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Economic Foundations of Interstate Conflict in the Developing World

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ECONOMIC FOUNDATIONS OF INTERSTATE CONFLICT
IN THE DEVELOPING WORLD

By

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To my mother, who sacrificed so much for me to achieve this,

and

To my wife, who was always there when I needed her.

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ABSTRACT

Does the developing world significantly differ from the developed world when it comes to “correlates” of war? Do economic factors influence interstate conflict in the developing world more so than they do in the developed world? How and why do economic development, growth, and importance to the great powers shape conflict behavior of developing countries? And finally, does economic development condition democracy’s purported peaceful influence on interstate relations in the developing world?

In this study, I try to provide partial answers to these questions analyzing the militarized interstate disputes (MIDs) in the developing world between 1951 and 2000 and the negotiated settlement in such disputes. I provide a theoretical approach that rests on the concept of satisfaction and relate economic factors to interstate conflict in the developing world through their effects on states’ satisfaction with the international and local status quo. Briefly, I argue that whereas economic development and growth increase the satisfaction of a developing state with the international and regional status quo and thus make it less conflict-prone, increasing economic importance of developing states to the great powers increase the costs of those states’ militarized conflicts for the great powers, thereby augmenting the incentives for the great powers to prevent the militarization of disputes among developing states with higher economic importance to them. I also argue that, because economic conditions influence the foundation, performance, and survival of democratic systems, democratic institutions in less developed countries will not be as solid and functional as the ones in more developed countries and thus democracy will not have any independent effect on interstates conflicts of developing states; instead, democracy’s influence on interstate relations of a developing country will be contingent on that country’s economic development level.

My arguments on economic development, economic importance to the great powers, and democracy received significant empirical support. My findings underline the importance of economic factors in shaping the conflict behavior of developing countries. An important policy implication of this study is that to achieve sustainable global peace, policies that would foster economic development in the developing world as well as economic integration of developing countries with the world economy ought to be encouraged and supported on a global scale.

CHAPTER 1

INTRODUCTION

Does the developing world significantly differ from the developed world when it comes to “correlates” of war? Do economic factors influence interstate conflict in the developing world more so than they do in the developed world? How and why do *economic development, growth, and importance to the great powers* shape conflict behavior of developing countries? And finally, does economic development condition democracy’s purported peaceful influence on interstate relations in the developing world? These are the main questions that study aims to provide answers.

The quest for discovering the ultimate causes of war among states is ages old. Thucydides and Sun Tzu as well as Hans Morgenthau and Robert Keohane speculated on the same question as to what causes the citizens of different territorial entities to fight one another. City-states evolved into nation-states, but bloody encounters among states retained their frequency and intensity. Unfortunately, *interstate conflict* is still a topic to be studied extensively.

One noticeable change in contemporary world politics, however, has been the division of the world into different “zones”: “zones of peace” and “zones of conflict”. On the one side, the rich industrialized countries have enjoyed a relative peace among themselves since WWII with no occurrence of high-level militarized conflict between two industrialized countries. On the other side, some of the poorer countries¹ in Africa, Asia, and Latin America have suffered long years of interstate violence. All interstate wars since WWII occurred on territories of developing countries. Given this concentration of high-level interstate conflicts on the territories of the poorer countries of the world, the developing world deserves some special attention in the study of international conflict.

¹ Multiple names are used to refer to the countries that fall outside the industrialized West: underdeveloped countries, less developed countries, developing countries, Third World, the South, etc. In this study, I will use the term “developing country” for any country that is not considered an “advanced industrialized country”. The criteria for being a “developed country” and the list of countries that are considered developed country are provided in chapter 3.

Despite the fact that all severe international conflicts since WWII included at least one developing country², until recently the literature on international conflict was largely confined to major powers and/or the industrialized world. Although some of the recent quantitative studies on international conflict included “all” countries in their samples, we still do not know if the theories employed in those studies that were designed to apply all states really apply all states. We have few, if any, *quantitative* studies on the “correlates” of interstate conflict in the developing world.³ This research aims to fill this gap at least partially by analyzing interstate conflict in the developing world.

Despite the conventional separation of the disciplines of economics and politics at the academic level, economic and political concerns occupy the minds of state leaders simultaneously. What Bill Clinton once said for America is true for all countries: “our economic and security interests are inextricably linked.”⁴ Wealth is important for all countries; but it is more so for poorer countries. Similar to the case of poorer individuals who prioritize economic/material concerns over non-material ones (Inglehart 1997), poorer countries are expected to prioritize economic/material objectives over others.⁵ Consequently, the economy becomes a more influential force in the developing world than it is in the developed world.

