Relationship of European Public Opinion to Defense Investments

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## Abstract

This paper analyzes public opinion and defense spending in ten European countries. Net support for defense spending has a lagged influence on total spending and equipment spending. Effects of popular support for EU and NATO are also explored.

# Introduction[[1]](#endnote-2)

Predicting the future of European military capabilities is increasingly dependent on understanding both national as supranational politics. The great recession has put pressure on budgets, strained European Union (EU) politics, and empowered nationalistic backlash movements. The scenarios that government officials are preparing for have also shifted. At the start of the decade, analysts focused on the question of whether North Atlantic Treaty Organization (NATO) members can act effectively in concert abroad. After the crisis in the Ukraine, many people, particularly those in the United States, are more concerned with whether Europe can act against hybrid warfare waged within the borders of the alliance.

Despite the competing economic and political forces that make the future hard to discern, the democratic transparency of European nations, even the less liberal ones, does offer potential means to grasp the underlying fundamentals that will continue to shape defense budgets beyond the present crises and confounding inflection points. The future of European capabilities is ultimately in the hands of the citizens of European nations and their governments. It is not the responsibility of the U.S. Military to influence those publics directly; nevertheless, the U.S. Joint Force and the Army, in particular, would benefit from a better understanding of how public opinion may drive future spending levels.

This study's recommendations will outline where it may be possible to build on confluences of interests between the United States and European countries and where planners should expect a level of reliance that is no greater than what is available today. For data availability reasons, this paper's sample includes eight to ten European nations: France, Germany, United Kingdom, Italy, Netherlands, Poland, Portugal, Spain, Slovakia, and Turkey – the final two are used depending on the model, as survey data for them was not always available[[2]](#endnote-3). While these are only a minority of European countries, they account for the vast majority of NATO's spending, even for those questions in which Turkey and Slovakia are excluded.

## Strained European Defense Capacities

Since the global economic crisis of 2008, defense budgets in the U.S. and Europe have been pressured to tighten, which has imperiled those countries’ ability to act individually or collectively. Simultaneously, security issues have become more prominent in Europe. Russia intervened in Georgia, occupied Crimea, and engaged in hybrid warfare in Southeastern Ukraine. European countries have intervened in African and, to a lesser extent, in Middle Eastern conflicts, even as NATO’s presence in Afghanistan drew down. While Europe has united concerning sanctions, political strains remain as the EU faces internal economic and refugee issues that can be traced to its foundations.

The challenges listed above highlight fractures in NATO's ability to undertake joint operations. After the intervention in Libya, U.S. Secretary of Defense Robert Gates (2011) diagnosed the weaknesses in alliance capabilities from a U.S. perspective:

“Though we can take pride in what has been accomplished and sustained in Afghanistan, the ISAF [International Security Assistance Force] has exposed significant shortcomings in NATO – in military capabilities, and in political will. Despite more than 2 million troops in uniform – NOT counting the U.S. military – NATO has struggled, at times desperately, to sustain a deployment of 25- to 40,000 troops, not just in boots on the ground, but in crucial support assets such as helicopters, transport aircraft, maintenance, intelligence, surveillance and reconnaissance, and much more.

“Turning to the NATO operation over Libya, it has become painfully clear that similar shortcomings – in capability and will – have the potential to jeopardize the alliance’s ability to conduct an integrated, effective and sustained air-sea campaign. (p. 2)

Elsewhere in his speech, Sec. Gates noted that he was "the latest in a string of U.S. defense secretaries who have urged allies privately and publicly, often with exasperation, to meet agreed-upon NATO benchmarks for defense spending" (p. 3). The benchmark Sec. Gates refers to was a 2002 agreement that each nation in NATO would spend two percent of gross domestic product (GDP) on defense. It is diplomatically useful for those urging more spending, because it was a commonly agreed upon standard that was renewed at the 2014 Wales summit. While that standard has the advantage of ease of comparison between countries of different size, Christian Mölling (2014) describes why the two percent standard is less useful for judging capacity:

"Greece provides a useful example, as it adheres to the 2% guideline only by virtue of the fact that its GDP sank faster than defence expenditure in the context of an impending sovereign default – as is rarely acknowledged. Conversely, a country whose defence expenditures grow at a slower pace than its GDP remains at a disadvantage regardless of how much it spends" (p. 2).

Instead of relying on defense as a percent of GDP, this paper draws from the CSIS series on European Defense trends that focuses on changes to the absolute level of total defense spending and also component accounts: equipment, personnel, infrastructure, and operations/maintenance and other.[[3]](#endnote-4) Mölling also notes that tracking changes in spending levels does not take into account the varying efficiencies with which countries translate budgets into military capabilities. However, Mölling also acknowledges the risk of "tipping points: capabilities are increasingly approaching a bottom line beyond which they become ineffective" (p. 2). Particularly in times of shrinking budgets, changes in spending levels show which countries are at greater risk of hitting hard capacity constraints and which have more room to maneuver.

As modeled by Todd Sandler and Keith Hartley (1999), defense spending is a function of price, income, threat, strategic doctrine, and alliance-induced spill-ins. Price, income, strategic doctrine and spill-ins are all relatively developed and recognized drivers of defense spending. [[4]](#endnote-5) If the price of acquisition goes up, spending decreases; if income and threat increase, spending increases; if alliance spill-ins increase, defense spending has been shown to either increase or decrease, depending on the situation (Sandler and Hartley 1999). The effects of strategic doctrine on defense spending, however, are not as widely explored on an empirical level.

As Sec. Gates observed, changes in total defense spending are not evenly distributed across all types of spending. He says that since the 9/11 attacks, "rising personnel costs combined with the demands of training and equipping for Afghanistan deployments has consumed an ever growing share of already meager defense budgets. The result is that investment accounts for future modernization and other capabilities not directly related to Afghanistan are being squeezed out – as we are seeing today over Libya" (Gates 2011, 3). This paper considers both changes in defense spending as a whole and changes within the specific category of defense equipment spending.

## The Role of Public Opinion

All European allies of the United States are representative democracies. The pluralistic theory of liberal democracy suggests that public opinion is an input into strategic doctrine because if a country functions as a representative democracy, its governmental institutions - which formulate strategic doctrines - should do so in response to popular public opinion (Risse-Kappen 1991).[[5]](#endnote-6) However, various scholars on political representation argue that the influence of the voter is often undercut when it comes to security and defense issues. While analyzing elite consensus and alliance cohesion, Sarah Kreps in *Foreign Policy Analysis* argues that public opinion does not correlate with involvement in NATO-led operations in Afghanistan (Kreps 2010). Instead, an elite consensus across the party spectrum allows politicians to disregard their public supporters because, no matter what decision they make, voters cannot punish them by switching to a different mainstream party. Gabriel Almond (1956) is skeptical regarding the influence of public opinion on foreign policy and points out that “the issues of national security policy differ from other issues of public policy in three respects – the highly technical character of the issues, the element of secrecy, and the gravity of the stakes and risks involved” (p. 8). The range of limitations raised on the influence of public opinion illuminates why public opinion may have a weaker effect on foreign policy issues than domestic policy issues and is discussed in greater detail in the literature review.

Despite these limitations, past qualitative and quantitative research on the United States and Europe has found a connection between the answers to polling questions on the budget and subsequent expenditures (Risse-Kappen 1991).[[6]](#endnote-7) Likewise, this paper’s study will investigate the possibility that public opinion influences defense spending and can be a proxy variable for strategic doctrine in the defense spending function for European countries. The first polling question this paper examines as a possible proxy is the most straightforward: do members of the public think their country should increase or decrease defense spending? This is the same question that, in various forms, was regularly used for past studies on this topic. This paper deepens the analysis by comparing public opinion not just to defense expenditure in total but also to investment expenditures in defense equipment.

