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University of Nevada, Reno

**The Economic Analysis of Trade, Investment, Growth and Security – An Application
to Poland**

A thesis submitted in partial fulfillment of the
requirements for the degree of
Bachelor of Science in Economics and International Business and
the Honors Program

By
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**UNIVERSITY
OF NEVADA
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We recommend that the thesis prepared under our supervision by

GRACE L. MORRIS

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be accepted in partial fulfillment of the requirements for the degree of

**BACHELOR OF SCIENCE IN ECONOMICS AND
INTERNATIONAL BUSINESS**

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Abstract

Each country that works in conjunction with the U.S. military incurs the risk of threats of attack, disruption in their foreign relations, and a loss of sovereignty. Compensating for these risks, participating countries may receive economic benefits in addition to increased security. Using regression analysis, I find that increased U.S. military involvement in a foreign country is statistically correlated with higher trade, investment, and economic growth. These correlations can give the U.S. leverage in negotiations. However, the case study on Poland's decision-process on whether to host the U.S. anti-missile system illustrates that the degree of the foreign country's economic development determines the amount of leverage the U.S. has in negotiations, although economic benefits are not the sole determinants of whether countries choose to become involved with the U.S. military.

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Table of Contents

Abstract.....	i
Acknowledgments.....	ii
List of Tables.....	iv
I. Introduction	1
II. Literature Review	3
III. Data	12
IV. Analysis	18
V. An Application to Poland Part I: The Historic and Current Implications of the Construction of an Anti-Missile System.....	23
VI. An Application to Poland Part II: Economic Implications of the Construction of an Anti-Missile System.....	32
VII. Conclusion.....	43
References.....	45
Appendices.....	50

List of Tables

Table 1: Study's Range of Military Personnel by Country (2006)	13
Table 2: Study's Range of FMS Deliveries by Country (2006).....	14
Table 3: Study's Range of Exports by Country (2006).....	15
Table 4: Study's Range of FDI Inflows by Country (2006).....	16
Table 5: Study's Range of Per Capita GDP by Country (2006).....	17
Table 6: The Relationship between Export-GDP Ratio and Military Involvement Per Capita.....	19
Table 7: The Relationship between FDI-GDP Ratio and Military Involvement Per Capita.....	20
Table 8: The Relationship between Economic Growth and Military Involvement Per Capita.....	20

I. Introduction

Over the past decades, the U.S. military expanded worldwide. As global threats evolve, the U.S. military finds it necessary to strengthen its presence and relocate into new territories. However, foreign countries may be hesitant to allow the U.S. military on their soil because they fear risk of attack, a deterioration of foreign relations, or a loss of sovereignty. If military involvement with the United States can provide the participating country with economic benefits such as increased trade, foreign investment, and growth along with additional security, it may give the United States more leverage in convincing foreign countries to be involved with the U.S. military.

My statistical panel determines if military involvement with the United States leads to higher trade, foreign investment, and economic growth for the participating foreign country. It finds that increased military involvement, as measured by the number of military personnel stationed in a given foreign country, leads to increased trade, foreign investment, and economic growth. However, the second indicator, foreign military sale (FMS) deliveries, proves to be insignificant, possibly due to vaguely detailed public reporting methods.

This research includes a case study that focuses on Poland, which is currently faced with the decision to allow the United States to build an anti-missile system on Polish territory. Approving construction is risky, because Poland is a former Soviet satellite, which historically does not allowed U.S. troops to be based in Poland; this deal threatens to strain relations between Poland and Russia. This research intends to determine how large of a role economic incentives play in Poland's decision-making

process to allow the construction. Despite the results, which show that military involvement leads to greater trade, foreign investment, and economic growth, it is found that economic benefits are only significant to those Poles in the region local to the proposed site. The Polish government and the general public place only negligible weight on the economic benefits, while giving priority to more pressing needs such as deals to modernize their military.

Two conclusions can be drawn from the case study on Poland. First the case study illustrates that the amount of leverage the United States gains in the bargaining process for military involvement from economic benefits is dependent on the economic state of the country. Countries with well-developed economies are less concerned with the possible economic benefits they can receive from military involvement than countries that are suffering economically. Secondly, the case study shows that economic benefits are not the sole determinant of military involvement. Political and security goals also play a significant role among other things.

II. Literature Review

Duke (1989) explains that many European countries, such as Germany, Greece, Portugal, Turkey, and Spain, voluntarily chose to host the U.S. military on their soil following WWII mainly due to economic needs. The poorer the foreign country was, the more it pushed for economic compensation in its bargaining process (Duke, 1989, 373). Therefore, Duke's findings show that military presence can have a direct economic benefit built into negotiated contracts, as well as possible indirect ones, which I attempt to identify in my research. Countries still possess the ability to negotiate economic benefits from military presence. This study intends to determine whether Poland negotiated for economic benefits in return for basing the anti-missile defense system.

However, Duke simply provides a historical account of the state of post-war European nations and their reasoning to allow U.S. troops on their soil. He does not test whether the countries actually experienced economic growth due to the U.S. military presence. Another drawback is that Duke focuses solely on European countries, making it difficult to use the data to infer generalizations about the rest of the world. Also, Duke focuses on only the immediate post-war period, when the United States had a great interest in basing troops in Europe. Today, security issues have changed; therefore, countries' bargaining powers have been altered. Economic incentives to place troops in the country, however, should still remain.

Jones and Kane (2005) estimate a regression analysis which measures the relationship between the number of U.S. troops deployed in a foreign country and the country's economic growth. Jones and Kane find a positive relationship, which they attribute to the *security umbrella effect* and the *innovation diffusion effect*. The security

umbrella effect is caused by the stability created by the presence of U.S. soldiers, making businesses more comfortable to invest in the region. The innovation diffusion effect occurs when a foreign country is able to take advantage of the incoming troops' new ideas by using the ideas to improve its own economy (Jones & Kane, 2005, "Highlights," para. 4). Additionally, Jones and Kane find that the economic growth resulting from a strong U.S. military presence increases over time. This positive correlation is strengthened when the U.S. military presence is coupled with diplomatic efforts and the fostering of intercultural relationships (Jones & Kane, 2005, "Highlights," para. 5-6).

Jones and Kane's findings conclude that military presence can boost a foreign economy. However, military presence is only one component of military involvement, and my study looks at a bigger picture by including arms trade. Unlike Duke's (1989) work, Jones and Kane (2005) conduct a statistical analysis with current data and a large sample of 94 countries; therefore making their results safer to use for generalizations about the effect of military involvement on a foreign economy. However, it must be noted that this paper was published for The Heritage Foundation, an organization dedicated to research with a mission "to formulate and promote conservative public policies based on the principles of free enterprise, limited government, individual freedom, traditional American values, and a strong national defense" (The Heritage Foundation, 2010, para. 1). Therefore, the results of this working paper may be biased toward the conservative interests of The Heritage Foundation. Moreover, Jones and Kane's working paper may have yet to be peer reviewed.

Gowa argues that countries are more likely to trade with allies instead of their enemies due to *security externalities* that exist with trade (1994, 6). Therefore, it can be

expected that countries, which are militarily involved with the United States, are more likely to experience greater trade with the United States.

Gowa's empirical analysis covers data from 1905 to 1985, and the sample includes countries such as the United States, Great Britain, France, Italy, Germany, the Soviet Union, and Japan (1994, 9). Although the data covers a large time period, the sample of countries is small. The countries involved, however, are large players in the international trade and political arenas.

Long (2003) furthers the research done by Gowa (1994) and finds that only countries in alliances with defense pacts experience statistically significant higher trade. Alliance members without defense pacts do not experience higher trade. In fact, their trade levels remain similar to the level of non-alliance members.