This study aims to analyze the role of the economy on *interstate conflicts* of developing countries and offer an economic explanation for the conflict-behavior of developing countries.⁶ The developing world is not a homogenous world. Beside other political and cultural differences, developing countries vary in terms of their average national wealth, recent economic performance, and economic relations with the industrialized world. My purpose is to link these variations to conflict and peace in the developing world. I will argue that whereas economic

² The predominance of developing states in international conflicts is not unique to “severe” conflicts. Of the 2814 dyadic disputes between 1950 and 2000 in Zeev Maoz’s dyadic militarized interstate dispute dataset, 2788 (99 percent) of the disputes include at least one developing country (Maoz, 2005).

³ Interestingly, a few studies that tested the application of certain established theories in non-Western samples (Lemke 2002, Henderson 2003, Goldsmith 2006) found unsupportive results. Lemke (2002), for example, found that power transition theory applied much more meaningfully among the great powers than it did among African countries.

⁴ U.S. National Security Council, *A National Security Strategy for a New Century* (Washington, D.C.: White House, December 1999), p. 21.

⁵ Contemporary China is one of the prime examples. Even those Chinese people who question authoritarian party rule “seem more concerned with achieving prosperity and social well-being than with obtaining freedom of expression or political participation,” (Kornberg and Faust 2005, p. 46).

⁶ Certainly, the economy’s influence is not limited to *interstate* conflict. Whereas some new research suggests that economic factors are “the true culprits” in most *civil wars* (Collier 2003), many others cite poverty as a breeding ground for international *terrorism* (Braveboy-Wagner and Snarr 2003, Stiftung 2006).

development and growth influence the "willingness" of developing countries to fight with other countries, economic importance of these countries to the great powers influences the "opportunities" for conflict in the developing world.

The expected contributions of this study to the international conflict literature are manifold. First, it will focus on the relationship between economics and interstate conflict, which is largely ignored in quantitative studies of international conflict so far. Second, it will be one of the few quantitative studies on interstate conflict in the developing world. Third, third it will provide a theoretical perspective that will help identify the "weakest links" in the "third world peace". Fourth, it will provide additional insights into whether the prominent democratic peace theory is contingent on economic conditions both within and across different groups of states.

The organization of the dissertation is as follows. In Chapter II, I first make a case for separate analysis of conflicts of developing countries from those of developed countries and give a descriptive account of interstate conflicts in the developed world. Then I review different theories on the relationship between economic development and conflict, and introduce my own arguments about the importance of economic factors for interstate conflict in the developing world. Briefly, I argue that whereas economic development and growth increase the satisfaction of a developing state with the international and regional status quo and thus make it less conflict-prone, increasing economic importance of developing states to the great powers increase the costs of those states' militarized conflicts for the great powers, thereby augmenting the incentives for the great powers to prevent the militarization of disputes among developing states with higher economic importance to them. I also argue that, because economic conditions influence the foundation, performance, and survival of democratic systems, democratic institutions in less developed countries will not be as solid and functional as the ones in more developed countries and thus democracy will not have any independent effect on interstates conflicts of developing states; instead, democracy's influence on interstate relations of a developing country will be contingent on that country's economic development level. Chapter III and IV constitute the empirical tests of my arguments. In chapter III, I analyze dyadic militarized interstate disputes of developing countries between 1951 and 2000. In chapter IV, I examine negotiated settlement of militarized interstate disputes of developing countries in the same time period. The results in chapters III and IV provide strong support to my arguments on economic development and democracy, but only partial support to my arguments on economic growth and

economic importance to the great powers. I conclude this study with Chapter V making a brief summary of my findings and highlighting their policy implications as well as their importance for future research.

CHAPTER 2

INTERSTATE CONFLICT IN THE DEVELOPING WORLD

2.1. Studying Interstate Conflict in the Developing World

There is increasing interest among International Relations (IR) scholars regarding the importance of *context* in international politics (Goertz 1994, Kacowicz 1998, Diehl and Goertz 2001). Contextual analysis of international relations refers to a study that takes into account the categorical differences between two or more “groups of states” and can be based on differences in region, history, regime-type, major-minor power status, economic development, and many others.⁷ The differences between the developed and developing states were one of the primary systematic differences that struck the critics of the mainstream IR theories. Some (Jackson 1993, Bilgin and Morton 2002) have questioned the relevance of the very concept of “the state” to the developing world and argued that many third world states lack central features of an average Western state such as sovereignty, legitimacy, and self-sustenance. Wallerstein (1974) contended that whereas the economic development of the Western countries and the increasing wealth and power of the bourgeoisie were accompanied by the construction of ‘strong’ states, the dependent situation of the Third World countries and their openness and vulnerability to the manipulations of the core countries resulted in the creation of ‘weak’ states. In his words (1974, pp: 88-89 - emphasis mine):