The remaining polling questions explored in this paper are discussed in the hypothesis section and relate to public opinion regarding NATO and the EU. The European context also allows for an analysis of strategic doctrine questions that go beyond the country-level question of the defense expenditures of individual states. European countries face a complex situation in terms of defense and security. For example, EU countries who belong to NATO experience alliance cohesion expectations and benefits that dictate and influence how much they should spend on defense and how those resources should be allocated. While NATO and the EU have significant overlap in membership and many common goals, at times they also have competing Europe-centric and Atlanticist approaches.[[7]](#endnote-8) Despite disagreements in the past between European nations and the United States over the issues such as the war in Iraq and approaches to Russia, both the EU and NATO have already invested in costly foreign policy measures in response to the crisis in Ukraine, despite ongoing economic pressures on the EU because of the great recession.[[8]](#endnote-9)

Despite the fact that the EU economy as a whole is larger than that of the United States, European countries struggle to develop a comparable defense industrial base. For example, the gap in the economy of scale developed by Lockheed Martin (U.S.) compared to Dassault (France) for fighter jets is huge. In 2013, Lockheed Martin delivered 35 Joint Strike Fighters to domestic and international partners[[9]](#endnote-10), while Dassault delivered 11 Rafales to the French government.[[10]](#endnote-11) The United States has an economic advantage that is derived not just from its size but also from its integrated defense market.

The EU struggles to achieve a defense industrial base equal to that of the U.S. because of defense’s status in the acquis communautaire.[[11]](#endnote-12) Neither giving up all prospects of a unified European defense industrial base (EDIB) nor creating an EU institution that is comparable to the U.S. military is politically viable. Giving up an EDIB would create inefficiencies and undermine the potential for collective action. At the same time, creating an EDIB is impossible due to the current European Treaty, as Article 346, ex. 296 grants individual member states’ governments the ability to waive European regulation on defense and security procurement decisions, although the breadth of that discretion is shrinking (Randazzo 2014). Declining budgets make the benefits of a stronger EDIB more theoretically appealing, but Euroscepticism has grown during the study period. This fragmentation on European security and defense issues is a result of different geopolitical agendas, different domestic industrial priorities, and the different sizes of the EU member states. As Hofbauer, Hermann, and Raghavan (2012) discuss, there are efforts both within NATO and the EU to bridge these gaps. Popular opinion in European countries may be a factor supporting or undercutting these efforts. This paper tests whether or not the difference in defense expenditures across the EU depends on the difference of public opinion on NATO and European foreign policy in various member states.

# Review of the Literature on Public Opinion and Policy

Before we can analyze the relationship between public opinion and defense spending, we must first understand the political theories regarding the relationship between public opinion and public policy. In a *World Politics* article, Thomas Risse-Kappen (1991) seeks to find the answers to a range of fundamental questions that include: "Who is in charge of the foreign policy-making process in liberal states? Elites or masses? Who influences whom? What is the policy impact of societal actors and public opinion? Are public attitudes on foreign policy manipulated by the elites" (p. 479)? To answer these questions, Risse-Kappen analyzes the relationship between public opinion and foreign policy in four democratic countries: the United States, France, Germany, and Japan. He finds that “[t]he analysis of the interaction between public opinion and elite coalition-building processes in the four countries reveals that the policy outcomes differ according to variances in domestic structures and not in the international status of the states" (p. 480). In the process of coming to this conclusion, Risse-Kappen identifies various schools of political theories that are important to spot when studying public opinion and policy.

When discussing the question “Who influences whom?”, Risse-Kappen examines competing theories of democratic foreign-policy decision making: a “bottom-up” approach in which leaders follow the masses, and a “top-down” approach in which “popular consensus is a function of the elite consensus and elite cleavages trickle down to mass public opinion” (p. 480-481). Risse-Kappen describes the latter as conventional wisdom in international relations literature, because even liberal democracies often make pivotal decisions in the absence of widespread public support. The top-down approach argues that the elite’s opinion is likely to prevail because the issues at hand are less important to the public than other issues; the public knows little about international affairs, and public opinion is volatile (Risse-Kappen 1991). However, Risse-Kappen also criticizes the top-down approach by challenging each of those three premises, noting that a significant minority of the public does care about foreign policy issues and that those in power invest significant resources to attempt to shape public opinion.

Risse-Kappen (1991) suggests that neither the public nor their policy makers should be treated as unitary actors. Instead, he argues that the public falls into at least three different groups: “(1) mass public opinion, (2) the attentive public, which has a general interest in politics, and (3) issue publics, which are particularly attentive to specific questions” (p. 482). This would indicate that there is a section of the population whose opinion matters, and that this section is most likely either the attentive public or the constituencies interested in one or more foreign policy issues.

Gabriel A. Almond was an early example of the previously discussed “top-down” school and greatly concerned about the influence of an inattentive public. In his 1956 *Public Opinion Quarterly* paper, he focuses on the relationship between public opinion and national security policy. Almond argues that public opinion on national security issues follows government initiatives more than any other policy sphere, i.e. public opinion depends more on security policy than defense spending. He suggests that the public looks to the media as the means of communication from the government in order to form their opinions on security issues and further argues that national security issues are by nature highly technical, and often sensitive information can carry high risks to the public (Almond, 1956).

While incorporating media opinion or subdividing the public based on their degree of engagement has clear advantages for understanding the mood of the public, such granular data is far less widely available than polling, which aggregates the opinion of the entire public. Other scholarship on this topic argues that the opinion of the public as a whole is sufficient when analyzing a public policy such as defense spending. Stuart N. Soroka and Christopher Wlezien, in their book titled *Degrees of Democracy* (2009), suggest that when determining whether the public’s preferences affect policies, their opinions need to indicate a general direction. Either the government is spending “too much” or “too little.” Soroka and Wlezien (2009) argue, “Citizens are able to use cues or heuristics to help them make decisions with only very basic information … Politicians and parties also have a strong incentive to provide these cues” (p. 31). If this is true for defense spending policy, the separation of the public’s opinion into Risse-Kappen’s three groups is not necessary.

## Structure of the Country

In regards to policy makers, Risse-Kappen (1991) emphasizes the importance of analyzing a country’s institutions. He uses a theory developed in 1976 by Peter Katzenstein that suggests that countries’ institutions are either “strong” or “weak” depending on the “degree of centralization of state institutions and the ability of political systems to control society and to overcome domestic resistance” (p. 484). “Weak” states are more likely to have a strong relationship between public opinion and public policy, while “strong” states tend to act autonomously from the public (Risse-Kappen 1991). Therefore, the institutional power of a country should be defined before predicting the relationship between the public opinion and public policy of any given country.

Following this idea, Soroka and Wlezien (2009) state that there is a difference in policy representation between Parliamentary governments and Presidential governments, and that further differences occur between conservative/republic dominated governments and progressive/democratic dominated governments. They find that policy representation increases as a government changes from Parliamentary to Presidential because in parliamentary governments, “the executive is traditionally chosen from within the parliament and it serves only with the confidence of the latter” (p. 53). This supports the argument that public responsiveness in policy varies depending on the country, depending on their governments. The panel data used will theoretically control for such differences between countries, so long as government structures remained the same during the study period.

Since the electoral majority of parties in European countries changes from election to election, panel data will not adequately control for parliamentary governments in the relationship between public opinion and defense spending. Thus, this model defines variables to measure the sort of ruling coalition that would be more likely to pass higher defense budgets. In the paper *Party Competition and European Integration in the East and West* by Gary Marks, Liesbet Hooghe, Moira Nelson, & Erica Edwards (2006), the political parties’ tendencies in both Eastern and Western Europe are explored. Instead of just using the left-wing and right-wing categories to describe political parties, Marks et al. explores an alternative scale for describing parties: TAN and GAL. TAN stands for “traditionalism/authority/nationalism,” and GAL stands for “green/alternative/libertarian” (p. 157) . Marks et al. (2006) makes these distinctions because their research suggests that Eastern left-winged political parties have different tendencies than Western left-winged political parties on topics such as the environment, immigration, and defense. This also applies to the different Eastern and Western right-winged parties. Thus, the study team will separately consider both left-right and GAL-TAN scales when describing the balance of parliamentary power in European governments and further the discussion in the data section of this paper.

When examining the mechanism by which public opinion influences policy in democratic countries, Robert Y. Shapiro (2011) argues that electoral accountability is “the most persuasive driving force” in the relationship between public opinion and policy (p. 984-985). If electoral accountability does influence public policy, then it must be captured when modeling the relationship between public opinion and public policy. Shapiro also describes this relationship as running on a two-way street, saying, “Policies ultimately enacted may consequently be related to opinions that policymakers have helped shape through their rhetoric and behavior” (p. 986).