In addition to the security externality argument put forth by Gowa (1994), Long believes that governments will reduce trade barriers only for countries with which their country has a defense pact. Alliances reduce the opportunistic behavior of firms. Firms do not want to hurt the other country economically because it would thereby reduce the strength of their overall military and leave their investments more vulnerable to attack. Firms feel more secure in establishing a commercial relationship with another country if they are sure that the government will defend that country. The promise of retaliation will deter other countries from attacking. Furthermore, even if attacked, the governments are obligated to protect trading relationships.

In the context of my study, Long predicts that military presence and arms trading alone will not lead to higher trade unless the United States also makes a pact to defend the foreign country militarily in the case of aggression.

Like Gowa (1994), Long (2003) focuses on alliances. My study focuses on military involvement, which can simply be arms trading or the presence of the military in a foreign country. Yet, neither of these variables implies an alliance. The United States has traded arms with countries with which they later had military conflicts, such as Iraq (Johnson, 2008, 89), and the military presence of the United States is not always voluntary on the part of the foreign country. Thus, Long's research does not directly relate to mine, but it would explain an increased willingness of U.S. firms to trade with countries with which the United States is supplying military goods and personnel thereby increasing the other countries' military might.

Long's sample includes the same countries as Gowa (1994), adds Austria-Hungary and China, and uses time series data from 1885 to 1990. This larger sample could give statistically more accurate results than Gowa, although it is still a relatively small sample and, therefore, the analysis remains limited.

Although the above literature agrees with the notion that increased military involvement leads to greater trade, investment, and growth, Johnson (2004) does not share these views. He enumerates many cases in which military involvement has hindered the growth of economies of Asian countries such as the Philippines, Indochina, and Thailand. He does not believe that the U.S. military actually brings more stability to regions. He quotes military strategist Col. Harry Summers, Jr., describing how the United States scares a foreign country with "illusory" threats, after which they enter that country and stabilize what was never an unstable situation (Johnson, 2004, 63). He also argues that military involvement in the form of arms trade does not benefit the economy as much as people perceive. Johnson uses Japan as an example; it has become the second largest

capitalist economy without the aid of arms transfers (2004, 91). However, one must keep in mind that Japan would not have been able to invest so much into its economy, if it did not have the United States' extensive military presence in Okinawa; for that money would have had to be spent on building its own military for protection.

While Johnson (2004) argues that unwanted military presence can lead to political hostility, it does not necessarily impede economic growth. The hypothesis that military presence increases trade, investment, and growth is hereby not disproved because most firms are able to distinguish their political beliefs from their drive to make profits. Although he provides examples of countries where economic growth was possibly stifled due to military presence, those examples could be the exception and not the rule.

Like Duke (1989), Johnson's (2004) arguments stem from a political science perspective, and his arguments are drawn from real-world examples and less from economic theory. Still, real-world examples are useful in order to avoid the trap of the "ivory tower economist." My case study of Poland serves as a real-world example, in which the economic impact of military involvement on a smaller geological scale was examined. The case study finds that economic impacts are only of a great concern at the local regional level.

The geographical extent to which a military base economically impacts its surrounding area is debated. For instance, the U.S. army feels that a larger region surrounding the base is affected. A statement given in regards to a proving ground (an area where weapons and military technology is tested) in Yuma, Arizona declared that the:

...Yuma Proving Ground plays a vigorous role in the economic stability of Southwest Arizona and contributes significantly to the economic health of the *entire state* (Italics added). The proving ground is an active consumer in the Yuma County economy through its purchase of standard goods and services and its requirements for high technology items and services related to its mission. (U.S. Army Installation Command: Southwest Region, 2007, para. 1)

Although the military base has a big economic impact in Arizona, it is debatable whether military bases located elsewhere will have the same large effect. For instance, the U.S. military is unlikely to purchase high-technological items from poorer economies such as Poland – those poor countries hoping to gain most economically from the base.

Contrary to the beliefs of the U.S. Army, Parai, Solomon, and Wait (1996) constrain the economic impact of military bases to local regions. They describe how military bases can improve the economy of a *host community*- the city in which the base is located - in quantifiable and unquantifiable ways. Quantifiable ways include providing employment, income, and expenditures to the local community. Other benefits are not measurable. For instance, the optimistic belief that a base will result in a secure environment and increased demand due to the influx of soldiers and their dependents can motivate investors to invest in the area. Another immeasurable benefit is the transfer of knowledge and expertise to locals from military personnel such as fire fighters, doctors, and dentists. Knowledge spillovers can improve the operation of the local firms and thereby lead to growth.

Parai et al. (1996) list three types of economic impacts that military installations can have on the local economy: direct, indirect, and induced impacts. Direct impacts consist of the income locals receive in return for providing the military base with goods, services, and labor. Indirect impacts occur as individuals or suppliers spend the income they have received from the base on other local goods and services. The indirect impact is reduced with each round of spending until the spending is “leaked out” of the community through imports and government taxes. Induced impacts take place when locals spend in response to the presence of the base. The example was given of a store being opened near a base in order to take advantage of the soldiers’ consumption. These researchers find that smaller communities gain more economic stimulus from the operation of a base than do larger communities, due to the expenditure of a base relative to their smaller economies.

Parai et al. (1996) describe the difficulty of measuring the local economic impacts due to the unavailability of data from the local level. Therefore, they created an analytical model, which measures the direct and indirect impacts with the small amount of data available. This result lacks the induced impacts, is based off of limited data, and only includes certain Canadian military bases in its sample. These issues constrain the ability to apply these findings to other countries, but the article still explains why many locals in economically depressed areas optimistically anticipate the opening of a military base.

Woodward (2004) is in agreement with Parai et al. (1996) that direct, indirect, and induced impacts occur; however, she feels that the benefit of bases to the local economy may be overestimated and addresses possible negative economic effects.

Woodward (2004) believes the economic benefits may be overestimated because the effect of the impact is dependent on the amount of goods and services purchased

locally by the base and the quantity of locals employed on the military base (Woodward, 2004, 47). Most of the economic benefit to a host community stems from providing locals with employment opportunities on base. But not much economic activity is generated by the base through the purchasing of goods and services, for as is often the case, military personnel choose to shop on base instead of in local establishments. And if the military base imports its needs from outside the country (which it is likely to do in a poor region), the possible positive economic impacts will be stifled (Woodward, 2004, 47). Another reason the economic gain may be overestimated is because the opportunity cost of building a base is not taken into account. Local landowners are forced to cease activity when their land is converted to military use; therefore, the local region loses the economic benefit of the previous activity, which took place there (Woodward, 2004, 49).

In addition to the recorded economic activity, many transactions go unrecorded, including illegal practices such as drug trading, gambling, and prostitution (Woodward, 2004, 47). Historically, these types of activities have been prominent surrounding some military bases, notably those in the Philippines and Okinawa, Japan. These activities can generate a large amount of income and economic activity in the region but still come with significant social costs, which too must be taken into consideration.

Like Parai et al. (1996), Woodward (2004) readily acknowledges that her results are hindered by a dearth of data on the economic impact of military establishments. Because military bases greatly vary in size and purpose, it is difficult to create models using available information. There is also little data on how military bases impact their communities economically or financially (Woodward, 2004, 44).

Woodward (2004) agrees that economic benefits are possible, but one cannot assume that the increased economic activity is purely beneficial. Previous research on the overall relationship between military involvement and increased trade, investment, and growth has not been conducted, but research on related topics, with the exception of Johnson (2004), points to a significant positive relationship. The local economic impact of military establishments has been more closely studied and shows a significant relationship; however, with a caveat that all of the economic activity may not be improving the well-being of the foreign community.

III. Data

Most of the literature suggests that military involvement has a significant effect on economic benefits. Therefore, the hypothesis is that increased military involvement with the United States will lead to increased trade, foreign investment, and economic growth for the participating foreign country.