In peripheral countries, the interests of the capitalist landowners lie in an opposite direction from those of the local commercial bourgeoisie. Their interests lie in maintaining an open economy to maximize their profit from world-market trade and in elimination of the commercial bourgeoisie in favor of outside merchants (who pose no political threat). *Thus, in terms of the state, the coalition which strengthened it in core countries was precisely absent.*

Somewhat as an elaboration on these arguments, some others argued that the “*insecurity dilemma*”, which derives from the internal ‘weakness’ of the Third World countries, rather than the oft-argued security dilemma, shapes the security strategies of the Third World countries (Job 1992, Ayoob 1995, Glenn 1997). There were also other scholars who have problematized the

⁷ Goertz defines context as “any factor that influences the relationship between two (or more) other variables,” (1994, 26).

“independence” of Third World states (Wallerstein, 1974, Hey 1995, Escude, 1998, Clapman 1999) and maintained that the economic and political dependence of third world countries to the developed world render the ‘hierarchical’ nature of the international system more relevant to the foreign policy behavior of developing states than its ‘anarchical’ structure. Neuman (1998, p. 3) makes an interesting summary of these arguments (emphasis mine):

For many LDCs [less developed countries], then, the realist focus on a sharp boundary between domestic “order” and international “anarchy” may be applicable, *but in reverse*. It is the hierarchical structure of the world that provides them with an ordered reality, and a “condition of unsettled rules” that afflict them at home.

In line with these theoretical concerns, some recent empirical research also suggested a categorical difference between certain regions of the world. In his attempt to expand power transition theory to the Third World, Lemke (2002) never succeeded in rendering the African and Latin American dummies insignificant, suggesting that these regions have some underlying factors that make them less/more conflict-prone than other regions. Similarly, Henderson (2003) and Goldsmith (2006) tested the regional contingency of the prominent democratic peace argument and found that democracy loses its conflict-dampening effect outside the developed West (Western Europe and North America). These empirical findings suggest that the purported categorical differences between the developed world and the developing world are not mere constructs of the minds of critical IR theorists.⁸

An important question is: Even though we assume that developing world is different from the developed world, should this lead us to analyze it separately from the developed world? My answer is an affirmative one and I have multiple reasons. First, in cross-sectional statistical analysis, there is the problem of unexplained (or unmeasured) heterogeneity (King 2001). As common solutions, we are advised either to exhaust all substantive variables or to analyze certain categories separately.⁹ The former is the more appealing yet at the same time more difficult

⁸ This divergence of results across developed and developing countries is not unique to conflict studies. Blonigen and Wang (2005), for example found that pooling rich and poor countries in empirical analysis of foreign direct investment (FDI) leads to incorrect inferences. So far as the underlying factors that determine the level of FDI activity as well as the effect of FDI on economic growth are concerned, their findings suggest that FDI in rich and poor countries follow very different processes.

⁹ The two formal “fixes” (fixed-effects and random-effects models) introduce as many problems as they solve. Green et al. (2001) introduces the fixed effect model as a cure to unexplained heterogeneity in the study of international conflict. However, as Beck and Katz (2001) note, the fixed-effects model is inappropriate for analysis with a dichotomous dependent variable. Because scholars studying international conflict in general deal with war or MID occurrence, fixed-effects model turn out be almost irrelevant to the study of interstate conflict. As for the random-effects model, it is very difficult to satisfy its underlying assumption that the random errors associated with

option; therefore the latter retains its viability. Second, an assumption that we make in all cross-sectional analysis is that independent variables have a *consistent* effect on the dependent variable across all sections (Gujarati 2003, p. 641). In cases where this assumption does not hold, results from cross-sectional analysis will be biased. For example, if an independent variable has considerable effect in some sections and no effect in some others, results from a pooled sample will still show some "general" effect that will be considered true for all sections, particularly if the former category dominates the sample. In such a case, pooling data will lead us to a fictitious generality. As outlined above, there are considerable theoretical arguments as well as empirical findings that suggest a divergence between the developed and the developing countries in certain political and economic dimensions. One can argue that such differences can be controlled by inclusion of 'interaction' variable. However, to capture the diverging effects of substantive variables on any dependent variable would in this case require inclusion of dozens of interaction variable, which is going to make the interpretation of marginal effects of substantive variable on a given dependent variable extremely difficult. Third, given that developed states are already developed, democratic, and politically stable; inferences regarding such variables as economic development, democracy, and regime change are essentially made for the developing countries. This creates a heuristic problem because we analyze the behavior of all states yet make inferences for the developing states. The problem is that, at least in the foreseeable future, there is no way for all states to be developed at the same time; the material resources of the world simply would not suffice to meet the demands of all human beings if they all started to consume like an American or German. Thus, although some exceptional developing countries might be able to catch up with their developed counterparts, the future of most developing states can at best be a semi-developed state. So far as economic development is concerned, Peru's foreseeable future is not Luxemburg or Sweden, but at best Argentina or Greece. Thus, statements like "a unit increase in GDP per capita level..." is inappropriate if we make inferences for Peru from a cross-sectional analysis that compares, say, the France-Belgium dyad with the Peru-Ecuador dyad. Inferences for the developing countries should be extracted from the analysis of the variation *within* the developing countries. Thus, I believe that it is more appropriate to analyze the developing world separately if we are to gauge the effects of economic development and