## The Thermostat Model of Public Opinion

Shapiro’s assertion is defined in greater detail by Christopher Wlezien inthe *British Journal of Political Science* (January 1996), in which Wlezien invents the thermostat theory. He argues that public opinion acts similarly to a thermostat, “so that when policy differed from the favoured policy temperature (which could itself change) the public would send a signal to adjust policy accordingly and, once sufficiently adjusted, the signal would stop” (p. 82). His model tries to mathematically capture this theory.

Wlezien’s 1996 British Journal of Political Science Paper, which introduced the thermostat approach, created two different models, one in which public opinion influences policy and one in which policy influences public opinion. In Soroka and Wlezien’s book, *Degrees of Democracy* (2009),the authors further develop the thermostat model. They create a model in which Defense spending and other exogenous variables are used to predict the public's relative preferences. This model found that an increase in spending decreases the public’s net preferences for defense spending.

Soroka and Wlezien also apply the thermostat model approach to compare the effect of policy decisions, such as budget appropriations, and policy implementation, such as outlays. They find that outlays in defense policy affect the public’s opinion more than appropriations. This finding supports our paper’s research approach, as NATO reports the amount each country actually spends rather than the amount each country budgets.

Wlezien (1996) also discusses the potential consequences of survey data. For instance, the relationship between public opinion and policy suggests that the collection of public opinion data should be done at the same time each year. Otherwise, the data could contain a bias due to differences in how the public feels at different times during the year (Wlezien 1996). The methods used by this paper’s data, taken from the German Marshall Fund’s Trans-Atlantic Trends annual public opinion assessment, will be discussed further in the Models section of this paper.

## Determinants of the Defense Budget

While the direct relationship in this model is between public opinion and defense spending, there are many factors that influence defense budget policy.[[12]](#endnote-13) In order for the model to predict a robust estimate, factors such as alliance membership, macroeconomic factors, and the external security situations should also be considered.

Sarah Kreps writes in *Foreign Policy Analysis* (2010) about the public opinion’s clout when it comes to defense decisions in countries that belong to an alliance*.* In a case study on countries contributing to operations in Afghanistan, she came to the conclusion that the public has little clout in the policies made regarding ISAF troop deployments.When looking at the relationship between public opinion and government leaders during the war in Afghanistan, Kreps finds that: “Despite low levels of public support especially in non-American troop contributing countries, this analysis shows that leaders have actually bucked hostile public opinion and by and large neither reduced nor withdrawn their troops from Afghanistan,” thus determining whether there is variation in how policy responds to public opinion for countries within an allied force, such as NATO (p. 191). Kreps notes that countries with low public support increase their troop numbers while simultaneously lowering the troops’ restrictions. She further argues that this occurs because when countries belong to NATO, governments are “sensitive to the costs of international defection and converge around a commitment to international cooperation, which reduces the electoral and foreign policy effects of public opinion” (p. 192). This makes it clear that whether or not a country is in NATO affects their public policy on defense engagements. Since all the countries analyzed in this paper are members of NATO, trying to capture the effects of this variable would be irrelevant.

Richard C. Eichenberg and Richard Stoll’s paper from *The Journal of Conflict Resolution* (August 2003) models public opinion and defense budgets in five democratic countries from 1960 to 1998. Eichenberg and Stoll argue that public opinion responds to the ratio of defense spending to social spending. For instance, if the GDP of a country is lower than the defense budget, the public will likely vote to reduce defense spending. This also mimics the thermostat theory, as public opinion will adjust according to levels of spending relative to the economy and policy will change in response, causing the public to reassess their demands.

Eichenberg and Stoll (2003) also include NATO as an alliance variable. They argue that because countries that belong to alliances, such as NATO, are under pressure to spend more on defense and not free-ride, public opinion will be more “sensitive” to the status of the defense budget. Eichenberg and Stoll also assumed that countries belonging to NATO would compare their defense budgets to that of the United States. They used a variable measuring “the ‘gap’ between the real percentage growth of U.S. defense spending and the real percentage growth of each state’s defense spending” (2003, p. 7).

Another control variable that Eichenberg and Stoll (2003) use is different types of conflict involvement. The majority of his study spans the Cold War; thus, a variable capturing Soviet involvement was chosen. Similarly, Soroka and Wlezien (2009) use two conflict variables: one that captures Soviet involvement and another that captures the events that occurred on September 9, 2011. Eichenberg and Stoll also use a variable that captures international conflict in general, instead of focusing on Soviet involvement. Furthermore, they estimate that internal conflicts such as civil wars or economic recessions have an effect on defense spending (Eichenberg & Stoll, 2003). Thus, this paper will also explore variables similar to the internal and external conflicts listed, because they tend to be associated with an increase in defense spending.

# Hypotheses

In order to assess the relationship between public opinion and defense spending in Europe, we first ask if public opinion significantly affects defense spending. The paper next inquires that if defense spending is affected, in what direction and exactly which opinions affect defense trends differently? To answer these questions, the authors composed a series of three multipart hypotheses. The Hypothesis 1 directly relates to whether or not the public supports increased defense spending and how this affects both defense and investment spending. This paper chooses to specifically analyze investment spending because investment spending allows the analysis to dive deeper into answering whether the European allies can be greater than the sum of their parts and when cuts in spending will disproportionately affect the allies’ future capabilities. The two parts of hypothesis 1 are:

**Hypothesis 1 a:** Net public support for more defense spending results in an increase of defense spending.

**Hypothesis 1 b:** Net public support for more defense spending results in an increase of investment spending.

Hypothesis 2 addresses the public’s opinion on whether they support the EU having a greater presence in international affairs. If the public supports the EU in increasing their presence in international affairs, then it is likely that defense spending or investment spending increases. The two parts of hypothesis 2 are:

**Hypothesis 2a:** Net public support of individual European countries for a greater presence of the EU in international affairs results in an increase of defense spending.

**Hypothesis 2b:** Net public support of individual European countries for a greater presence of the EU in international affairs results in an increase of investment spending.

The final hypothesis simultaneously address the alliance cohesion variable and the strategic doctrine variable of the defense spending function. Belief that NATO is essential or that the partnership between the United States and Europe should be strengthened could theoretically result in an increase *or* a decrease in defense spending. NATO membership requires certain defense spending standards that reinforces the hypothesis that support for transatlantic partnership would increase defense spending. Conversely, joining an alliance where burden sharing exists between nations with a DIB as small as the Czech Republic’s and as big as the United States may have an opposite effect. For example, in a smaller country’s unique defense economy, supply and demand would require a quantity of defense spending higher than if the United States' demand and supply were factored into the DIB of the smaller country. This is because the U.S. buys a large range of defense quantities, no matter the price or state of the economy. A smaller country’s demand for defense is far less elastic. Therefore, when these demands are combined, the smaller country is required to spend less on defense to reach a pareto efficient outcome. In effect, measuring how public opinion affects defense spending will help determine if the public influences defense policy while simultaneously investigating whether or not support for alliance cohesion affects defense policy. Because of competing theories about the influence of alliances, we are testing contradicting hypotheses. The three parts of hypothesis 3 are:

**Hypothesis 3 a:** Net public support for transatlantic partnership will increase defense spending.

**Hypothesis 3 b:** Net public support for transatlantic partnership will increase investment spending.

**Hypothesis 3 c:** Net public support for transatlantic partnership will decrease defense spending.

The primary source of polling data for the study is the German Marshall Fund’s Transatlantic Trends Reports. To investigate the hypotheses, DIIG analyzed data from the following public opinion polling questions:

1. Do you think your government should increase, maintain, or decrease spending on defense?
2. How desirable is it that the European Union exert strong leadership in world affairs?
3. Some people say that NATO is still essential to our country’s security. Others say it is no longer essential. Which of these views is closer to your own?
4. Do you think that the partnership in security and diplomatic affairs between the United States and the European Union should become closer, should remain about the same, or should the European Union take a more independent approach from the United States?