For the purpose of modeling the relationship between military involvement and the three dependent variables: trade, foreign investment, and economic growth, a statistical panel is constructed. Cross-sectional time series data of 62 countries are collected from 1970 to 2006. These countries are a collection of Australia and North American, South American, African, European, Middle Eastern, and Asian countries. A complete list of the countries used is featured in the Appendices. This sample of countries is determined by the availability of data; only countries with full data sets on each of the variables are included. It must be mentioned that countries, which have had great military involvement have not been included due to complications with data. This includes Germany due to the split and reunification of the country, and Iraq and Afghanistan, which do not have detailed enough publically available data on military involvement due to the current wars. Three regression models are performed to identify the relationship and to measure the effect of military involvement on trade, foreign investment, and economic growth.

Military involvement is measured by two independent variables, the variables of interest: the number of military personnel stationed in a foreign country and foreign military sales (FMS) deliveries. The annual data on the number of active duty military personnel stationed abroad was provided by the Department of Defense (U.S. Department

of Defense, 2009). It is implied that the more U.S. soldiers hosted in a given country, the higher degree of military involvement that country has. Therefore, the hypothesis holds that the more soldiers there are stationed in a foreign country, the higher trade, foreign investment, and growth should be, holding everything else constant.

To provide the range of the study in terms of the number of military personnel stationed in a foreign country, a list of ten countries with the most military personnel and ten countries with the least military personnel stationed in 2006 is featured in Table 1.

Table 1: Study's Range of Military Personnel by Country (2006)

Countries with the Most U.S. Military Personnel		Countries with the Least U.S. Military Personnel	
Japan	33,453	Ghana, Morocco	14
South Korea	29,086	Chad, Dominican Republic	13
Italy	10,449	Sweden	12
United Kingdom	10,331	Haiti, Jamaica, Uruguay	11
Turkey	1,810	Paraguay	10
Spain	1,521	Bangladesh, Botswana, Cameroon, Mali, Costa Rica	9
Bahrain	1,357	Ireland, Niger	8
Portugal	922	Senegal	7
The Netherlands	591	New Zealand	6
Qatar	446	Lebanon	4

FMS deliveries are used as an additional measure of military involvement. FMS deliveries annually account in dollars the amount of defense articles, services, and training which are delivered to foreign countries (Defense Security Involvement Agency, 2008). This data is published by the Defense Security Involvement Agency (Defense Security Involvement Agency, 2010). Thus, the more FMS deliveries a foreign country receives from the United States, the higher military involvement is. According to the

hypothesis, trade, foreign investment, and growth should increase, holding everything else constant.

For FMS deliveries, a table is constructed featuring the countries with the ten highest amounts of FMS deliveries received in 2006 and the countries with the ten lowest amounts.

Table 2: Study's Range of FMS Deliveries by Country (2006)

Countries with the Most FMS Deliveries (Thousands)		Countries with the Least FMS Deliveries (Thousands)	
Israel	1,283,753	Ghana	414
Egypt	1,197,653	Haiti	372
Saudi Arabia	977,810	Peru	331
Japan	769,427	Chad	146
South Korea	598,599	Uruguay	135
Oman	453,700	Jamaica	131
Poland	393,472	Mali	37
Singapore	355,192	Paraguay	17
Australia	349,835	Niger	8
United Kingdom	294,276	Cameroon, Ivory Coast, Costa Rica	0

Three dependent variables, the control variables, are used to measure trade, foreign investment, and economic growth. In order to measure trade, annual exports of merchandise are used. This information is given by the World Trade Organization (WTO) (World Trade Organization, 2009). Exports suffice as a measure of trade, because other measures such as imports of merchandise and net exports of services relay the same information.

Again to provide the range of exports of the countries used in this analysis, the ten countries with the highest and lowest exports in 2006 are featured in Table 3.

Table 3: Study's Range of Exports by Country (2006)

Countries with the Highest Exports (Thousands)		Countries with the Lowest Exports (Thousands)	
Japan	646,725,000	Ghana	3,501,656
France	495,868,000	Cameroon	3,576,420
Netherlands	463,629,000	Chad	3,408,000
United Kingdom	448,653,000	Lebanon	2,814,000
Italy	416,875,000	Jamaica	1,983,498
Canada	388,091,000	Paraguay	1,906,000
South Korea	325,465,000	Senegal	1,593,970
Singapore	271,807,000	Mali	1,550,000
Mexico	249,961,000	Niger	1,239,840
Spain	213,717,000	Haiti	508,710

The above data on exports only depicts the range. However, there is a trend in exports data. Developed countries, especially in Europe, have both higher levels of exports and military personnel. But less developed countries, most notably those in South America and Africa, export much less despite that military presence does not seem to differ much from the rest of the countries.

A similar pattern is established when examining a country's amount of exports and FMS deliveries in 2006. More developed countries export more regardless of the amount of FMS deliveries, and developing countries still export less than their more developed counterparts that receive similar amounts of FMS deliveries.

To measure foreign investment, annual foreign direct investment (FDI) data is collected from United Nations Conference on Trade and Development (UNCTAD) (United Nations Conference on Trade and Development, 2009). FDI occurs when an investor with at least ten percent ownership of an enterprise, has a long-term interest in operating the enterprise in a foreign country (Organisation for Economic Co-operation

and Development, 1999). Table 4 shows the range of FDI levels used in the study, by listing the ten countries with the most FDI inflows and the ten countries with the least.

Table 4: Study's Range of FDI Inflows by Country (2006)

Countries with the Highest FDI Inflows (Millions)		Countries with the Lowest FDI Inflows (Millions)	
United Kingdom	156,186	El Salvador	241
France	78,154	Senegal	220
Canada	59,761	Niger	205
Italy	39,239	Paraguay	173
Spain	36,949	Haiti	160
Australia	27,864	Mali	83
Singapore	27,680	Kenya	51
Sweden	27,247	Venezuela	-590
Turkey	20,185	Ireland	-5,542
Brazil	18,822	Japan	-6,506

As with export levels, the same pattern emerges with FDI. More developed countries receive more FDI than less developed countries. And overall less developed countries have similar amounts of military presence to developed countries, but they receive considerably fewer FMS deliveries.

Economic growth is measured by annual real per capita gross domestic product (GDP) provided by Angus Maddison, an economist who collected extensive data on population and economic growth (Maddison, 2009).

Table 5: Study's Range of Per Capita GDP by Country (2006)

Countries with the Highest Per Capita GDP		Countries with the Lowest Exports (Thousands)	
Norway	27,867	Ghana	1,511
Ireland	27,801	Senegal	1,425
Singapore	26,162	Nigeria	1,416
Canada	24,951	Mali	1,103
Denmark	24,898	Ivory Coast	1,101
Australia	24,343	Kenya	1,062
Sweden	24,204	Bangladesh	1,043
Netherlands	23,388	Chad	742
Finland	23,241	Haiti	677
United Kingdom	23,013	Niger	483

More developed countries have higher GDP per capita than developing countries, regardless of how many military troops or FMS deliveries are sent to that country. This is expected, for GDP is very closely related to a country's development status.

IV. Analysis

Three regression models are run to estimate the coefficients of the hypothesized relationships. The first model determines the correlation between trade and military involvement, by regressing exports against the variables of interest: the number of military personnel and FMS deliveries. The value used is exports as a percentage of GDP. The second model performs the same regression using FDI as a percentage of GDP, and the final model employs real per capita GDP. These regression models use cross-sectional time series data from 62 countries ranging from the years 1970 to 2006.

In addition to the three aforementioned control variables, three more are introduced to the regression: a lagged GDP per capita variable, a time variable, and a Cold War dummy variable. These variables are used to evaluate the results and to determine whether the results attributed to trade, investment, and growth can actually simply be attributed to increasing GDP per capita, natural increases over time, or to see whether there is any relation to the Cold War that can be identified in pre- and post-Cold War periods.