units are uncorrelated with the explanatory variables. Unless we exhaust all major relevant variables, thereby eliminating the omitted-variable problem, random-effects model gives us biased estimates. In even

other economic factors on international politics of developing countries.

2.2. A Brief Logical Primer to International Conflict: Opportunity and Willingness

In the absence of external pressure, for any human action to materialize, two conditions must exist simultaneously. First, the actor must have some degree of "willingness" to do the action. When there is no compulsion to do otherwise, human beings do only what they want to do. Second, the actor must possess the "opportunity" to carry out his/her thoughts. In other words, there must be an environment that allows the action. "Willingness" and "opportunity" are two ubiquitous aspects of foreign policy as well (Starr 1978). On the "opportunity" side, the international system and a state's relations with other states condition the options available to that state. On the "willingness" side, a state's primary interests shape its ultimate choice among available options. Therefore, for any international conflict to occur, at least one state should have some degree of willingness and opportunity to fight. Theories that study only the willingness aspect of international conflict are likely to fall into an "ecological fallacy" trap, i.e. attributing the outcome of a societal interaction to individual motives or vice versa (Robinson, 1950). Theories that focus only on the opportunity aspect of conflict are likely to produce deterministic arguments that fail to explain the variation in similar conditions.

2.3. Interstate Conflicts in the Developing World

As noted earlier, all high-intensity interstate conflicts since World War II occurred on the territories of developing countries. In the same vein, a developing country was one of the parties in 99 percent of *all* militarized interstate conflicts in that era. This places developing countries in a key position for understanding international conflict. Yet *interstate* conflicts are not necessarily the primary problem of the developing world. Indeed, many have argued that securing domestic order is a more important concern of the governing elite of most developing countries than securing national borders or settling international accounts (Holsti 1996, Neuman 1998; David 1998).¹⁰ Thus, for many observers, developing countries are often facing a domestic "insecurity

¹⁰ According to Holsti's calculations, 77 percent of the conflicts between 1945 and 1995 were either internal conflicts (54 %) or internally-driven conflicts that involved external armed intervention (23 %).

dilemma” rather than an international “security dilemma” (Job 1992, Glenn 1997). I do not necessarily disagree with those arguments. Nevertheless, I believe that international conflicts are also an important problem of many developing countries. It suffices to note that between 1950 and 2000, 118 out of 160 (70 %) developing countries were involved in at least one *militarized interstate conflict*, which is defined as “an event where the government or citizens of at least one state threatened, displayed, or used force against the government or citizens of at least one other state worldwide” (Jones, Bremer, and Singer 1996).

It might be helpful to start with some basic statistics on conflicts in the developing world. According to the Correlates of War (COW) dataset, between 1950 and 2000 there have been 2132 dyadic militarized interstate disputes (MIDs) that included at least one developing country.¹¹ In 1582 of these 2132 conflicts at least one party *actually* used military force and 67 of them escalated into full *war*, defined by COW as interstate conflicts with “at least 1000 combat fatalities in a year.”

The distribution of these conflicts across the developing world has not been even. Asia and Africa have occupied the first and second places, respectively, in terms of conflict frequency. Figure 1 provides geographical distribution of MIDs in the developing world. Because major powers are, by definition, less constrained with geography than other countries, I excluded from Figure 1 the MIDs that include a major power, which reduced the total number MIDs to 1508. The COW dataset considers the US, the USSR/Russia, Britain, France, and China as major powers since 1945; Germany and Japan are regarded as major powers after 1989. I divided the world into 7 continents/regions: 1) North America, 2) Central America and the Caribbean, 3) South America, 4) Africa, 5) Europe, 6) Asia, and 7) Oceania. The numbers in yellow rectangles show the number of dyadic MIDs in that continent/region between two countries of that continent/region. The numbers in blue rectangles show the number of dyadic MIDs between countries from different continents/regions; the arrows that cross over each blue rectangle show the relevant continents for each blue rectangle. So, for example, between 1950 and 2000, there were 73 dyadic MIDs between two South American countries; and there were only two MIDs that included one South American country and one Asian country. Asia took the

