	0.145	0.092	0.009	
	(0.189)	(0.19)	(0.195)	
EU	1.842***	1.861***	2.017***	1.680***
	(0.193)	(0.197)	(0.207)	(0.154)
USSR		-0.987***	-0.592**	-0.628***
		(0.229)	(0.248)	(0.221)
distance			0.0003***	0.0003***
			(0.00006)	(0.00006)
Constant	-15.52***	-13.93***	-14.81***	-16.74***
	(1.763)	(1.781)	(1.861)	(1.594)
Observations	998	998	998	1543

Notes: Standard errors in parentheses. ***: $p < 0.01$, **: $p < 0.05$, *: $p < 0.1$.

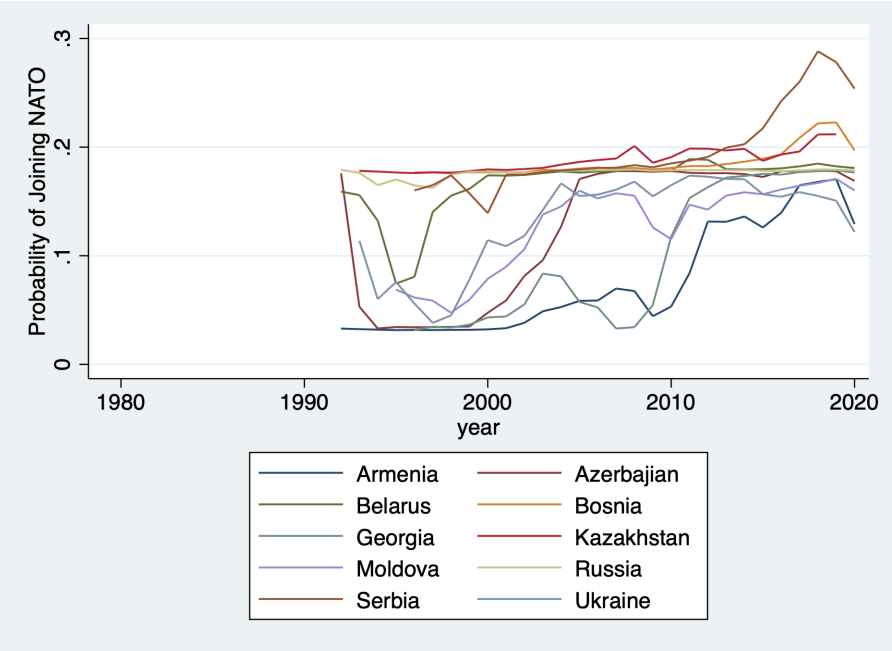

Figure 1: Countries with low probability of joining NATO.

tries most likely to join NATO next. We predict the odds of each country joining NATO for each year. For clarity, we split the presentation of the results in three figures. Figure 1 presents the countries with the lowest probability of joining NATO. The probability of these countries joining NATO is around $10 - 20\%$ from the early 1990s to 2020. This probability increases with economic and population growth. For some countries there is a dip, which is caused by economic crises. Clearly, former USSR countries have low probabilities of joining NATO.

Figure 2 presents a second group of countries, which have a higher probability of joining. From a 50% starting point, their probability of joining experienced a steady increase from 1979 to 1990s. The big jumps are due to membership in EU. For example, Austria and Sweden joined the EU in 1995 while Cyprus joined in 2004. Finally, Figure 3 presents the results on Ireland and Switzerland, which are the countries with high probability of joining NATO according to our model. The probability of these two countries joining NATO has continued to increase from 60% to over 80% between 1979 and 2020. Interestingly, the probability of Switzerland joining NATO in 2020 is above 80%, an estimate driven by macroeconomic factors and political stability, as it is not an EU member.