Because there two-way causality between the variables of interest and the control variables is possible, lagged values of the variables of interest are used. The variables of interest, military personnel as a percentage of population and FMS deliveries as a percentage of GDP exhibit multicollinearity, meaning the variables are excessively correlated with each other. To solve for this issue, the residual of FMS deliveries as a percentage of GDP regressed on military population as a percentage of GDP is used to measure the effect of trade, investment, and growth on FMS deliveries as a percentage of GDP. The fixed effects regression model is used to control for both time and country

specific effects and due to the nature of the data, the regressions must be controlled for heteroskedasticity.

The first regression model determines the relationship between military involvement and trade.

Table 6

The Relationship between Exports-GDP Ratio and Military Involvement Per Capita

	Exports-GDP Ratio		
	Coefficient	Standard Error	T-Statistic
Military Personnel Per Capita	0.0128	(0.004)	3.33*
FMS Deliveries Residuals	-0.0007	(0.001)	-0.61
Lagged GDP	0.0085	(0.028)	0.31
Post Cold War Dummy	0.1261	(0.057)	2.20*
Time	0.0087	(0.002)	4.96*

* significant at $\alpha = 0.05$

Table 6 shows that the regression results for military personnel were significant. It implies that holding FMS deliveries constant, on average increases in military personnel lead to greater exports for the participating foreign countries. The post-Cold War and time variables were also significant. This shows that exports in foreign countries increased greatly after the Cold War and that every year, exports naturally increase.

The second regression model determines the relationship between military involvement and foreign investment.

Table 7
Relationship between FDI-GDP Ratio and Military Involvement Per Capita

	FDI-GDP Ratio		
	Coefficient	Standard Error	T-Statistic
Military Personnel Per Capita	0.0036	(0.001)	2.98*
FMS Deliveries Residuals	-0.0005	(0.0004)	-1.05
Lagged GDP	0.0074	(0.004)	1.72
Post Cold War Dummy	0.0449	(0.010)	4.35*
Time	0.0004	(0.0001)	2.59*

*significant at $\alpha = 0.05$

The results show in Table 7 that, holding FMS deliveries constant, on average, FDI increases from increases in military personnel located in a foreign country. Again the post-Cold War and time variables are significant. Following the Cold War, FDI inflows into foreign countries increased, and FDI inflows naturally increased over time.

The third regression model determined the relationship between military involvement and economic growth.

Table 8
The Relationship between Growth and Military Involvement Per Capita

	Growth		
	Coefficient	Standard Error	T-Statistic
Military Personnel Per Capita	0.0011	(0.0004)	2.89*
FMS Deliveries Residuals	0.0001	(0.0001)	0.70
Lagged GDP	-0.0151	(0.004)	-3.49*
Post Cold War Dummy	0.0477	(0.012)	3.84*
Time	-0.0010	(0.0004)	-2.23*

* significant at $\alpha = 0.05$

The results featured in Table 8 imply that holding FMS deliveries constant, as military personnel in a foreign country increases, the economic growth of the foreign country increases. This also shows that following the Cold War, economic growth increased; however, over time, economic growth has slightly decreased.

As a conclusion, this statistical panel shows that military involvement in terms of military troops positioned in a foreign country is positively linked with trade, foreign investment, and economic growth. However, FMS deliveries have no significant relationship with trade, investment, or growth.

The insignificant relationship between FMS deliveries and the economic benefits as examined in this report may be explained by the lack of availability of detailed and timely information regarding foreign military sales. According to the Defense Security Cooperation Agency, the United States sells defense equipment, services, and training to other governments in order to strengthen the military relationships between “friends and allies” (Defense Security Cooperation Agency, 2008, para. 1). Clearly, FMS deliveries are an indicator of pro-U.S. support, so one would expect the significant economic benefits to result here just as they did with military troop presence.

However, FMS deliveries are a much vaguer indicator of support than the presence of military troops. U.S. troops are easily and immediately recognized when they enter a foreign country. So actors such as governments and businesses can quickly react and the economy will reflect their actions. FMS deliveries, though, are only reported annually. And as Schroeder stated, “While the report is useful for tracking trends in overall value of certain types of arms sales to specific countries, it provides very little detailed information on individual exports, or exports arranged through non-traditional US military aid programs” (Schroeder, 2010, 1). It is unclear whether governments have access to more privileged information, but the common businessperson may only have this information available. Businesspeople may be hesitant to base their actions from the report under this uncertainty and on the less timely indicator. This could partly explain

the insignificance of the variable. Still, this question should be the subject of future research.

V. An Application to Poland Part I: The Historic and Current Implications of the Construction of an Anti-Missile System

A foreign country not only benefits but incurs risks for being involved with the U.S. military. Poland's recent national debate, which took place from 2006 to 2009, on allowing the United States to construct an anti-missile system in Poland illustrates this dilemma. Poland had to balance economic and security benefits with increased risk of Russian attacks and other possible foreign threats from less pro-American countries. The extent to which economic benefits played a role in Poland's decision making will be highlighted in order to provide a real-world example to supplement the findings of this research.

Poland was chosen for the case study because it shows how the topic of this thesis is relevant and current. Poland's situation is useful because the decision on whether or not to be involved with the U.S. military has already been made, and the role of economic benefits in negotiations can be evaluated. The Polish case also illustrates how economic benefits are never the sole determinant of a decision to be militarily involved with the United States. Other aspects such as political and strategic considerations play significant roles.

A brief history of the relationship between Poland, Russia, and the United States following World War II will be presented to set the U.S. anti-missile system construction debate in a historical context; for in this case, past issues have a great influence on the current dilemma.

In 1945, Churchill, Roosevelt, and Stalin convened at the Yalta Conference to decide Europe's post-war fate. The Soviet Union gained control over Poland (Lewis,

1994, 57) and gradually imposed communism. Opposition to communism was quickly and put down. Communists gained control over the police force, the Soviet Red Army replaced the Polish Home Army, and anti-communist groups were disbanded – sometimes forcefully, with an estimated 20,000 lives lost in the process. The Polish government was taken over as communists were awarded key positions in the election of 1947. Political opponents faced oppression as their leading figures were harassed, kidnapped, and murdered. 100,000 members of an opposition party were reported as being imprisoned before the 1947 elections (Lewis, 1994, 57).

In response to the United States inviting Poland to participate in the Marshall Plan, the Soviet Union established Cominform in 1947, an organization of the communist parties of the U.S.S.R., Bulgaria, Czechoslovakia, Hungary, Poland, Romania, Yugoslavia, France, and Italy (Lewis, 1994, 72). The Soviets used Cominform to strengthen communist unity and establish Stalinism in the bloc. Following is a description of the changes which took place in these countries. The harsh measures, which were undertaken by the Soviets and those in power, led many Polish citizens to become disenfranchised with communism.

Its onset meant the strengthening and more direct exercise of Soviet power within Central Europe; growing uniformity and social regimentation; stronger central control over political and all social organizations (involving purges of their membership) the development of mechanisms of detailed surveillance; greater repression and ultimately terroristic intimidation of the population; growing prominence of the leadership cult, both around Stalin and national leaders; and

policy changes which involved the acceleration of industrial development and collectivization of agriculture. (Lewis, 1994, 76)

As time went on, the inefficiencies of the Soviet Union diminished its power. The Soviet Union was losing money to its satellites and Third World clients, whose economies and political structures were unstable. The Soviet economy stagnated, and sectors of the economy were neglected because vast sums of money were directed to support the Soviet military during the Cold War. The populations revoked their support of the government as the economy suffered, promises of equality went unfulfilled, and the mortality rate rose in response to increased alcoholism and incompetent medical care (Staar, 1991, 127).

The Soviet president, Mikhail Gorbachev, intended to revive the Soviet economy and political system. In order to fix the inefficiencies, several extreme changes needed to be enforced, yet it was feared that those in power who benefited from the communist system as it was, would oppose the changes. Gorbachev used *glasnost*, a policy of increased transparency, to expose how corrupt and inefficient the government was. He also used *perestroika*, the loosening of economic controls in order to improve the state of the economy, in the hopes that this would motivate the public to support and become more adamant for reform (Staar, 1991, 127).