Transatlantic Trends (TAT) is conducted by the German Marshal Fund and has been providing aggregate public opinion survey responses to various transatlantic issues such as the role of NATO and defense policy in Europe and the United States since 2002. Not only does TAT supply the aggregate survey responses for individual European countries over time, it also reports key findings and highlights politically captivating trends. For instance, in 2004, TAT reports that although 71 percent of Europeans responded in favor of the EU becoming a superpower like the United States, 47 percent of those Europeans changed their support after being asked if they wanted the EU to become a super power by means of higher levels of military spending (“Transatlantic Trends 2004” 2004). This study hopes to further investigate results such as this one through an analytical approach. The data used to represent the other variables in this study are gleaned from a variety of different publicly available sources that will be discussed further in the Models section.

# Models of Public Opinion and Changes in Defense Spending

This section discusses the foundations of the models used in this analysis by revealing how the data is categorized and giving a broad overview of the trends for the European countries in the sample. The section will start with the dependent variables, defense spending, and equipment spending, then explore the public opinion variables, and lastly outline the other control variables that both research and background knowledge suggest affect defense and equipment spending.

## Changes in Defense and Equipment Spending

To calculate the rates of change, this paper drew defense and equipment spending in constant Euros data from a previously conducted CSIS study on trends in European defense spending.[[13]](#endnote-14) Using the same methodology as that prior report, the authors incorporated defense and equipment spending data from NATO.[[14]](#endnote-15) We follow Wlezien's (1996) approach and model both defense spending and equipment spending as the percent change from the previous year. Percent change was our preferred option because the absolute change in expenditures, used by Eichenberg and Stoll (2003), is less appropriate for the cross-sectional nature of the data used in this analysis. Percent changes can be meaningfully compared across countries, but the absolute expenditures of large countries, such as France, are much greater than those of small countries, such as Slovakia. Thus, a one-unit increase in our independent variables will estimate the percent that defense and equipment spending changes from the previous year.

The overall defense spending as an annual percentage change for each country examined in the models can be seen in Figure 1:

#### Figure 1: Changes in Total Defense Spending

[Insert Figure01.png]

The trends in defense spending vary between countries and, in most cases, show the most growth in the early aughts and the steepest declines in conjunction with the great recession. Before 2005, the UK, Poland, Turkey, and Portugal show a rapid increase in percent change in defense spending from the previous year. The UK’s 15 percentage point increase in change in defense spending from 2002 to 2005 was most likely a result of their involvement supporting the United States in Iraq.[[15]](#endnote-16) Similarly, Poland’s almost 25 percentage point increase in change in defense spending from 2002 to 2005 reflects their support for the United States in the Iraq War.[[16]](#endnote-17) It also might reflect its effort and success in acceding to the EU in 2004. Portugal’s initial negative change in defense spending became less negative over time, even turning positive from 2002 to 2005, which likely reflects their involvement in the Iraq war as well as an economic boom in the late nineties. However, in 2003, Portugal’s economy experienced a slight recession, which resulted in budgetary pressure that helps explain why change in defense spending peaked in that year and then declined in for several years in a row. All countries show a decline in percent change of defense spending after 2007, although some countries bounce back after a few years and Poland, Turkey, and the UK have positive spikes as early as 2010.

The overall equipment spending as an annual percent change over time for each country examined in the models can be seen in Figure 2.

#### Figure 2: Changes in Defense Equipment Spending

[Insert Figure02.png]

The counties that demonstrate the most volatility in change in equipment spending are Spain, Portugal, and Slovakia. Spain is the most volatile, spiking to almost a 30 percent increase in change in defense spending. The reason for the fluctuation between 2011 and 2014 is the outstanding debts accrued by the Spanish Armed Forces. According to Frank Slijper (2013), “In September 2012 the government arranged a special credit line to pay off €1.8 billion of outstanding debts to the arms industry accumulated over the previous two years” (p. 14). The austerity measures implemented as a condition of Spain’s bailout most likely led to the additional decrease in equipment and overall defense spending in 2013. Increases in equipment spending in 2014 was most likely due to another payout of debts accumulated through weapons purchasing from prior years.

## Estimating Changes in Defense and Equipment Spending

### Public Opinion

We used public opinion and a number of other variables that theoretically help determine levels of defense and equipment spending. As discussed in the Hypotheses section, the public opinion variable varies depending on the hypothesis, and the paper examines three public opinion questions in total. Public opinion data is gleaned from the Transatlantic Trends series of reports, which are further discussed in the Hypotheses section. The models measure this variable as net support for the underlying issue of each polling question. Net support spread is calculated by subtracting the sum of negative poll answers from the sum of positive poll answers. Those answering “I don’t know” or in a neutral manner are not included in this calculation. The model tests public opinion that is lagged from one year to three years. We test these lags to confirm the previously determined idea that in the public policy realm, public opinion from one year does not have an effect on public policy until either at least one to three years later (Wlezien 1996; R. C. Eichenberg and Stoll 2003; Hartley and Russett 1992). In other words, budget proceedings will happen one to two years before defense expenditures occur. However, for all of the figures shown below, the net support and change in spending are shown in the year that they actually occurred.

The timeline of public opinion on whether individual countries should increase or decrease their defense and the contemporaneous percent change in defense spending for each country is displayed in Figure 3.

#### Figure 3: Net Support for Defense Spending and Changes in Total Defense Spending

[Insert Figure03.png]

In a few countries, an obvious pattern exists between public opinion and defense spending. For instance, in Slovakia, the support for an increase in defense spending decreases consistently from 2007 to 2014. Percent changes in defense spending also decrease until 2011, and then they increase before decreasing again. In Poland, support for defense spending decreases consistently, and after 2005 defense spending follows this pattern until around 2008. In 2010, Poland’s changes in defense spending shift back to decreasing. From 2003 to 2008 in Italy, public opinion continually raises support for defense spending. It looks as though the government did not respond to this until 2007, where there is an increase in changes in defense spending. Public support then drops, and after 2008, so does changes in defense spending. Germany and the Netherlands both have a relatively consistent decline in support for defense spending and a slight but consistent decline in changes in defense spending as well.

The timeline of public opinion on whether or not individual countries should spend more or less on defense spending and contemporaneous percent changes in equipment spending is displayed in Figure 4.

#### Figure 4: Net Support for Defense Spending and Changes in Defense Equipment Spending

[Insert Figure04.png]

In general, changes in equipment spending mirror public support for increase in defense spending. This mirror can occur simultaneously, as it does in Germany and the Netherlands, or it can be delayed, as happens in Italy and Portugal. Other countries, such as Spain and Portugal, are more volatile. This can mainly be attributed to the same conclusions drawn from Figure 2, above.

The timeline of public opinion on whether or not the EU should exert leadership in international affairs and contemporaneous changes in defense spending can be seen in Figure 5.

#### Figure 5: Net Desire for Strong EU Leadership and Changes in Total Defense Spending

[Insert Figure05.png]

In the United Kingdom, changes in defense spending seem to respond to changes in public opinion. For example, from 2002 to 2005 public support for EU leadership in international affairs decreases, and then in 2005 the UK's changes in defense spending decrease. From 2005 to 2007, public support for strong EU leadership increases and changes in defense spending also increase after 2008 – that said, the changes from 2007 to 2010 could also be interpreted as moving at the same time rather than polling leading change in spending. Portugal, Poland, and Spain also show positive relationships between public support for strong EU leadership and defense spending. The other countries show less of a simultaneous pattern, and there is not much change in defense spending or public support in Germany or the Netherlands.

The timeline of public opinion on whether or not the EU should exert leadership in international affairs and contemporaneous equipment spending can be seen in Figure 6.

#### Figure 6: Net Desire for Strong EU Leadership and Changes in Defense Equipment Spending

[Insert Figure06.png]

At first glance, public support for strong EU leadership may not seem to change very much over time. However, the scale of this graph goes from -50 to almost 300 percent because of the large spike in Spain’s investment spending in 2012 and 2014. In other words, the change in public support for strong EU leadership is equivalent to that of Figure 5. The United Kingdom shows the most prominent trend in changes in equipment spending. The change of equipment spending in Portugal from 2003 goes down, following the decrease in public support for strong EU leadership. Public support for strong EU leadership has little variation after 2007 in Turkey, while equipment spending is very volatile. Spain is the most volatile, with two large spikes, and this is due to what was discussed concerning Figure 2.

The trends of public opinion on whether or not NATO is essential to the EU and contemporaneous defense spending over time for each country can be seen in Figure 7.

