

**Why Authoritarians Love the Olympics:
A Boycott of Beijing 2022 Will Do Little to Deter China**
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Population: The forty-six summer and winter Olympic Games that occurred between the 1908 London Games and the 2014 Sochi Games.¹

Analysis: The analysis consists of two sets of models: The first (Table 1) predicts participation in the Olympics. (States must be invited to participate in the Olympics Games by the International Olympic Committee (IOC) and, historically, not all states have been equally likely to be invited.) The second (Table 2) predicts Olympic success. The data in the second analysis is weighted according to propensity scores generated through genetic matching so that results are doubly robust.² The covariates based on the first set of models used in the matching are: the polity index, GDP per capita, population, climate, season, geographic proximity, and MID. The balance in these covariates across participants and non-participants is significantly improved as a result of the matching.³

Models: See below.

¹The analysis does not include the first modern Olympics in Athens in 1896 or the two subsequent Games because athletics competed in these Games on an individual rather than state basis. Only independent states are included in the analysis. These states, including microstates, are identified based on Gleditsch and Ward (1999) for the 1816-2012 period.

²This means that if the matching is not perfect but the regression model is properly specified or, alternatively, if the regression model is not properly specified but the matching is adequate, the causal estimates will be consistent (Rubin 1974, 2006). Genetic matching is used because it uses an evolutionary search algorithm to find a set of weights for each covariate that achieves an optimal balance (Diamond and Sekhon 2013). For robustness, full matching, which minimizes a weighted average of the estimated distance measure between treated and control subjects within subclasses, was also used. The improvement in the balance is better for the genetic matching than for the full matching, especially for the main predictor, the polity index.

³For 7 of the 8 covariates, including the polity index, the reduction in the differences in the means between participants and non-participants is 95% or above.

Table 1: Olympic Participation, 1908-2008

	Model 1	Model 2	Model 3	Model 4
Polity Index	0.05** (0.01)			
Party-Personal Regime		-0.73** (0.15)		
Military-Monarchical Regime		-0.77** (0.18)		
Party Regime			-0.93** (0.16)	-0.86** (0.17)
Personalist Regime			-0.15 (0.20)	-0.13 (0.20)
Military Regime			-0.40 (0.22)	-0.40 (0.22)
Monarchy			-1.12** (0.23)	-1.11** (0.23)
Communism				-0.24 (0.24)
GDP per capita	0.87** (0.07)	0.85** (0.08)	0.91** (0.08)	0.90** (0.08)
Population	0.45** (0.04)	0.41** (0.05)	0.41** (0.05)	0.41** (0.05)
Climate	-0.14** (0.01)	-0.14** (0.01)	-0.14** (0.01)	-0.15** (0.01)
Season	-3.94** (0.52)	-4.60** (0.55)	-4.58** (0.54)	-4.57** (0.54)
Geographic Proximity	0.82** (0.18)	0.73** (0.19)	0.74** (0.20)	0.76** (0.20)
MID (host)	-2.57** (0.46)	-3.14** (0.50)	-3.17** (0.50)	-3.15** (0.51)
Trade Flows	7.98e-06 (1.02e-05)	1.39e-05 (1.19e-05)	1.62e-05 (1.27e-05)	1.65e-05 (1.26e-05)
Constant	-5.79** (0.86)	-4.12** (0.93)	-4.54** (0.95)	-4.41** (0.96)
$\hat{\sigma}_{game}$	1.54	1.41	1.38	1.38
$\hat{\sigma}_{season}$	1.12e-08	4.26e-09	2.72e-10	3.09e-10
N	3731	3357	3357	3357
N_{game}	40	31	31	31