During this policy change, the Soviet Union gave their satellites the opportunity to govern themselves. With this new freedom, the Polish Solidarity Party was able to win an election in 1989 (Staar, 1991, 129). The Poles began to replace their centralized economy with privatization and reestablished a pluralist and democratic government

(Staar, 1991, 129). Even with the humiliation of the failure of the Soviet Union's communist ideals, the Soviet Union did not react negatively to the election results. President Gorbachev expressed the “USSR’s desire to maintain cordial relations” (Staar, 1991, 137). Despite the goodwill that was initially extended, as the Soviet Union lost its superpower status and communism failed, the relationship between Poland and Russia became tense and uncertain (Michta, 1999, 45).

In 1991, as the Warsaw Pact was dissolved, Poland no longer belonged to a military alliance and was interested in joining the North Atlantic Treaty Organization (NATO). Poland’s ambassador, Jerzy Kozminski, presented reasons why NATO should accept Poland’s request for membership. Poland believed that it historically belonged to Western Europe and therefore should be extended the same prospects to join the organization as other western countries. A moral argument was addressed stating that “It is time to close down the infamous chapter of Yalta in modern history, the chapter which in 1944-45 divided Europe, barring half of the continent from opportunities to live in freedom and growing prosperity” (Ingebritsen & Ramet, 2002, 184). Kozminski believed that joining NATO would provide Poland with opportunities, which,

...were not given to a country which had suffered so much during the Second World War and contributed so much to the defeat of Hitler, a country which a few decades later started its peaceful revolution by Solidarity, triggering a chain reaction in the whole communist bloc. (Ingebritsen & Ramet, 2002, 184)

Additionally, Kozminski believed that NATO would promote democracy and economic growth by creating a safer environment for trade and investment, while

promoting the rule of law and human rights. Finally, Poland sought refuge with NATO to dissuade Russia from attempting to regain control (Ingebritsen & Ramet, 2002, 184).

Russia opposed Poland joining NATO and continuously attempted to halt the enlargement process (Michta, 1999, 47). Russia was infuriated because of an unclear agreement made following the Cold War in 1990. Russia held that in the Treaty on the Final Settlement with Respect to Germany, an agreement was made that no troops or nuclear weapons would be stationed in former Soviet satellites east of Germany (Gallis, 1997). Russian and U.S. state officials disagree about the terms of the agreement. Robert B. Zoellick, a former Department of State counselor, who participated in creating the treaty, held that no formal commitment was made to keep U.S. troops out of Central and Eastern Europe. According to Zoellick:

In recent years, some have argued that U.S. commitments to the Soviets included a promise not to enlarge NATO. I adamantly disagree, in part because I recall anticipating the possibility of Poland and others joining NATO and so I wanted to avoid taking any action that would preclude that option. [The Soviet Minister of Foreign Affairs] has stated that the United States did not rule out NATO's enlargement. There was no limitation [...] in the Final Settlement agreement. (And, in my experience, Soviet diplomats were quite adept at pinning down in documents explicit issues of concern and were hardly prone to rely on general assumptions.) (Zoellick, 2000, 21-22)

President Gorbachev said, "the Americans promised that NATO wouldn't move beyond the boundaries of Germany after the Cold War but now half of central and eastern

Europe are members, so what happened to their promises?” (Blomfeld & Smith, 2008, para. 16). This debate has yet to be resolved, and its repercussions are still being felt, as is evidenced by the encroachment debate that resurfaced in 2006 at the United States’ proposal to construct an anti-missile system in Poland.

The anti-missile shield intended to protect allies and U.S. installations in Western Europe as well as the United States against long-range ballistic missiles from Iran and North Korea, which possessed ballistic missile programs (Hildreth, 2006, 2009). The United States planned to begin construction on ten interceptors in Poland in 2011.

As mentioned above, there are risks to becoming militarily involved with the United States. This held true in this instance, for there were many risks to building the anti-missile system in Poland. Debate occurred over the necessity of such a system, whether the missile interceptors were capable of their performing the task, and whether constructing the system would have been in Poland’s best interest due to a loss of sovereignty and the possible foreign relations fallout with Russia.

The states of Iran’s and North Korea’s nuclear and ballistic missile programs and their future goals were heavily debated. Estimates of the ballistic missile programs’ progress varied, and therefore, it was unclear whether the anti-missile system was necessary. In 2007, the U.S. National Intelligence Council released a declassified report, which stated that Iran’s nuclear weapons program ceased operation in 2003, but that Iran may choose to continue developing nuclear weapons in the future (National Intelligence Council, 2007). The undersecretary of state, John Rood, the lead U.S. negotiator for the European missile defense talks, added, “the missile threat from Iran continues to progress and to cause us to be very concerned.... Missile defense would be useful regardless of

what kind of payload, whether that be conventional, chemical, biological, or nuclear” (Butler, 2007, para. 8).

Unconfirmed U.S. intelligence warned that Iran may be able to test long-range and intercontinental missiles as soon as 2015, if Iran was given aid from Russia, China (Hildreth & Ek, 2008), and North Korea (Gopaldaswamy, 2008). These intelligence assessments did not convince several opponents of the anti-missile system, for Iran’s programs may not have been as advanced as estimated. Additionally, in 2007, the Iranian defense minister, General Mostafa Mohammad Najjar, reported that their longest-ranged missile, the Ashoura missile, could only travel 1,200 miles, which was not be far enough to reach Eastern Europe (Tran, 2007). The U.S. government also stated that Iran was no longer developing intercontinental missiles (Hildreth & Ek, 2008).

The effectiveness of the interceptors was also questioned. The military’s confidence in the shield’s capability was not enough to assuage the worries caused by the mixed results of the intercept flight tests (EU Institute for Security Studies, 2008). Poles feared that nuclear debris may result from a missile being intercepted over their country (Dempsey, 2007), despite having been told that interception would not occur over Eastern Europe and that any debris would burn upon reentering the atmosphere (U.S. Department of Defense & U.S. Department of State, 2007).

Poland also feared a reduction of their sovereignty due to the United States’ right to have command and control over the anti-missile system. The Polish government unsuccessfully attempted to integrate the system into a future NATO missile defense program (“A few interceptors,” 2007). And despite attempts to include Poland in the decision making process, in the event of a hostile missile launch, there would not have

been enough time to consult with the Polish government before the interceptor needed to be launched (Hildreth & Ek, 2008).

The anti-missile system's negative impact on Poland's relation with Russia was another major concern. Although U.S. and European officials claimed the Russians have been aware of the anti-missile system plans for years and that the system could not have undermined Russia's missile program, Russian officials such as former President Vladimir Putin and the current President Dmitry Medvedev have openly repeated their strong disapproval. Russia doubted that Iran or North Korea would launch missiles over Europe. Russia's foreign minister, Sergey Lavrov hinted that the system was a means to spy on Russian missile sites and naval operations, despite denial of this claim by military officers ("Russia FM," 2007). In order to deter the United States from building the system, in a 2008 address, Putin threatened to end the Intermediate-Range Nuclear Forces Treaty and stopped complying with the Conventional Forces in Europe Treaty. Russia threatened Poland directly with the transfer of medium-range ballistic Iskander missiles to the Russian exclave of Kaliningrad bordering Poland (Mates, 2007) and proclaimed that the construction would "lead to nothing else than a new arms race" ("US missile shield could," 2007, para. 3).