¹¹ Here each MID refers to a *MID year*. Conflicts that last more than one year are considered distinct conflicts for each year.

lead in both intra-continent (668) and inter-continent (183) MID^s.¹² Asia was followed by Africa (277) in intra-continent MID^s and by Europe (178) in inter-continent MID^s. The lead of Asia and Africa in intra-regional conflicts is in line with arguments that linked state maturity –or longevity- (Ayoob 1995) and “satisfaction with territorial status quo” (Kacowicz 1998) to interstate peace. Many Asian and African states joined the international system in the second half of the twentieth century and are expected to be involved in intra- and inter-state conflicts more frequently than the more established states.

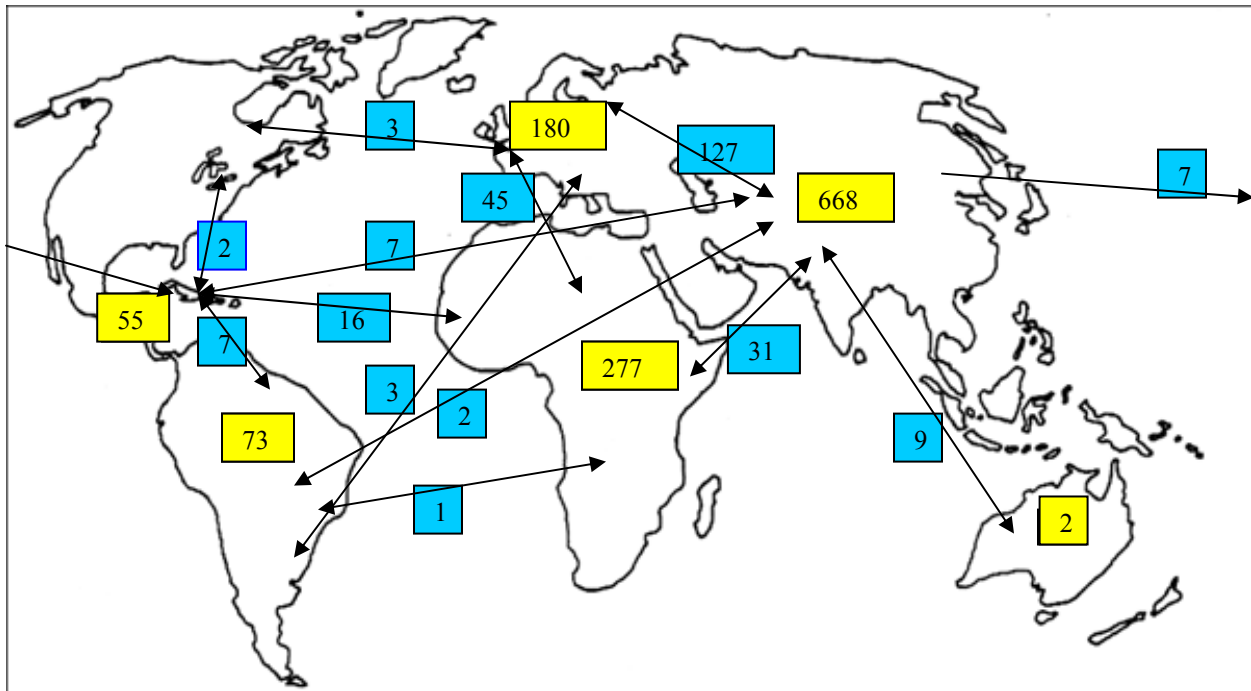


Figure 1: Geographical Distribution of Dyadic Militarized Interstate Disputes in the Developing World That Did Not Include a Major Power.

As for the geographical distribution of MID^s that include a major power, Asia again takes the lead in both intra-continent and inter-continent MID^s. There were 127 dyadic MID^s that included China or Japan on the one side and another Asian country on the other side.

¹² Almost half of the intra-continent conflicts in Asia took place among Middle Eastern countries.