#### Figure 7: Net Belief that NATO is Essential and Changes in Defense Spending

[Insert Figure06.png]

The United Kingdom again shows a potential relationship between public belief that NATO is essential to the EU and changes in defense spending. Initially, net public belief that NATO is essential decreases and changes in defense spending begins to decrease, possibly in response to this, in 2005. Public support then begins to increase in 2005, and defense spending changes back to increasing about three years later, in 2008. In Spain, public belief that NATO is essential to the EU increases between 2006 and 2008. Three years later, in 2011, changes in defense spending increase as well. There is large public support over time for the belief that NATO is essential to the EU in the Netherlands, while changes in defense spending there are relatively stable.

The trends of public opinion on whether or not NATO is essential to the EU and contemporaneous equipment spending can be seen in Figure 8.

#### Figure 8: Net Belief that NATO is Essential and Changes in Defense Equipment Spending

[Insert Figure08.png]

Net public belief that NATO is essential to the EU and changes in equipment spending do not show any obvious relationships over time. Changes in equipment spending are volatile across counties, and the public support trends generally do not mirror equipment spending. Italy, Turkey, Spain, and Portugal are the most volatile in changes in equipment spending.

The trends in public opinion on how close the EU and NATO should be and contemporaneous defense spending over time for each country can be seen in Figure 9.

#### Figure 9: Net Support for Closer U.S.-EU Partnership and Changes in Total Defense Spending

[Insert Figure09.png]

One observation from Figure 9 is the large and increasing net public support for closer United States and EU partnership in Poland from 2003 to 2009. After 2009, this support begins to decrease. Poland’s changes in defense spending do not generally mirror these trends, and the results section will further discuss whether there is a significant relationship between the two. Almost zero patterns exist in Figure 9 in which net public support for a closer U.S.-EU partnership and changes in defense spending mirror each other. This predicts that the relationship between net public support for a closer U.S.-EU partnership and changes in defense spending is either low or non-existent.

The trends in public opinion on how close the EU and the United States should be and corresponding equipment spending over time for each country can be seen in Figure 10.

#### Figure 10: Net Support for Closer U.S.-EU Partnership and Changes in Defense Equipment Spending

[Insert Figure10.png]

Similar to changes in defense spending in Figure 9, there is no obvious relationship between public support for closer partnership and changes in equipment spending. The results of the quantitative estimated relationship of net public support for closer partnership and equipment spending will be discussed further in the Results and Conclusions sections.

### External Security Factors

In order to estimate the effect that public opinion has on defense and equipment spending without omitted variable bias, the authors tested a number of other security-related variables in the models that both research and background knowledge suggest have an effect on defense and equipment spending. These variables are international terror attack, civil war, and international conflict.

The international terror attack data comes from the Global Terrorism Database, which is compiled and maintained by the University of Maryland. This paper measures the international terror attack variable by counting the number of attacks per year that fall into the category of logistically international. This means that the aggressor must have crossed an international border to commit the act.[[17]](#endnote-18) Any incidents in which this information was unknown were excluded from the study. The main argument for this variable comes from the pattern of governments responding to international terrorist attacks through war. For instance, after the 9/11 attacks, the United States went to war in Afghanistan with NATOs full support and Iraq with support by a smaller number of its allies. Later, when ISIS claimed responsibility for international terrorist acts, the United States and some European allies sent or supported military operations in the Middle East.

The data for the civil war variable was gleaned from the Correlates of War (COW) database. This variable is binary and based on COW’s intra-state wars data, and it describes whether or not a country had experienced a civil war within the preceding 20 years. The theory behind this variable is the supposition that if a country has experienced a civil war within the previous 20 years, there could be lasting tension that the resulting government in power would want to have the capacity to respond to in case of further conflict. Daniel Albalate, Germà Bel, and Ferran Elias (Albalate, Bel, and Elias 2012)support civil war as a determinant of defense spending in their report studying the institutional determinants of military spending by hypothesizing that when a country is more prone to conflict, defense spending rises (pg. 2-3). Albalate et al. include a civil war variable along with external war variables to test for all types of conflict via war participation (pg. 7-8).

The international conflict variable was also drawn from the COW database. This variable is measured by recording any instance in which a country was engaged in what COW defines as a militarized interstate dispute (MID). This includes international disputes from the mobilization of troops intended to threaten or persuade another county to armed conflict.[[18]](#endnote-19) Unlike the civil war variable, international conflicts are recorded only for the years in which they occurred, not for whether there had been one during a previous set of time. Following a model that Eichenberg and Stoll laid out in their 2003 *Journal of Conflict Resolution* paper, the study team predicted that an increase in international conflict results in an increase in defense spending. Eichenberg and Stoll estimate MID variables as total MIDs and include a separate variable tracking the number of Soviet MIDs, because Soviet MIDs were hypothesized to be a determinant in the relationship between public opinion and defense spending (R. C. Eichenberg and Stoll 2003).

## Macro-Economic Factors

To reiterate the discussion in the Strained European Defense Capacities section, income is a well-developed and supported determinant of defense spending (Sandler and Hartley 1999). Therefore, this analysis controls for countries’ incomes by including a GDP per capita variable. Similar to the defense and equipment spending variables, GDP per capita is measured as a percent change from the previous year in constant dolalrs. The data for this variable was gleaned from the World Bank.

### Parliamentary Factors

The paper tries to eliminate omitted variable bias from the models by measuring the effect that the political makeup of each country’s government has on defense spending. Previous literature has tested and supported the theory that different political parties tend to spend different amounts on defense (Wlezien 1996; Risse-Kappen 1991; Marks 2006). This paper aims to control for this difference in the models by measuring which political parties are in control of the government during each year and whether those parties are more aligned with the left or right, GAL or TAN, and pro or anti EU. We achieve this by using the cabinet scores derived from ParlGov classifications.[[19]](#endnote-20) Drawing from other datasets and imputing values from similar parties when necessary, ParlGov classifies political parties by using a 0-10 score across multiple dimensions. Zero indicates left/GAL/anti-EU, and 10 indicates right/TAN/pro-EU.

This paper measures six government variables to test in this analysis. The first of the three variables measure the spread between the cabinet and opposition on left/right values, GAL/TAN values, and EU support. This paper gives each cabinet a score by taking the average value of all of its member parties, weighted by their number of seats. When there are multiple cabinets in a year, their scores are averaged and weighted by the percentage of the year they were in power. The second of the three variables measures polarization and is calculated by comparing the parliamentary parties in and out of the government (not all parties are in the government at one time). First, the opposition score is calculated in the same manner as the cabinet score. Unlike the cabinet score, it includes all parties in the parliament that are excluded from the government. Once the score is calculated, it is subtracted from the cabinet score. The difference between the cabinet and opposition scores provides our measure of polarization. The polarization values are not shown directly, but the gap between the cabinet and the opposition is shaded grey and indicates their size before squaring.

The distribution of the governments’ cabinet and opposition being more left (0) or more right (10) of each country in the time period is displayed in Figure 11.

#### Figure 11: Left-Right Alignment of the Cabinet and the Opposition

[Insert Figure11.png]

In France and Turkey, the government cabinet (solid circle) is almost exclusively oriented towards the right while the opposition (hollow triangle) is almost exclusively oriented towards the left. In the Netherlands, Poland, Germany, and Portugal, the cabinet and opposition both vary between left and right over time and, for the most part, never exclusively rank completely left (0) or completely right (10). For a short time between 2006 and 2009, the Netherlands even experience almost equal left/right rankings for both the cabinet and opposition in government. From 2006 to 2008, Italy’s cabinet and opposition completely swap from right to left and back to right, and from left to right and back to left, respectively.

The distribution of the governments’ cabinet and opposition being more GAL (0) or more TAN (10) of each country in the time period is displayed in Figure 12.

#### Figure 12: GAL- TAN Alignment of the Cabinet and the Opposition

[Insert Figure12.png]

The distribution of governments’ cabinets and oppositions being more GAL or TAN is very similar to the distribution of governments’ cabinets and oppositions being more left or right. One large difference is in the Netherlands, where both cabinet and opposition are more GAL than TAN, and there is not the same volatility as demonstrated in Figure 11. For the United Kingdom, the volatility is very similar to Figure 11, however, both the cabinet and the opposition are more GAL than TAN, while in Figure 11, the cabinet and opposition is more evenly distributed between left and right.