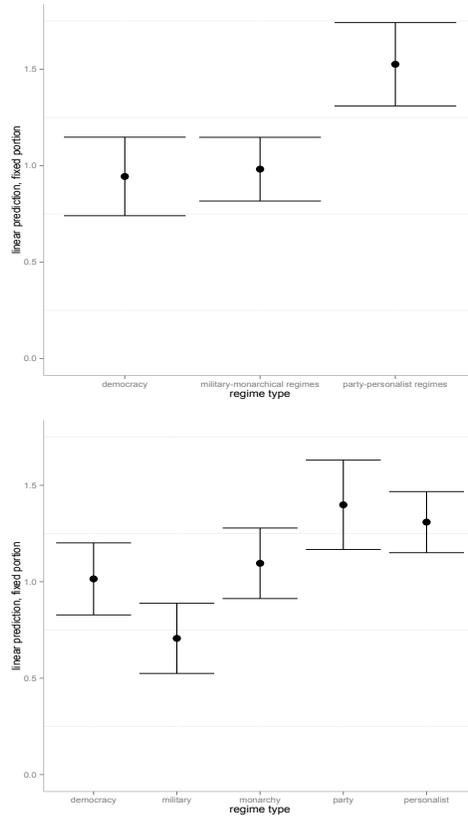
Note: * $p \leq 0.05$, ** $p \leq 0.01$. The models are estimated using multilevel mixed-effects logistic regression since countries are nested within Olympic Games and participation is measured dichotomously. The models do not include a lag of the dependent variable because including a lagged dependent variable on the right-hand side of an equation, can violate strict exogeneity assumptions and can result in an upward bias of the lagged dependent variable and a downward bias of the other predictors (Griliches 1967; Achen 2000; Keele and Kelly 2006).

Table 2: Olympic Success, 1908-2008

	Model 5	Model 6	Model 7	Model 8
Polity Index	-0.005 (0.01)			
Party-Personalist Regime		0.58** (0.15)		
Military-Monarchical Regime		0.04 (0.11)		
Party Regime			0.34* (0.14)	0.12 (0.10)
Personalistic Regime			0.30** (0.11)	0.27** (0.11)
Military Regime			-0.41** (0.15)	-0.43** (0.15)
Monarchy			0.05 (0.07)	0.005 (0.07)
Communism				0.53* (0.25)
Status Deficit	-0.26** (0.09)	-0.22** (0.09)		
Bipolarity	0.14 (0.13)	0.21 (0.12)	0.36** (0.12)	0.33** (0.13)
Multipolarity	1.55** (0.35)			
GDP per capita	0.30** (0.10)	0.41** (0.08)	0.39** (0.07)	0.41** (0.06)
Population	0.46** (0.07)	0.53** (0.07)	0.52** (0.08)	0.51** (0.08)
Host Country	1.08** (0.33)	1.31** (0.33)		
Season	-0.15 (0.22)	-0.24 (0.23)	-0.27 (0.21)	-0.28 (0.20)
Climate	-0.13** (0.02)	-0.12** (0.02)	-0.12** (0.11)	-0.11** (0.02)
MID (any)	0.37** (0.13)	0.35* (0.14)	0.19 (0.10)	0.19 (0.10)
Constant	-3.85** (1.28)	-5.76** (1.07)	-5.57** (0.90)	-5.71** (0.89)
$\hat{\sigma}_{game}$	0.28	0.21	0.12	0.12
$\hat{\sigma}_{season}$	6.71e-06	2.12e-07	1.01e-09	1.78e-10
N	2105	1837	2286	2286
N_{game}	36	27	30	30

Note: * $p \leq 0.05$, ** $p \leq 0.01$. These models are estimated using multilevel mixed-effects linear regression models since Olympic success is continuous and countries are nested within Olympic Games.

Figure 1: Olympic Success and Regime Type



Measures:

The data and measures used in these analyses are as follows.

Polity Index=openness and competitiveness of executive recruitment, the independence of executive authority, and the regulation and competitiveness of participation in a political system. The 21-point index ranges between -10 (full autocracies) and +10 (full democracies). Democracies are generally considered countries that score 5 or higher on the polity index. More than 90% of states coded as democracies in the GPR dataset score a 5 or higher on the polity index.⁴

Regime Type=democracies, party regimes, personalist regimes, military regimes,

⁴Where there are significant discrepancies between the two, they largely arise around regime changes.

and monarchies. Source: *Global Political Regimes* (GPR) 1945-2010 dataset (Geddes, Wright and Frantz 2014). Each regime is coded 1 if a country's regime was of a certain type in the previous year, and 0 otherwise. Hybrid regimes, exhibiting elements of more than one regime type, are coded according to the regime for which they exhibit the greatest number of features. Therefore, party-military, party-personalistic, party-personalistic-military, and oligarchic regimes are coded as party regimes, while indirect military and military-personalistic regimes are coded as military regimes. Foreign-occupied, independent, provisional, and warlord are uncommon in the analysis period and, thus, excluded from the analysis.