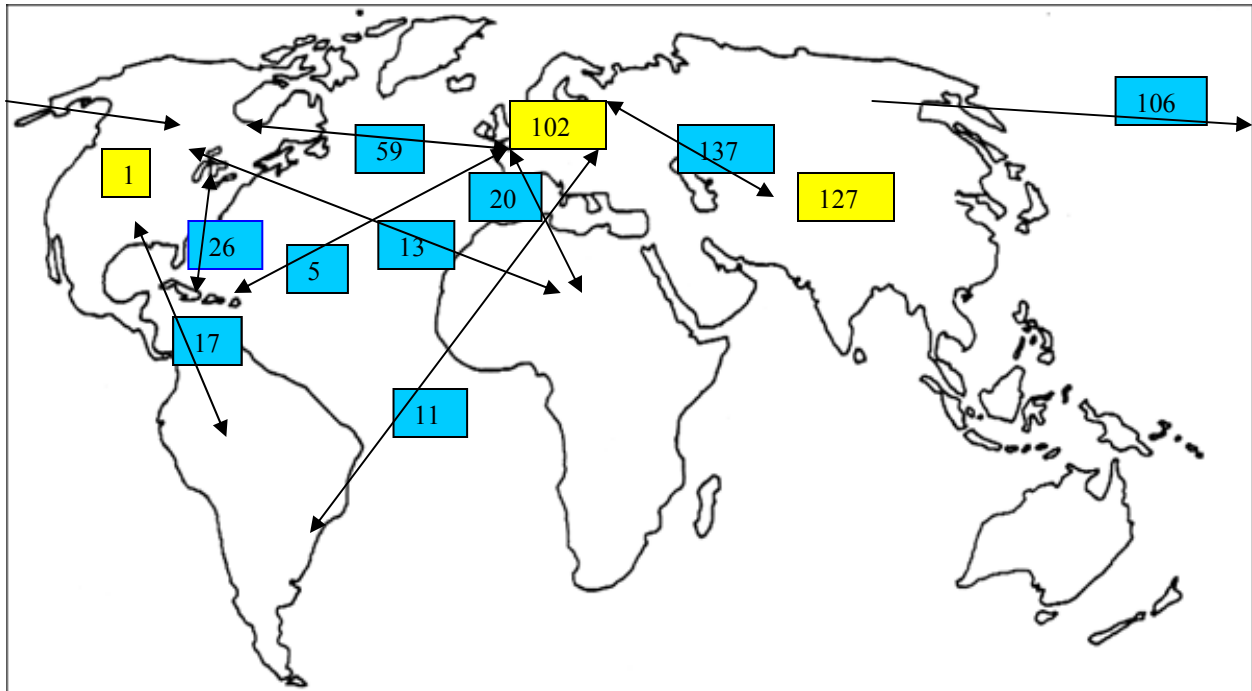


Figure 2: Geographical Distribution of *Dyadic* Militarized Interstate Disputes in the Developing World That Included a Major Power.

2.3. Economic Factors and Interstate Conflict in the Developing World

2.3.1. Economic Development and Peace

As in many other issues regarding international conflict, there is no consensus among the scholars of world politics regarding the effect of economic development on interstate conflict. Whereas many scholars constructed an economic development-conflict nexus, others argued for an economic development-peace nexus. Orthodox Marxists (e.g. Lenin 1939) argue that economic development increases international conflict both among developed states and between developed and less developed states. According to the classical Marxist perspective, the logic of incessant capital accumulation inevitably creates both rivalries among the richer capitalist states and conflicts between richer and poorer states for the resources, labor, and markets of poorer states. Inspired by traditional Marxist arguments, lateral-pressure theory (Choucri and North 1975) argues that economic development creates conditions for conflict among major powers. From the lateral-pressure perspective, economic development increases overall demand for

natural resources and hence the likelihood of conflict over scarce resources. By contrast, world-system theory (Wallerstein 1974, 1995; Chase-Dunn 1981) contends that economic development *decreases* conflict among developed (core) countries but *increases* conflict between developed (core) and less developed (periphery) countries. The goal of maintaining their privileged status in the world-system leads core countries to maximize cooperation among one other but at the same use force against the peripheral states whenever necessary. Like other Marxist theories, the world-system theory makes no strong argument as to the relations *among* peripheral (less developed) countries.

On the other side, most liberal scholars (Mueller 1989, Polachek 1997; Oneal and Russett 1999; Hegre 2000) link economic development to peace through its effects on trade and economic interdependence. Economic development leads to increasing integration with the global economy and this increasing economic integration raises the costs of military conflicts for economically developing states. The cost/benefit ratio of any war between relatively developed countries increasingly seems unpromising. Because even the prospect of a military conflict is likely to disrupt international trade and investment, and the leaders of economically developing states tend to be more cautious about militarizing their international disputes. Some others (Mousseau 2000, 2002, 2003) also espoused a "cultural materialism" argument and contended that it is the "market culture" that comes with economic development which results in the peaceful relations among the economically developed states. Mousseau argued that market-based economic development "give rise to the legitimacy of governing institutions that enforce contracts equally, and a political culture that respects democratic-made common law, individual freedom, legal equality, and universal extensions of trust," (2003, p. 502) which in turn pacifies international relations of developed countries, particularly with other states that share this "market culture".