The distribution of the governments’ cabinet and opposition being anti (0) or pro (10) EU for each country during the time period is displayed in Figure 13.

#### Figure 13: Anti-EU versus Pro-EU Alignment of the Cabinet and the Opposition

[Insert Figure13.png]

In France, the opposition and cabinet are equal in their stance on being anti or pro-EU throughout the entire time period. Germany, Poland, and Turkey generally have more pro-EU cabinets, while the cabinets’ opposition tends not to dip much below the middle of the scale. However, Poland saw a dramatic swap 2006 and 2007, when the EU ambivalent parties were put in charge while the pro-EU parties were largely relegated to the opposition. Italy shows the most variation in cabinet and opposition support, changing between anti- and pro-EU over time. Spain shows the most support for cabinet and opposition being pro-EU.

## Regression Methodology

The model to estimate the relationship between public opinion and defense/equipment spending while controlling for the other security, macroeconomic, and government factors was built by using ordinary least squares (OLS) regression and then by testing various methods to control for the inconsistencies that can arise from estimating relationships using OLS with cross-sectional data. For each of the five hypotheses, the analysis tested the OLS formula (1):

For each hypothesis, the availability of data for countries and years changes. Therefore, the models for each hypothesis are a subset of formula 1, depending on what data was available and which variables had significant and meaningful effects. All independent variables are lagged by one year in order to control for the delayed effect that public opinion and the control variables have on defense spending. To reiterate, when estimating spending policy, budget proceedings will happen one to three years before defense expenditures occur. Thus, defense/equipment spending’s determinants do not matter until at least one to three years later (Wlezien 1996; R. C. Eichenberg and Stoll 2003; Hartley and Russett 1992). For the public opinion variable, the analysis tests public opinion data lagged for one to three years, including whichever variable has the strongest correlation with spending. Each model will be discussed in more detail in the Results section of this paper.

After the OLS model was determined for each hypothesis, the study team tested for pooled, between, fixed, and random effects models to ensure that the estimated effect avoided inconsistency from unobserved variables between countries and over time that could influence defense and equipment spending. Again, the final model chosen for each hypothesis will be discussed further in the Results section of this paper.

# Results

## Net Public Support for Defense Spending

As is shown in Table 1[[20]](#endnote-21), changes in defense and equipment spending are significantly correlated with the public’s opinion as to whether their country should increase or decrease defense spending in prior years. These results, that defense spending responds to net public support, reinforce previous studies estimating the relationship between public opinion and defense spending, and they further confirm that the relationship exists in seven additional countries. (Wlezien 1996; R. C. Eichenberg and Stoll 2003).[[21]](#endnote-22) Our model estimates that net public support for defense spending has the most significant influence on changes in defense spending two years later. Eichenberg and Stoll found a similar lag in some cases and offered the possible explanation, saying " [the] formulation of the budget in some countries can begin as much as 2 years before the budget is actually expended in year T later (finance ministers often request agency submissions in the fall of year T - 2 for expenditures in year T)" (p. 10).

If all other variables are held constant, then each percentage point increase in net public support for defense spending is associated with an estimated 0.130 percentage point increase in changes in defense spending two years later. This ratio can quickly translate into significant upward or downward pressure on the change in defense spending because net public support for defense spending is volatile. It ranges from extremes of around -50 percent to 40 percent, and the average standard deviation for the countries in the model is over 16 percent.

#### Table 1: Regression Estimates of Changes in Spending and Support for Increasing Defense Spending

|  |  |  |
| --- | --- | --- |
|  | **Net Support for Increasing Defense Spending & Change in Total Defense** | **Net Support for Increasing Defense Spending & Change in Def. Equipment** |
| Polling Net Support for |  |  |
| Increasing Def. Spending   (year T-2) | 0.130\*\* |  |
|  | (0.038) |  |
| Increasing Def. Spending   (year T-3) |  | 0.526\*\* |
|  |  | (0.163) |
| Macro-Economics |  |  |
| Change in GDP per Capita  (year T-1) | 0.130 | 0.912· |
|  | (0.084) | (0.505) |
| Parliamentary |  |  |
| Left-Right Polarization (year T-1) |  | -0.016\*\* |
|  |  | (0.006) |
| Intercept |  |  |
| (Intercept) | 0.015· | 0.163\* |
|  | (0.009) | (0.072) |
| R2 | 0.219 | 0.334 |
| Adj. R2 | 0.206 | 0.303 |
| Num. obs. | 53 | 43 |
| \*\*\*p < 0.001, \*\*p < 0.01, \*p < 0.05, ·p < 0.1. | | |
| Note: The model of total defense spending used random effects. The defense equipment used pooled regression. | | |

Critically, net public support for defense spending has a larger, yet slightly less significant, impact on defense equipment spending than it does on total defense spending, although the lag between polling and the percent change in equipment spending is three years.[[22]](#endnote-23) Eichenberg and Stoll (2003) had found a similar gap in polling's influence on overall defense spending in three of the countries they studied, and they argued, " a target for defense spending is set quite early in European systems" (p. 11).[[23]](#endnote-24) However, the difference between the two models might reflect the fact that the procurement and R&D purchases that make up NATO's equipment category are typically spread over many years. The contractual obligations and the need for advanced planning that typify major capital equipment purchases could explain why equipment spending is slower to respond to the public's preferences when it comes to defense spending.

The other notable difference between the influence of net public support on defense spending and equipment spending is that the coefficient for the study’s equipment spending variable, 0.526, is **four times as large** as that for total defense spending. This suggests that net public support for defense spending shifts expenditures towards equipment, while net public opposition reduces equipment share. Beyond the effect of public opinion, the other independent variables in Table 1 had more influence than the independent variables in the defense spending model. The most significant of these variables, Left-right polarization between the cabinet and the opposition, has a negative influence on spending. Another independent variable, growth in GDP per capita, was included in the model, but despite the size of its positive effect on the defense spending, it is not statistically significant.

This was the only hypothesis relating to equipment spending that yielded significant results. One possible confounding factor for this analysis is that equipment spending appears to have small cyclical effects that were not captured in our models. These cyclical trends can be seen in Figure 2, where Spain, Portugal and Turkey all demonstrate volatile patterns in equipment spending throughout the time period. This phenomenon is worth future study and may be a source of future controversy, as countries may miss the 20 percent equipment spending goal in one year only to notably exceed it in the next.

## Net Public support for strong EU leadership Role in Foreign Affairs

The paper's second hypothesis yields more ambiguous results. As is shown in Table 2[[24]](#endnote-25), net public support for strong EU leadership is associated with growth in the change in defense spending, but a one percent increase in net support is only estimated to result in a 0.076 percentage point change in defense spending. Although this small estimated effect might be due to the relative spread of both support for EU leadership and changes in defense spending as well as low explanatory power of the model, the estimated impact of EU leadership is still meaningful because, for most countries in the sample, EU leadership is remarkably popular. Five countries—Germany, Italy, the Netherlands, Poland, and Portugal—reliably have net public support near or above 50 percent. While support for EU leadership in France, the United Kingdom, and Spain is weaker, particularly from 2012 to 2013, in most sample years net support remained above 25 percent. Unsurprisingly, Turkey, which remains outside of the union after a drawn out membership process, is the only country where EU leadership ever goes into the negative, and has been consistently since 2005.[[25]](#endnote-26)