Communism=state that is governed by a communist political party (i.e., the national leader belongs to a communist party). A communist party is defined as a party that espouses the complete public ownership of land and the means of production and a society without class divisions or government. Communism is coded 1 if a regime was governed by a communist party in the previous year and 0 otherwise. National leaders for each state are based on Archigos 4.0 (1875-2014) (Goemans, Gleditsch and Chiozza 2009) and the party affiliation for these leaders is based on the CHISOLS dataset (Mattes, Leeds and Matsumura 2016). The political ideology of each leader's party is based on a range of sources including, the *Comparative Manifesto Project* and the *World Encyclopedia of Political Systems and Parties*, as well as country-specific resources.

Olympic Success=percentage of medals states won at each Olympic Game based on the official outcome of the athletic competitions.⁵ Source: olympic.org (medal counts) and *International Society of Olympic Historians* (ISOH) (drug disqualifications).⁶

⁵Occasionally, independent states have competed jointly as "unified teams". Two of these unified teams, representing West and East Germany (1956, 1960, and 1964) and the former Soviet Union states (1992), won medals. For the German unified team, the individual affiliation of each athlete are identified and calculated the Olympic success figures for the West and East German teams separately. Although they competed jointly, West and East German athletes trained separately and were funded by their respective countries. The medal totals for the Soviet unified team are not separated out because athletes in this team from the former Soviet republics were trained and funded under the Soviet system with the USSR having only dissolved at the end of 1991.

⁶The data do not reflect changes in the medal standings as a result of the IOC stripping athletes of medals due to drug violations for two reasons. First, the objective of this analysis is to study international-prestige seeking and cheating to win medals can be part of this strategy. Second, not all athletes known to have cheated have been stripped of their medals. No East German athlete has been stripped of his or her medals despite known, systemic state-sponsored doping in East Germany. So few athletes have been stripped of their medals that excluding them does not change

GDP per capita: gross domestic product (GDP) (lag). Source: the *Maddison Project* (1-2010) (units=ln, 1990 International Geary-Khamis dollars) (Bolt and van Zanden 2014).

Population: population (ln, unit=millions persons (lag). Source: *Maddison Project* (1-2010).

Climate: average annual temperature (celsius, lag). Source: World Bank's *Climate Data API*.

Season=season in which the Olympic Games are held, coded 1 for the winter Games and 0 for the summer Games. Source: olympic.org.

Host Country: country or countries in which the Olympic Games are held. Source: olympic.org.

Geographic Proximity: states proximity to the host country, coded 1 if a state is located in the same region as the host country (with region defined by the UN Standard Area Codes), and 0 otherwise.

Trade: total amount of trade flows between a state and the Olympic host country (current US millions of dollars, lag). Source: *Trade Data Set* (v3.0) from the Correlates of War (COW) project.

Militarized Interstate Dispute (MID): conflict in which one or more states threaten, display, or use force against one or more states. MID (host) is coded 1 if there was a MID the year prior to the Olympics between a state and the Olympic host state, and 0 otherwise. Source: the COW's *Militarized Interstate Dispute Data* (V4.0). MID (any) is coded 1 if a state was involved in a MID with any state the year prior to the Olympics, and 0 otherwise.

Unipolarity=international system in which there is only one "great power" (1989-2014), coded 1 if there is one great power in a given year, and 0 otherwise. The US (democracy) is the great power in this period. Source: Tomja (2014).

Bipolarity= international system in which there is two "great powers" (1945-1989),

the results anyway. Between 1968 – the year in which mandatory drug tests were first implemented – and 2014, only 63 athletes from 28 countries have been stripped of their medals.

coded 1 if there is two great powers in a given year, and 0 otherwise. The US (democracy) and the Soviet Union (party regime) are the great powers in this period. Source: Tomja (2014).

Multipolarity= international system in which there is more than two great powers (1908-1945), coded 1 if there are more than two great powers in a given year, and 0 otherwise. All great powers in the data are either democracies or party regimes. Source: Tomja (2014).

Status deficit: difference in the rank of a country's material capabilities (measured in terms of the Composite Index of National Capabilities) and a country's status rank. The status deficit measure is standardized for each year and multiplied by -1, so that positive (negative) values on this index indicate higher (lower) status deficits. Source: Renshon (2016, 2017).

Status deficit is strongly associated with regime type. Democracies have the lowest status deficits scores, followed by personalist regimes, party regimes, monarchies, and military regimes. The amount of missing data for the status deficit measures is also related to regime type. There is 3-4 times more missing data for democracies and non-military regimes than for military regimes, which is especially problematic because there is a limited number of certain types of non-military regimes, like monarchies, in the world.

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