Despite the many risks of allowing the construction, Poland hoped to gain many benefits for cooperating with the United States. In exchange for hosting the anti-missile system, the Polish government requested that the United States modernize Poland's air defenses and provide Poland with Patriot missile batteries to shoot down short- and medium-range missiles (Butler, 2008, 10). Poland felt it would gain more security through the deal because as Poland's Deputy Defense Minister Witold Waszczkowski

said, “We would become part of the United States’ defense. All problems experienced by Poland would have to be immediately considered in Washington.” (“Polish deputy,” 2006, para. 8).

Many unsuccessful negotiations took place, but the deal did not progress until August 20, 2008 when Secretary of State Condoleezza Rice and Polish Foreign Minister Radosław Sikorski signed a formal agreement, which provided additional security guarantees and Patriot missile batteries to Poland. According to speculation, Poland was more eager to advance the deal after Russia invaded South Ossetia. U.S. Defense Secretary Robert Gates stated that former Soviet satellites have “a higher incentive to stand with us now than they did before, now that they have seen what the Russians have done in Georgia” (DeYoung, 2008, para. 7). Supporters hoped that a military base would deter Russia from attempting to invade Poland as it did in Georgia. After Russia threatened the United States and Poland, many believed the anti-missile system should be constructed in order to show that Russia’s threats were ineffective and should not be used as a means of diplomacy in the future (Pessin, 2009).

Finally, Poland hoped to strengthen its relationship with the United States. Due to Poland’s history of being occupied by Germany, Austria, and Russia, and due to decades of previous military involvement with the United States, Poland felt that the United States was the only major ally it could still rely on (Hildreth & Ek, 2008). Therefore, it would have been in Poland’s best interest to continue fostering the relationship.

VI. An Application to Poland Part II: Economic Implications of the Construction of an Anti-Missile System

The purpose of this case study was to examine how important the role of economic incentives was in Poland's decision to host the anti-missile system while facing issues such as safety concerns and threats of Russian attacks. Based on news articles, it was found that economic incentives impacted groups of Poles to varying degrees. For the Poles local to the site of the proposed military base, economic incentives were of major interest. Yet in contrast to the locals, for government leaders and the general public, who were not directly impacted by the business that the soldiers and their families would conduct, economic incentives did not rank among their highest concerns.

The military base was expected to be constructed in the small town of Redzikowo. The citizens living in Slupsk, a city near Redzikowo, were divided on the issue of the base construction. A poll conducted in 2008 showed that 30% of the town's 100,000 citizens supported the construction (Czarnecka, 2008). These supporters were particularly optimistic about the economic benefit that the multi-hundred million dollar site could bring to their city. They believed the economic benefits outweighed the possibility of Poland being targeted for an attack. The locals hoped that this economic growth would occur through increased foreign investment, trade, and economic growth (Sladkowska, 2007). The following theories present how these increases could take place through the construction of a U.S. military base.

It was expected that the U.S. military base would have been able to increase investment in Poland by attracting more foreign direct investment (FDI) from U.S. investors to the region (Sladkowska, 2007). Investors could have been attracted by the

new market created by the needs and wants of the soldiers and their dependents that could not be satisfied by the Polish market. U.S. firms interested in expanding their market could have taken advantage of this opportunity. Poland had already been able to attract large amounts of FDI after it transitioned to a capitalist economy, and it continues to do so today. Poland has a good investment climate: large market size, potential for growth, a sound legal and economic climate, a well-educated but cheap work force, a favorable corporate tax rate, it is a European Union member, and is located near the large European Union markets in Western Europe (Carstensen & Toubal, 2004). The additional security brought by the presence of the U.S. military base should have added attractiveness to U.S. and international investors.

Increased trade between foreign countries and Poland could have been encouraged by the operation of the military base and the newly-created firms. U.S. and international firms particularly would have needed to import supplies and could have exported goods and in so doing generated more trade. Additionally, foreign firms may have been more willing to trade with the newly-created multinational firms than the existing Polish firms, because the foreign firms would incur less risk in doing so. Multinational firms typically possess superior knowledge and technology, better marketing, organizational and innovative skills, have greater access to capital markets, and are larger than domestic firms; thereby reducing the risk of failure (Lall & Siddharthan, 1982). Thus, the more foreign firms that locate in the region, the more likely international trade increases in the region.

Yet, Pomerania, the region in which Slupsk and Redzikowo are located, is very active in international trade – a Polish leader in the export of technologically-advanced

goods. Pomerania specializes in exporting ship building, oil refining products, paper and cardboard, metal structures, and entertainment accessories, which include TVs, radios, and recording devices (Pomerania Development Agency Co, 2009). Pomerania intends to further develop advanced goods in order to add to the development of the region (Pomerania Development Agency Co, 2009). But while the region of Pomerania exports heavily, the volume of exports from Redzikowo must be negligible, for the town only had an estimated 400 inhabitants in 2006. But because the region already had international networks and connections, and it featured a Special Economic Zone in Slupsk, which attracts investors with more favorable terms such as tax exemptions (Pomerania Development Agency Co, 2009), it should have been easier to attract more investors to Slupsk and Redzikowo with the military base.

Gowa (1994) and Long (2003) find in their studies that countries which have alliances tend to trade more with each other than those that do not, due to security externalities. In short, trade is beneficial to economic growth, and with economic growth, a country can develop more resources to funnel toward strengthening their military might. Thus, countries trade with their allies, so their allies can strengthen their military, while depriving their enemies of trade and additional resources needed to develop (Gowa, 1994). Because many countries had alliances with the United States, they may have been more willing to trade with Poland, which would have been acting as an extension and a supporter of U.S. military operations. Long adds to Gowa's theory that only alliances with defense pacts lead to greater trade (2003). With the anti-missile shield, the United States offered Poland security guarantees in addition to NATO's mutual defense clause, which stated that any attack on Poland, would have been seen as an attack on all NATO

countries. If these theories proved accurate in reality, it was probable that Poland would have experienced more trade in response to the military base.

The locals also expected higher economic growth to occur from increased consumption and the creation of new firms. In accordance with the research conducted by Woodward (2004), increased local consumption would have occurred as an estimated 300 U.S. soldiers and their families, an expected total of 1,200 people, would have flown into the region to live on the base (“US missile shield nothing,” 2008). Parai, Solomon, and Wait (1996) describe three ways the military base could have led to increased consumption. A *direct impact* would have been caused by local Poles, who could have obtained employment on the military base and increased their income, thereby increasing their disposable income - their ability to consume. It could also have been caused by local firms, which could have supplied the military with goods or services. An *indirect impact* would have been caused if those individuals or firms decided to spend the income or revenue they earned from the base on other local goods, services, or supplies. Finally an *induced impact* could have occurred if investors decided to create new businesses in order to satisfy the influx of families’ needs. With these three methods, it was quite possible that economic growth could have occurred in Redzikowo and Slupsk.

Despite the promising outlook of economic benefits, 60% of the local citizens were opposed to the construction. Mariusz Chmiel, the mayor of Redzikowo, the town hosting the proposed base and which hosted an old Soviet base, strongly voiced that “[The day the deal of the anti-missile system is signed] is a day of mourning for us” (“U.S. missile shield nothing,” 2008, para. 2). The opponents of the anti-missile system

feared Russia's threat to deploy the Iskander missiles, especially after Russia acted on its threat to invade Georgia. Meanwhile memories of the Soviet and German attacks on the base in previous wars had yet to fade. The mayor stated "We have been promised two billion dollars worth of investment over 10 years, but we'll have nothing. Just like Poland didn't benefit from its involvement in Iraq. We just have soldiers coming back in coffins" (Czarnecka, 2008, para. 19).

Woodward (2004) mentions the opportunity costs, the cost incurred when foregoing the next best option, that occur when a base is built. The space, which would be dedicated to the military base, could be used for other activities, which could generate revenue (Woodward, 2004). Local opponents of the anti-missile system wished to employ the landing strip on the old base as an airport to encourage economic activity with tourism to Poland's northern coast and forests (US missile shield nothing to celebrate: Polish town mayor, 2008). With the construction of this base, this option would no longer have been viable.