Lastly, within the limited realm of hegemon-challenger relations, power-transition school (Organski 1958, Organski and Kugler 1980, Lemke 2002) viewed economic development in challenging states as a major source of increasing national power and argued that economic development in challenging states makes wars more likely because it decreases the power gap between dominant power and the challenging states, hence creating a condition of 'power parity'.

These theories are not mutually exclusive of course. I believe that understanding the

conflict behavior of developing states would require utilizing insights from multiple theories. My starting point is that economic development is a *primary* and *indispensable* goal of most, if not all, developing states. The realist dichotomy of high vs. low politics, which privileges security concerns over economic ones, does not apply to developing countries.¹³ As it was in the case of the *developing* West European states in the seventeenth and eighteenth centuries (Viner, 1948), the pursuit of wealth and the pursuit of power are “indistinguishable” for contemporary developing states as well. This is why we find many developing states at times sacrifice the traditional realist high-politics (such as maintenance of autonomy and sovereignty) for the sake of economic development (Hey 1995). As the communist Chinese state sacrifices its autonomy to reap the economic benefits of WTO membership, the Turkish state reevaluates, albeit unwillingly and incrementally, its traditional security approach to become a member in the European Union.

I believe that both Marxist and power-transition arguments about economic development’s effect on interstate conflict possess little relevance to the conflicts within the developing world. Besides the general silence of Marxist theories of international conflict on relations *among* developing countries, the dependence of developing countries on the developed world also renders the Marxist arguments that link economic development to increased interstate conflict less relevant to the relations among developing countries. As weaker states of the international system, developing countries have lesser chances of converting their growing economic power into military might to use against less powerful states, particularly if the latter is a valued economic or political partner of major developed countries. Indeed, Iraq had to face this reality in 1990 when she thought she could get away with annexing Kuwait.¹⁴ The argument of the power-transition school is also of very little relevance to the international relations of developing countries, because the power disparity between the global hegemon and an average developing country is so large that it does not leave much realistic vision on the part of developing countries to challenge the hegemon militarily after some economic development.¹⁵

¹³ China’s primary foreign policy goal for the twenty-first century, for example, is stated as the creation and maintenance of political friendships and a stable international environment that will allow Beijing “to develop its economy and its trade and to acquire advanced technology,” (Kornberg and Faust 2005, p. 19)

¹⁴ Similarly, when China built up its military presence across the Taiwan Straits before the 1996 presidential elections in Taiwan, U.S. president Bill Clinton sent a symbolic U.S. military presence in to the Taiwan Straits. “Beijing got the message” and the crisis was diffused (Kornberg and Faust 2005, p. 42).

¹⁵ Kugler and Lemke admit this limitation in their review of power transition literature for the second edition of *Handbook of War Studies*: “Technically, power transition research only makes predictions about dyads that include

So, what is the relationship between economic development and interstate conflict in the developing world? Economic development can influence conflict behavior of developing countries through multiple channels, but two of these channels are critical in my view: overall satisfaction with the international system and risk acceptance in international relations. My central argument rests on the concept of *satisfaction*. ‘Satisfaction with the status quo’ has been a key component of a few theories of international relations, particularly the power-transition theory. Organski (1958) and his followers challenged the realist view on the anarchical nature of the international system and described a hierarchical international system in which established patterns and international orders enforced by the dominant power exist despite the absence of formal rules. Organski labeled those ordered patterns the “status quo” (p. 325). And power-transition theorist argued that evaluations of the status quo are one of two primary determinants of major power wars, the other being relative power. Several empirical analyses (such as Kim and Morrow 1992; Lemke and Werner 1996, Lemke 2002) supported the arguments of power-transition theory. The importance of “satisfaction with the status quo” for international conflict was later recognized by scholars from outside the power-transition literature as well. In his attempt to explain the creation of “zones of peace” in the Third World, Kacowicz (1998) identified satisfaction with the territorial status quo as the most important factor in the creation of a zone of peace. Rousseau *et al* (1996) also found a powerful relationship between ‘satisfaction with the status quo’ and crisis behavior. Operationalizing it as “favoring the maintenance of the current borders” in territorial disputes and as “not actively seeking to overthrow another regime” in anti-regime disputes, they found that a change in status from dissatisfied to satisfied decreased the predicted probability of using major force from 34% to 5% and increased the predicted probability of never using force from 27 % to 72 % (1996, p. 524).