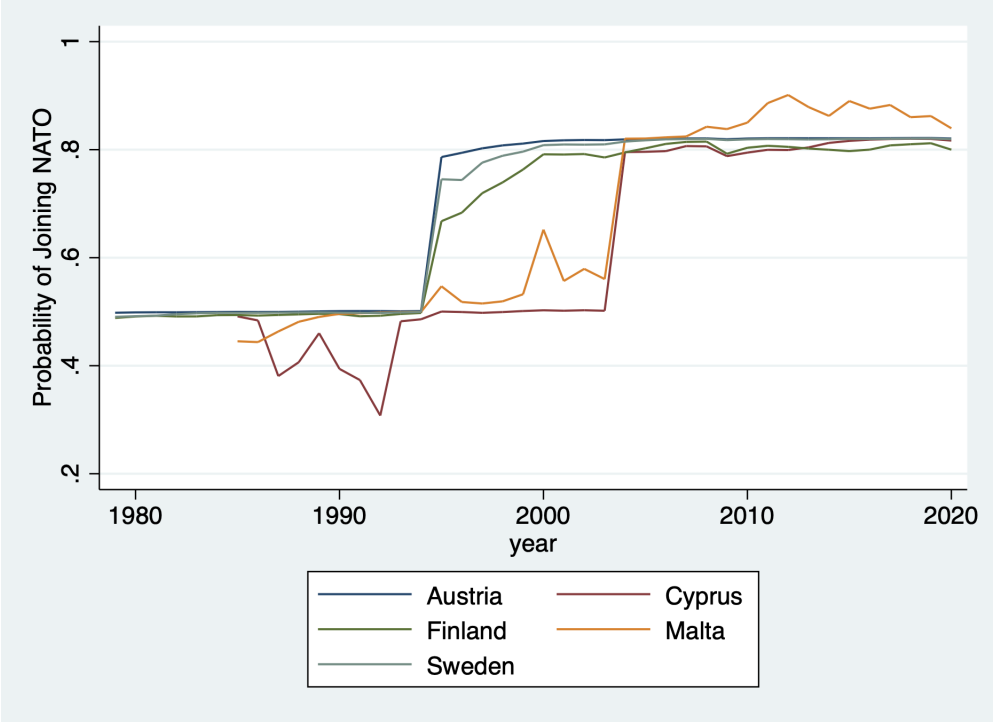

Figure 2: Countries with moderate probability of joining NATO.

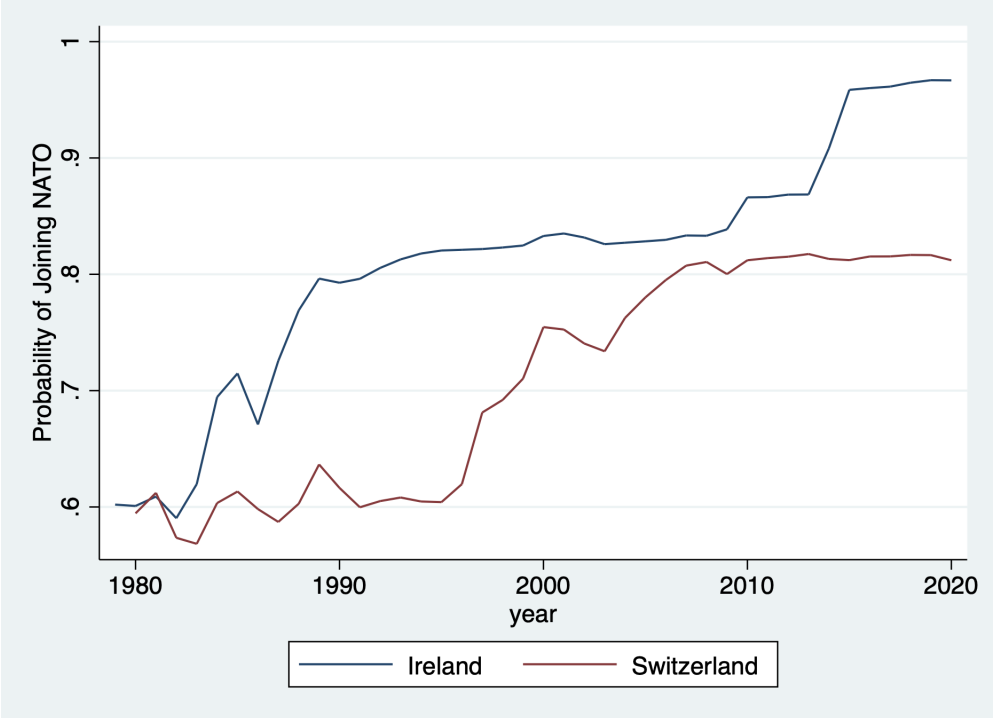

Figure 3: Countries with high probability of joining NATO.

5. Discussion

The predictions shed light on seven countries that in 2020 have an estimated 80% probability, and above, of joining NATO. The estimated probability for Ukraine hovers around 18%. Here we discuss recent political events that could lend support to these predictions.

Despite upholding their formal neutrality, Switzerland and Ireland have recently increased their collaboration and involvement in partnership structures, bringing them closer to NATO. Since 1999, Ireland has been a component of NATO's Partnership for Peace (PfP), which has improved interoperability with other military forces, especially in peacekeeping missions, by giving its defense personnel access to NATO standards and training. Through the Individually Tailored Partnership Programme (ITPP), Ireland has more recently sought to reestablish a connection with NATO with the goal of extending collaboration in areas like resilience, cyber defense, and maritime security. These actions demonstrate Ireland's practical approach to security by striking a balance between the necessity to coordinate with NATO allies to address current security issues and its heritage of neutrality (Department of Foreign Affairs, Ireland (2023)).