Pawlik (2006) notes that many policy makers from transition economies (countries which transitioned from a communist centrally planned economy to a market economy) believe that FDI should be attracted so that the country can reap new capital, technologies, marketing techniques, and management skills in order to promote economic growth. For these reasons, in conjunction with those mentioned above, the Polish town, Redzikowo, hoped to benefit economically from the presence of the military base. Pawlik (2006) and Konings (2001) studied the feasibility of economic growth due to FDI inflows in Poland and both researchers are skeptical about the gains FDI is able to provide. Thus,

by considering the establishment of a U.S. military base in Poland as inflowing FDI, Pawlik and Konings would have cautioned the locals to curtail their hopes of great growth resulting from the operation of the military base.

Konings (2001) and Pawlik (2006) agree that Polish domestic firms have been increasing their productivity since the transition. However, the researchers disagree about the existence of the “competition-effect,” in which foreign firms that have more financial support, experience, and operating skills, push the inexperienced and cash-strapped domestic firms out of business. Konings (2001) finds that despite the better performance of foreign firms in relation to the domestic ones, no competition effect was apparent in Poland. Polish firms avoided this fate due to their rapid restructuring to a market economy after the collapse of Communism, which now allows them to compete with foreign firms.

Pawlik (2006) disagrees with Konings on this issue. Pawlik finds that the competition effect had indeed taken place and attributed it to the privatization process, which took place during the beginning phase of the transition. Foreign firms had the necessary funds to purchase and restructure the best-performing firms. The firms Poles acquired were of average quality, but the Poles did not possess financial assets or technology needed to make the firms competitive. Because of this occurrence, many Polish firms have been pushed out of business or were still struggling. Pawlik admits that his method of using cross-industry and cross-ownership data only produces general results about knowledge spillovers in Poland’s manufacturing industry. Positive spillovers may have only been observable at the firm level.

Yet even so, the competition effect should not have been a major issue with the installation of the U.S. base for two reasons. Firstly, local Polish civilians would not have been able to take advantage of the low priced goods and services offered on the U.S. base due to the House Armed Services Committee's policy, which only permits U.S. military personnel and their dependents to purchase goods and services (Department of the Army, 2008). Secondly, it is customary for U.S. soldiers to shop on the base, where they can obtain goods to which they are accustomed at home, instead of shopping locally (Woodward, 2004). Because the Americans and the Poles would not have been well integrated into each other's economy, the economies would have largely remained unchanged in their separated state.

Some Polish firms hoped to take advantage of positive spillovers in order to increase their productivity, which included transfers of technology and knowledge from foreign firms to successfully run a business. Knowledge spillovers occur multiple ways: the demonstration effect, employee turnover, competition, and linkages. Domestic firms can take advantage of the *demonstration effect* and imitate the lucrative practices or products of the foreign firms (Jones & Wren, 2006). Employee turnover provides another avenue to transfer knowledge, for employees who have been trained by a foreign firm or have knowledge of the foreign firm's intangible assets can impart their information to domestic firms (Marcin, 2008). Competition compels domestic firms to become more efficient and modernized in order to remain profitable (Pawlik, 2006). Finally domestic firms can access expertise and larger networks, if they can create backwards or forward linkages with the foreign firm, in which they respectively use the foreign firm's inputs or provide the foreign firm with inputs (Jones & Wren, 2006).

The demonstration effect may have been able to take place to a certain degree in Redzikowo. As Parai et al. (1996) mention, military specialists such as medical professionals and firefighters often transfer knowledge and expertise to local specialists through community outreach efforts. Local firms may have been able to mimic the styles, policies, and procedures of firms operating on the base; however, their access to these firms may have been limited. Transfers from employee turnover may have been more likely, for local civilians are often provided employment opportunities on bases. But as mentioned above, the competition effect was unlikely due to the separation and the local firms' inability to imitate the technology and high-quality services of the military. Due to the need for the military to have a steady and reliable supply of high-quality and highly-technological products, it was unlikely that they would create strong linkages with the small struggling local community. The community should not have seen much gain from the linkage effect.

Although, Konings (2001) does not identify positive spillovers from foreign to Polish firms, his research only covers a period up to 2001, and he states that a long-run technological spillover effect may occur and lead to positive spillovers. These positive spillovers may have been more likely if one considers how the motives of a military base differ from the motives of a firm, which typically engages in FDI. Konings' research only samples firms, whose primary motive is making a profit. Therefore, firms have great interest in precluding knowledge spillovers. The military, which uses foreign territory for national security purposes, has a greater interest in maintaining good relations with the locals, and therefore the military may be more likely to share information not crucial to

national security. Thus, from differing motives, the occurrence of knowledge spillovers may be more likely stemming from a military base than from a private firm.

Based on the literature review, it was expected that military involvement in the form of a military base would lead to greater investment, trade, and economic growth for the country; however, surprisingly, in contrast to the locals, the Polish government and general public did not place much emphasis on the economic aspects. The overall opinion in Poland was that insufficient proof had been provided that an actual threat from Iran or North Korea existed for the countries did not yet have the capabilities and because the United States had enough second-strike capability to deter action from the “rogue states” (Bartosz, 2008). The general public did not believe that the anti-missile system supported Polish national interests. As a NATO member, the additional security agreement seemed superfluous, as Poland was already protected under NATO’s mutual defense clause, Article 5 (Bartosz, 2008). There was also a consensus that Poland had little need to strengthen the relationship between Poland and the United States, for Poland has shown the United States military support in the form of troops for the wars in Afghanistan and Iraq (Hildreth & Ek, 2008). Also, due to the shroud of secrecy around the construction, the public was upset that they did not get to vote or be informed on the decision that could ultimately affect them (Bartosz, 2008). For these main reasons, the Polish public did not lend its support.

With the Bush Administration being adamant about constructing the anti-missile system, and Poland seeing little need for it, Poland was put in a good bargaining position. Poland cooperated with the Czech Republic, which was in negotiations for a related radar site, with the intent to increase its leverage in negotiations. Poland set a high price

(Economist Intelligence Unit, 2008) and demanded the modernization of their army and installations of anti-aircraft patriot missiles (“Behind America’s shield,” 2008). The prime minister of Poland, Donald Tusk, stated that “[O]ur agreement to a missile defence installation in Poland is going to be directly tied to ... increasing Poland's security” (Lucas, 2008, para. 2). President Tusk made it clear that Poland’s security, which came in the form of the extremely expensive modernization of their military forces, took far more precedence in the negotiations than any economic incentives. Thus, in the case of Poland, interest in economic incentives remained constrained to the local realm and had little effect on Poland’s decision to host the anti-missile system.

Despite the long years of planning, testing, and negotiating, on September 17, 2009, the deal for the anti-missile system was pulled off of the table by the United States. Contrary to the previous Bush Administration, the Obama Administration decided that long-range missiles from Iran or North Korea were no longer an imminent threat for their missile programs had not advanced as quickly as expected. The decision to abandon the project opened the door to improve relations between Russia and the United States, and Russia dropped the threat to move Iskander missiles to Kaliningrad (“Russia dropped,” 2009). In order to appease Poland, which was disappointed by the United States’ act to not honor their commitment, the United States still plans to build Patriot missile batteries in Poland at the same site as the proposed anti-missile system. Patriot missiles will be able to shoot down short- and medium-range missiles and can protect Poland from Russian Iskander missiles (“Ties unharmed,” 2009). It was decided that the battery of patriot missiles are to be installed in April of 2010. Like the scratched anti-missile system, this battery will be operated by 100 U.S. troops (“Patriots to be located,” 2009).

So although the actual economic impact of the anti-missile system cannot be evaluated, the effects of the patriot missile batteries will be seen in the future, and Poland may still receive the additional benefit of increased consumption and an economic revival.