#### Table 2: Regression Estimates of Changes in Spending and Support for Strong EU Leadership

|  |  |  |
| --- | --- | --- |
|  | **Net Desire for Strong EU Leadership & Change in Total Defense** | **Net Desire for Strong EU Leadership & Change in Def. Equipment** |
| Polling Net Desire for |  |  |
| Strong EU Leadership (year T-1) | **0.076**\* |  |
|  | (0.030) |  |
| Strong EU Leadership (year T-2) |  | -0.166 |
|  |  | (0.330) |
| Security |  |  |
| Militarized Interstate Disputes  (year T-1) | 0.057 |  |
|  | (0.038) |  |
| Civil War (year T-21 to T-1) |  | -0.396 |
|  |  | (0.369) |
| Macroeconomic |  |  |
| Change in GDP per Capita (year T-1) | 0.150 |  |
|  | (0.090) |  |
| Parliamentary |  |  |
| Cabinet Liberty-Authority  (year T-1) |  | 0.054 |
|  |  | (0.038) |
| Cabinet EU-Anti-Pro (year T-1) |  | 0.032 |
|  |  | (0.038) |
| EU-Anti-Pro Polarization (year T-1) | **0.003**\* |  |
|  | (0.002) |  |
| Constant |  |  |
| (Intercept) | **-0.070**\*\*\* | -0.401 |
|  | (0.020) | (0.422) |
| R2 | 0.184 | 0.030 |
| Adj. R2 | 0.173 | 0.028 |
| Num. obs. | 81 | 78 |
| \*\*\*p < 0.001, \*\*p < 0.01, \*p < 0.05, ·p < 0.1. | | |
| Note: Both models used pooled regression. | | |

The estimated influence of support for strong EU leadership on defense spending only translates to partial support for the hypothesis, because no such relationship is found between support for EU leadership and equipment spending. In fact, the estimated relationship between support for EU leadership and equipment spending is negative and not statistically significant. This result surprised the study team because past research by Joachim Hofbauer, Priscilla Hermann, and Sneha Raghavan (2012) found that for much of the study period, European countries were able to maintain per soldier spending by reducing personnel faster than overall budget cuts. Those cost reduction efforts, unlike attempts to reduce fragmentation in the European defense market, were not an official European common defense measure, but the reductions in troop numbers did complement common market approaches.

One possible explanation comes from Martial Foucault, Bastien Irondelle, and Frédéric Mérand (2009), who sought to categorize opinions with regard to European security and defense policy. They found that those most considered about the EU's global stature were "the most supportive of the EU intervening in conflicts around the globe" (Foucault, Irondelle, and Mérand 2009, 13). Future research may benefit from studying whether higher spending on maintenance and operations is associated with higher levels of support for a unified and active EU foreign policy. It should be noted, however, that NATO operations, rather than those of the EU, would likely be the largest driver of such spending.

## Public opinion regarding Transatlantic Partnership

Questions regarding public opinion on NATO and the U.S.-EU Partnership were not reliably available for Slovakia and Turkey, reducing the model’s sample size to eight. For the eight countries studied, this paper cannot reject the null hypothesis that the public opinion on the transatlantic partnership is unrelated to changes in defense or equipment spending. This failure to reject the null hypothesis held true for both the question as to whether NATO is essential and the question as to whether the U.S. and EU should cooperate more on diplomatic and security matters. While the results were not significant enough to predict the estimates more than 90 percent of the time, the most significant model was the relationship of change in defense spending and net public support for the U.S.-EU partnership.[[26]](#endnote-27) For this estimate, the coefficient for net support for U.S.-EU partnership is 0.078, similar to that for EU leadership and total defense spending.

When considering the wider applicability of this result, it is vital to recall that the sample of eight countries studied for this hypothesis includes no Eastern European nations and only one country, Poland, that had been part of the Soviet Union. Were sufficient data available to include states in that region or even if individual countries, notably Poland, were considered separately, then the result for this hypothesis may have been different. Even so, Western and Central Europe contain many of the continent's most significant economies and militaries, and popular opinion regarding the EU has a statistically stronger relationship with defense spending than popular opinion regarding NATO in those countries.

#### Table 3: Regression Estimates of Changes in Spending and Support for Transatlantic Partnership

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **U.S.-EU Partnership & Change in Total Defense** | **NATO Essential & Change in Total Defense** | **EU-U.S. Partnership & Change in Def. Equipment** | **NATO Essential & Change in Def. Equipment** |
| Polling Net Support for |  |  |  |  |
| U.S.-EU Partnership  (Year T-2) | 0.078· |  |  |  |
|  | (0.045) |  |  |  |
| U.S.-EU Partnership  (Year T-3) |  |  | 0.587 |  |
|  |  |  | (0.390) |  |
| NATO as Essential to Security (Year T-2) |  |  |  | -0.474 |
|  |  |  |  | (0.348) |
| NATO as Essential to Security (Year T-3) |  | 0.023 |  |  |
|  |  | (0.085) |  |  |
| Security |  |  |  |  |
| Civil War (year T-21 to T-1) |  |  |  | -0.209 |
|  |  |  |  | (0.178) |
| Macroeconomic |  |  |  |  |
| Change in GDP per Capita (year T-1) | 0.116 |  | 0.976 |  |
|  | (0.102) |  | (0.960) |  |
| Parliamentary |  |  |  |  |
| Liberty-Authority Polarization (year T-1) | -0.001 |  |  |  |
|  | (0.001) |  |  |  |
| EU-Anti-Pro Polarization (Year T-1) |  |  | -0.021 |  |
|  |  |  | (0.017) |  |
| Intercept |  |  |  |  |
| (Intercept) | 0.011 |  | 0.193 | 0.187· |
|  | (0.017) |  | (0.117) | (0.112) |
| R2 | 0.062 | 0.001 | 0.067 | 0.026 |
| Adj. R2 | 0.058 | 0.001 | 0.062 | 0.025 |
| Num. obs. | 64 | 78 | 56 | 87 |
| \*\*\*p < 0.001, \*\*p < 0.01, \*p < 0.05, ·p < 0.1.  Note: All four models used pooled regression. | | | | |
|  | | | | |

## Conclusions

The conclusion contains two sections, which are intended for two different if not entirely distinct audiences. The first section discusses findings and recommendations for that are relevant to U.S. force planning in Europe. The second section describes how this paper's results add to our understanding of public opinion and defense spending, highlight limitations of the research, and propose avenues for future research.

**Findings and recommendations for the U.S. Army**

The models in this study validate the principle that public opinion matters, but they explain only a minority of the total variation in changes in defense spending. The findings and recommendations for the U.S. Army, discussed below, are not spot predictions of future spending levels. Instead, they are intended to clarify how public opinion is influencing those levels now and how they may influence them in the future. Public diplomacy is the responsibility of the U.S. State department and not the U.S. Army, but that does not change the following finding:

**Finding 1:** Net support for European Defense spending is positively correlated with changes in defense budgets two years later. Net support disproportionately influences equipment and R&D spending, although the relationship is strongest after three years.

**Recommendation A:** In multiple European countries, anticipate that public opinion will make it harder to increase military investments in coming years.

Due to the apparent influence of public opinion on the early stages of the budget process, even if Russian actions increase net public support for defense spending, then the trends through 2014 will be a headwind against greater spending in for next two years. This is because public opinion's influence has a three year lag on average, so expressions of support or opposition in 2015 will take until 2018 to fully percolate through the system. As is shown in Table 3, public opinion is a consistent drag on defense spending in France, Germany, and then Netherlands, as net support is consistently negative during the study period. In Spain, Portugal and Italy, public support for defense spending peaked in 2007 but subsequently dropped dramatically, to net 40 percent of the population favoring defense cuts. Only in the United Kingdom and Poland is net support for spending regularly positive, and only Turkey has a steady climb for support. That said, aside from Turkey, which is dramatically in the lead, the short list of countries where support is rising as of 2014 is not the same as the list of countries where support is presently highest. Net public support for defense spending has been growing after earlier declines in both Portugal and Poland, and it has been falling in recent years in the United Kingdom.

**Finding 2:** Support for EU leadership is positively correlated with increases in total Defense spending two years later but shows no correlation with defense equipment spending.   
**Finding 3:** Support for U.S.-EU partnership is positively correlated with total defense spending, but the correlation is not significant. Similarly, among the nations in the sample, belief that NATO was essential was not tied to changes in spending.

This pair of findings may be driven in part by the nature of the sample. Most of the nations are located in Western or Central Europe, and only Poland was both a member of the Warsaw Pact. This finding is in no way inconsistent with Baltic publics caring a great deal about NATO and influencing their governments towards greater spending. Nonetheless, the study sample has great practical importance, and even when Turkey and Slovakia are not available, the remaining eight countries account for about 85 percent of NATO military spending.

**Recommendation B:** When it comes to short top-line defense budgets, public opinion regarding strong EU leadership punches above its weight.