Similarly, Switzerland has deepened its collaboration with NATO, primarily through the PfP, which it joined in 1996. The Swiss government has recently defined new cooperation objectives with NATO for 2023 and 2024, emphasizing political dialogue, technological innovation, cyber defense, and interoperability between armed forces. Switzerland's participation in NATO-led training, its contributions to defense institution building, and its engagement in multinational crisis-management operations underscore a commitment to regional security that complements its neutrality. The Swiss government explicitly frames this increased cooperation as a response to evolving security threats in Europe, particularly following Russia's invasion of Ukraine, while reiterating that such engagement remains compatible with its neutral status (Federal Department of Foreign Affairs (FDFA) (2023), North Atlantic Treaty Organization (2024a), Swissinfo.ch (2024)).

Finland and Sweden, also historically neutral states, have undergone changed their security policies by joining NATO in response to Russia's invasion of Ukraine(Wikipedia con-

tributors (2025), BBC News (2022)). Both countries jointly applied for NATO membership in May 2022, updating their long-standing traditions of military non-alignment. Finland became NATO's 31st member in April 2023, following swift ratification by alliance members, while Sweden's accession was completed in March 2024 after initial delays from Turkey and Hungary(House of Commons Library (2024), North Atlantic Treaty Organization (2024b)). Their decisions were driven by increased security concerns in the Baltic region and a recognition of the need for collective defense, with both nations rapidly integrating into NATO's structures and contributing substantial military capabilities. Finland, for example, has maintained high defense investment and readiness, while Sweden has committed to significant increases in defense spending and active participation in NATO operations and planning (North Atlantic Treaty Organization (2024c)).

Since joining NATO, Sweden and Finland have accelerated their military modernization and deepened their engagement with alliance activities. Sweden has announced plans to raise its defense spending to 3.5% of GDP by 2030 (Straight Arrow News (2024)), the largest increase since the Cold War, and is advocating for higher defense spending targets across NATO. Both countries' accession has been widely recognized as strengthening NATO and improving security for the entire region.

Ukraine's pursuit of NATO membership has reflected both its geopolitical vulnerability and its aspiration for deeper integration with Western security structures. The roots of Ukraine's NATO ambitions can be traced to the 2008 Bucharest Summit, where NATO leaders declared that Ukraine (alongside Georgia) would eventually become members. However, the alliance stopped short of granting either country a Membership Action Plan (MAP), largely due to concerns from key NATO members such as Germany and France, who feared that a rapid accession would provoke a hostile response from Russia, which was what happened eventually. The econometric model in this paper predicted a low probability for accession to NATO due to Ukraine's status as a former USSR member and lower economic growth.

6. Conclusions

This article attempts to systematically assess the determinants influencing a country's likelihood of joining NATO. The analysis employed logistic regression which revealed that being a former Soviet Union (USSR) country and being close to Russia are the only statistically significant variables with a negative impact on NATO membership prospects. In contrast, membership in the European Union (EU) was found to be the most influential positive determinant, substantially increasing the probability of joining NATO. Additional factors, such as higher gross domestic product (GDP), larger population size, increased military expenditure, and greater political stability, were also found to increase the likelihood of NATO accession, although to a lesser degree.

Applying the model to predict NATO accession probabilities for 17 non-member states, we found that all eight post-Soviet countries in the sample-including Ukraine-as well as Bosnia and Serbia, consistently exhibited predicted probabilities below 20% for each year between 1991 and 2020. For five non-post-Soviet countries, the model detected a marked increase in accession probability following EU membership, with predicted probabilities rising from approximately 50% to 80%. Quantitatively, former Soviet status was associated with a roughly 30% reduction in the probability of joining NATO, while EU membership contributed an increase of about 30%. Ireland and Switzerland, unlike other non-NATO countries, demonstrated constantly rising probabilities-from 60% to 80% by 2020-primarily attributable to their high GDP levels. By 2020, the model predicted that Ireland had the highest probability of joining NATO (96.76%), while Ukraine had the lowest (12.19%). Overall, the model's results indicate that, prior to their accession, Finland and Sweden were highly likely to join NATO, whereas Ukraine's prospects were limited.

Ultimately, the notion of NATO maintaining a truly open door policy does not withstand empirical scrutiny. While factors such as economic development and population size play important roles, the most decisive influences are a country's affiliations with supranational organizations and alliances. In particular, existing ties to entities like the European Union or a legacy of association with the former Soviet Union overwhelmingly shape the prospects of

accession, thereby rendering the pathway to NATO membership far from universally accessible.

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