VII. Conclusion

Due to evolving security threats in new parts of the world, the United States needs the support of new countries in terms of military involvement. However, cooperating with the United States' military can come at a cost to the foreign country. It can make the country become a target of attack, it can strain international relations with less pro-American countries, and it can result in a loss of sovereignty. Therefore, the United States needs as much leverage as possible when bargaining with countries for military involvement. If a link between military involvement and economic benefits could be established, the United States would have an easier time convincing foreign countries to support the United States' military operations.

Based on previous research on military bases and multinational firms, the hypothesis was established that increased involvement with the United States' military would lead to increased trade, foreign investment, and economic growth for the participating foreign country. This hypothesis was tested with a statistical panel. The results indicate that increased military involvement does in fact lead to greater trade, investment, and economic growth; however, only when using military troops as an indicator of military involvement – not FMS deliveries. Based on this conclusion, it was hypothesized that economic benefits would play a key role in the negotiations over military involvement; but, the case study provides opposing evidence that economic benefits do not play such a prominent role.

The case study of Poland illustrates that despite the pattern that shows military involvement leads to greater trade, investment, and economic growth, economic benefits were not of interest to the Polish government nor the general public. This anomaly is

attributed to the fact that Poland no longer has a struggling economy. The government can now afford to press for other incentives such as modernizing their air force. The Polish case shows that the leverage the United States will have in negotiations based on economic benefits derived from military involvement will be dependent on the level of economic development of the participating foreign country. The United States will have less leverage with countries that have strong economies and will have more leverage with countries that are struggling economically. Therefore, this research is of greater importance to the United States' military, if it is attempting to negotiate military involvement with a country that has an unsound economy. It also shows that economic benefit is not the sole determinant of whether a foreign country agrees to allow military involvement; it is also dependent the political and strategic benefits the foreign country can achieve.

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Appendices

List of countries used broken down by country groups using 2006 data:

Australia

Country	Population	Military Personnel	FMS Deliveries (Thousands of Dollars)	FDI Inflows (Millions of Dollars)	Exports (Thousands of dollars)	Per Capita GDP
Australia	204,890,000	347	349,835	27,864	123,437,000	24,343
New Zealand	4,090,000	6	13,441	7,758	21,730,098	18,078

North America

Country	Population	Military Personnel	FMS Deliveries (Thousands of Dollars)	FDI Inflows (Millions of Dollars)	Exports (Thousands of dollars)	Per Capita GDP
Canada	32,657,000	133	182,700	59,761	388,091,000	24,951
Mexico	107,449,525	29	8,004	19,316	249,961,000	7,753

Europe

Country	Population	Military Personnel	FMS Deliveries (Thousands of Dollars)	FDI Inflows (Millions of Dollars)	Exports (Thousands of dollars)	Per Capita GDP
Austria	8,192,880	25	1,539	7,933	136,751,000	22,742
Denmark	5,450,661	16	49,205	8,268	92,557,942	24,898
Finland	5,231,372	18	73,921	7,652	77,205,880	23,241
France	63,293,000	60	42,135	78,154	495,868,000	21,809
Greece	10,688,058	395	180,331	5,364	20,749,165	15,728
Ireland	4,062,235	8	7,789	-5,542	108,725,663	27,801
Italy	58,133,509	10,449	288,449	39,239	416,875,000	19,802
Netherlands	16,491,461	591	231,406	7,450	463,629,000	23,388
Norway	4,610,820	84	92,067	6,415	122,208,000	27,867
Poland	38,536,869	26	393,472	19,591	110,780,000	9,074
Portugal	10,605,870	922	83,482	10,902	43,332,080	14,210
Spain	40,397,842	1,521	105,043	36,949	213,717,000	18,872
Sweden	9,016,596	12	5,072	27,247	147,793,000	24,204
United Kingdom	60,609,153	10,331	294,276	156,186	448,653,000	23,013

Middle East

Country	Population	Military Personnel	FMS Deliveries (Thousands of Dollars)	FDI Inflows (Millions of Dollars)	Exports (Thousands of dollars)	Per Capita GDP
Bahrain	689,585	1,357	54,829	2,915	12,200,000	6,635
Israel	6,866,876	48	1,283,753	14,763	46,789,400	16,997
Jordan	5,906,760	28	102,286	3,268	5,204,346	4,900
Lebanon	3,878,010	4	1,702	2,675	2,814,000	3,830
Oman	3,104,064	32	453,700	1,688	21,585,200	7,715
Qatar	802,576	446	464	3,500	34,051,000	12,713
Saudi Arabia	27,005,774	282	9,778,810	18,293	211,306,000	8,278
Turkey	73,726,124	1,810	2,470,190	20,185	85,535,000	7,717
United Arab Emirates	4,265,914	77	200,906	12,806	145,587,000	14,793

Asia

Country	Population	Military Personnel	FMS Deliveries (Thousands of Dollars)	FDI Inflows (Millions of Dollars)	Exports (Thousands of dollars)	Per Capita GDP
Bangladesh	150,045,629	9	510	793	11,802,240	1,043
India	1,111,714,000	33	48,576	20,336	120,968,000	2,598
Japan	127,515,000	33,453	769,427	-6,506	646,725,000	22,462
Pakistan	165,873,928	32	121,013	4,273	16,930,100	2,332
Philippines	92,266,941	93	25,646	2,921	47,410,117	2,741
Singapore	4,492,150	164	355,192	27,680	271,807,000	26,162
South Korea	48,123,561	39,212	598,599	4,881	325,465,000	18,356
Thailand	64,631,595	108	8,267	9,460	129,722,000	8,215

Africa

Country	Population	Military Personnel	FMS Deliveries (Thousands of Dollars)	FDI Inflows (Millions of Dollars)	Exports (Thousands of dollars)	Per Capita GDP
Botswana	1,875,778	9	1,656	486	4,509,000	4,621
Cameroon	17,657,856	9	0	309	3,576,420	1,196
Chad	9,648,955	13	146	6,560	3,408,000	742
Egypt	78,950,320	360	1,197,653	10,043	16,728,100	3,358
Ghana	22,478,658	14	414	636	3,726,680	1,511
Ivory Coast	19,326,799	31	0	319	8,477,000	1,101
Kenya	35,890,645	29	2,393	51	3,501,656	1,062
Mali	11,680,646	9	37	83	1,550,000	1,103
Morocco	33,309,331	14	40,677	2,450	12,743,794	3,254
Niger	55,585,637	9	0	205	1,239,840	483
Nigeria	140,397,768	24	3,002	13,956	58,726,000	1,416
Senegal	12,627,393	7	488	220	1,593,970	1,425

South America

Country	Population	Military Personnel	FMS Deliveries (Thousands of Dollars)	FDI Inflows (Millions of Dollars)	Exports (Thousands of dollars)	Per Capita GDP
Argentina	39,614,000	26	6,055	5,537	46,546,000	9,679
Bolivia	9,250,000	21	768	281	3,874,520	2,746
Brazil	191,469,000	38	27,911	18,822	137,807,000	5,835
Colombia	43,742,000	104	86,750	6,656	24,390,830	5,829
Costa Rica	4,078,000	9	0	1,469	8,200,000	7,330
Dominican Republic	9,226,000	13	569	1,528	6,609,754	4,682
Ecuador	13,917,000	35	5,647	271	12,728,000	3,750
El Salvador	6,830,000	24	2,436	241	3,706,000	2,799
Haiti	8,553,000	11	372	160	508,710	677
Honduras	7,326,496	414	1,482	669	5,276,563	2,073
Jamaica	2,759,000	11	131	882	1,983,498	3,765
Paraguay	6,509,000	10	17	173	1,906,000	3,051
Peru	28,433,000	45	331	3,467	23,830,100	4,505
Uruguay	3,443,000	11	135	1,493	3,989,322	8,568
Venezuela	25,641,000	21	8,286	-590	65,210,000	9,524