**Recommendation C:** In Western and Central Europe, do not rely on an isolated boost in public opinion for NATO to prompt popular pressure for increasing defense budgets.

NATO remains the world's preeminent military alliance, but public opinion on NATO and U.S.-EU ties has proven less influential than popular opinion on EU foreign policy. Despite the EU's comparative institutional weakness in the field of security, net public support for strong EU leadership in the sample countries has a fast acting and significant effect on total defense spending. This effect does not translate into investment spending, which, when combined with the speed of the effect, suggests that the increases in defense spending may primarily be boosting spending on operations. Historically, Europe's larger and more expensive multilateral military operations are conducted under NATO's aegis, but much of the support for interventions may come from those who wish to see Europe as a global power.

**Understanding Public Opinion and Defense Spending**

These findings shed light on how public opinion can influence the strategic doctrine at the most abstract levels. When the public offers net support for increased defense, policymakers tend to respond with greater overall spending and with investments in equipment and R&D being a disproportionate beneficiary When the public opinion supports stronger EU leadership, this translates into resources but not greater investment, which could boost shorter term actions. Because these estimates are significant, the views of the public do appear to influence the strategic doctrine of the government at a lower level than merely determining the total resources it has available to it. As these decisions play out on both the national and supranational scale European policymakers will need to find ways to convince skeptical publics or be prepared to make do with fewer resources now or and in the future.

While these results add to the literature on studying the relationship between public opinion and defense spending by exploring a new set of countries during a new time period, using these specific countries during the study period from 2002 to 2014 posed limitations in the methodology. The first limitation is our sample. To measure the causality of a correlation using OLS regressions, it is necessary to draw the observations of the study randomly from the larger population if the entire population, in this case all European countries, cannot be used. Additionally, the public opinion polling data used in this study is neither comprehensive for all European countries, nor does it cover all the years during the study period. Consequently, this paper only used the countries that had public opinion data for the most number of years during the study period for each hypothesis. In other words, our sample was not randomly drawn from the population, which poses threats of bias in our results. Rather than imputing missing data, the study team chose the combination of countries and years that made the sample size the largest in order to avoid choosing countries or years for any reason that might be methodological.

The second limitation is omitted variable bias. As discussed throughout this paper, existing literature that studies public opinion and public policy outcomes has identified many determinants of public policy, which includes defense spending. The results of our models confirm an absence of explanatory variables because the percent of variation in defense and investment spending is, at most, explained by only 30 percent of the variation in the independent variables. One example of an omitted variable is the media. Almond (1956) discusses the impact of the media in the communication between the public and the government. He argues that the public looks to the media for information on policy issues such as defense spending. Thus, the public actually formulates opinions based on what the media says, which might not accurately represent government actions due to bias and inaccuracy in the news. Another possibility is that the macro-economic , external security, and parliamentary factors have a larger effect than is captured in the model. There is a range of ways to examine these variables and, as with polling data, they may benefit from being lagged to reflect the lengthy European budgetary process.

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1. The study team would like to acknowledge our appreciation for those who helped in the development of this project. We would first like to thank our fellow panelists and attendees at the 2015 MPSA conference, Jess Clayton for chairing the panel, and Dr. Oktay Sibel for her feedback on the developments of this study in April, 2015. We would next like to thank Aude Fleurant for her discussion with us on both our study and trends in European defense spending. Alexander Meitiv deserves thanks for statistics related discussions. Last but not least, we would finally like to thank Dr. Kathleen H. Hicks, Melissa Dalton, Col. John A O’Grady, and Colin McElhinny at CSIS for their support for and feedback on this study.  [↑](#endnote-ref-2)
2. The Tranatlantic Trends dataset did not consistently include Slovakia for the polling questions used in this report that pertain to the EU or NATO. Data on Turkey is included in for all three hypotheses, but not for the question on whether NATO and EU should converge in hypothesis three. The ten countries together constituted approximately 90 percent of NATO defense spending and still account for 85 percent even when Turkey and Slovakia are excluded. [↑](#endnote-ref-3)
3. The last full report pertained included 2012 (Hofbauer, Hermann, and Raghavan 2012). For the 2014 update see (Cipoletti et al. 2015) [↑](#endnote-ref-4)
4. Spill-ins are the defense outlays of the other allies associated with a country (Sandler and Hartley 1999). [↑](#endnote-ref-5)
5. Risse-Kappan finds the pluralistic theory of democracy too reductive. He does argue that public opinion matters, but the degree to which it matters is mediated by domestic structures. [↑](#endnote-ref-6)
6. Wlezien (1996) and Higgs and Kilduff (1993) studied the United States. Eichenberg and Stoll included the United States as well and expanded that analysis to Great Britain, France, Germany, and Sweden. [↑](#endnote-ref-7)
7. Disagreements regarding Vladimir Putin were much sharper in 2007, as is documented in (Godfrey 2007). [↑](#endnote-ref-8)
8. The EU has put sanctions on Russia’s energy in place, as well as on defense and financial sectors in July 2014, despite the fact that Russia is a much larger trading partner for the EU than for the United States (Europa 2015). NATO member states agreed to a Readiness Action Plan that includes near term assurance measures and longer term commitments to enhanced capabilities (“Wales Summit Declaration” 2014). [↑](#endnote-ref-9)
9. (Lockheed Martin 2013) [↑](#endnote-ref-10)
10. (Dassault 2013) [↑](#endnote-ref-11)
11. Acquis communaurtaire refers to the range of agreements, treaties, principles, and more that make up EU law (“Chapters of the Acquis” 2015). [↑](#endnote-ref-12)
12. For an excellent review of the factors influencing defense budgets, see (Bel and Elias-Moreno 2015). [↑](#endnote-ref-13)
13. (Cipoletti et al. 2015) [↑](#endnote-ref-14)
14. (NATO 2015) [↑](#endnote-ref-15)
15. (Burke 2014) [↑](#endnote-ref-16)
16. (Champion 2003) [↑](#endnote-ref-17)
17. (University of Maryland 2015) [↑](#endnote-ref-18)
18. (the Plone Foundation, n.d.) [↑](#endnote-ref-19)
19. ParlGov is a parliaments and governments database that contains data for all EU and most OECD Democracies. They refer to GAL/TAN as Liberty/Authority, but this paper uses the acronym because the term “liberty” is highly contested (Doring and Manow 2015). [↑](#endnote-ref-20)
20. The first model in Table one was constructed using the pooled OLS estimator, which combines the data over countries and time into one regression and estimates the relationship with OLS. This method was chosen by comparing the pooled OLS results to fixed effects and random effects results, respectively, using F tests based on the results of each model. The second model in Table one was constructed using the random effects model that includes all country observations for all the time periods using a multilevel model. The F test indicated that the fixed effects model fitted better than the pooled model, and then random effects were chosen by comparing the fixed effects results to the random effects results using the Hausman test. This test predicted that there is a significant difference when comparing the fixed effects estimators and the random effects estimators. Thus, random effects were chosen. [↑](#endnote-ref-21)
21. Eichenberg and Stoll (R. C. Eichenberg and Stoll 2003) overlap this study with the inclusion of Great Britain, France, and Germany. This paper adds seven additional countries: Italy, the Netherlands, Poland, Portugal, Spain, and Turkey. Slovakia is included in the analysis of hypothesis two and three, but the Transatlantic Trends dataset did not have sufficient data to allow the inclusion of Slovakia in all hypotheses. [↑](#endnote-ref-22)
22. The p-value for the net public support for defense spending, and defense spending is 0.0020795

    versus 0.002472 for the same question and equipment spending. [↑](#endnote-ref-23)
23. That assertion was also supported by this study. The net public support for defense spending was significant with both a lag of two years and of three. However, the significance was greater for two years. One contributing factor was that the two year lag did have the advantage of a larger sample size. [↑](#endnote-ref-24)
24. Both models in table two were constructed using the pooled OLS estimator, because these results were determined more accurate than the results modeled by fixed or random effects according to F tests. [↑](#endnote-ref-25)
25. Slovakia is excluded from this question because the country was not queried on the question in the Transatlantic Trends dataset. [↑](#endnote-ref-26)
26. This paper considered results significant when they had a p-value of 0.05 or less. The p-value for support for U.S.-EU partnership was 0.08688. [↑](#endnote-ref-27)