However, above-mentioned theories and studies were more successful in arguing for the importance of satisfaction with the status quo for interstate conflict as well as providing empirical support for the effect of status quo evaluations on interstate conflict than articulating what factors influence the status quo evaluations of states. The power-transition school, for example, has mainly focused on the outcomes of satisfaction and largely ignored the question of

the dominant power, and thus tests of power transition’s war hypotheses have a very limited empirical domain indeed,” (2000, 134).

‘what causes satisfaction?’¹⁶ I believe that the question “what causes satisfaction?” is as important as the question “what are the consequences of satisfaction?” and I also believe that economic development has something important to say about the satisfaction of developing states.

At the individual level, the influence of material satisfaction on individuals’ support for their national democratic system have been substantiated by several empirical analyses (e.g. Clarke, Dutt, and Kornberg 1993; McDonough, Barnes, and Pina, 1994). Clark, Dutt, and Kornberg, for example, found that in the eight West European countries they studied the effects of economic conditions extend beyond their impact on governing party support to influence democracy satisfaction and “calls for radical and reformist social change,” (1993, p. 1001). Recent research (Diener and Tov 2007) also found some support for the positive relationship between an individual’s subjective well-being and his/her peaceful attitudes such as racial tolerance and support for democracy.

Because states and countries are aggregations of *people* that share certain commonalities, I expect that similar patterns exist at the state/country level as well. Thus, my argument is that similar to an individual’s satisfaction with the political system in one’s country, a state’s overall satisfaction with the international system (status quo) will be heavily influenced by its place within the international system. Relatively richer developing states are expected to be more satisfied with the current international system and less willing to demand “radical and reformist change” than states with very low levels of economic development. My argument can be viewed as a *relative deprivation* approach, which is widely utilized in the domestic conflict literature (Gurr 1968, 1970; Muller and Seligson 1987). Relative deprivation, which refers to “actors’ perceptions discrepancy between their value expectation (the goods and conditions of the life to which they believe they are justifiably entitled) and their value capabilities (the amounts of those goods and conditions that they think they are able to get or keep)” (Gurr, 1968, p. 1104),

¹⁶ This one-sided focus on the outcomes of satisfaction has rendered some of the findings of the power-transition school tautological and some of their arguments inconsistent. Werner and Kugler (1996) and Lemke (2002), for example, use “extraordinary military buildups” as a measure of dissatisfaction and then ‘find’ that dissatisfaction increases the likelihood of wars. But an “extraordinary military buildup” is a good indication of willingness and/or preparation for war in the first place. A more useful question is why and which states chose to embark on extraordinary military buildup. On the other side, power-transition school’s vagueness on the causes of satisfaction led some (de Soysa, Oneal, and Park 1997) to accuse the power-transition school with inconsistency: “why a challenger that is overtaking the dominant nation would be dissatisfied, because by definition its economy is growing rapidly, even relative to the hegemon’s,” (p. 512).

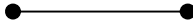
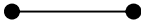
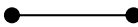

stimulates anger and social discontent, thereby providing motivation for collective violence. At the international level, the states at the bottom end of the international hierarchy which face persistent poverty feel something or someone is blocking them from improving their conditions and this results in increased *dissatisfaction* with the international system. Dissatisfaction with the international system increases willingness of states to change the status quo, thus resulting in more aggressive behavior. Conversely, increases in satisfaction increase the willingness of states to make sacrifices to preserve the peace (Wolfers 1961, p. 134).¹⁷

The question here is not specifically "which states fight whom" but which states are more belligerent and hence more likely to resort to violence (or resist proposed peaceful solutions) to achieve their objectives. Dissatisfaction of a poor developing state can cause conflicts with other poor developing countries as well as with relatively richer developing countries because in both cases dissatisfaction can prevent peaceful solutions. In his influential article "Rationalist Explanations of War" (1994, p. 10), Fearon argues that in any conflict situation there always exists a set of negotiated settlements (or a bargaining range) that both parties should prefer to fighting from an expected utility perspective. He then develops a theoretical framework to account for rational actors' failure to reach a negotiated settlement. An important point that Fearon avoids discussing in his paper is the *size* of bargaining range and its influence on peaceful settlement of conflicts. From a rational perspective, the larger the size of bargaining range, the higher the likelihood of a negotiated settlement. Because dissatisfied states tend to have higher demands as to the revision or change of the status quo, conflicts that include dissatisfied states will have smaller bargaining ranges than conflicts between satisfied states. Consequently, dissatisfaction will reduce the likelihood of negotiated settlements and increase the likelihood of militarization of conflicts.¹⁸ A 2x2 table can help illustrate the varying size of bargaining range in different dyads according to the satisfaction of dyad members.

¹⁷ Quantitative studies of international conflict have used two different measures for states' satisfaction with the status quo, both of which drive from alliance portfolios of states. The Tau_b indicator gauges the similarity and difference between the alliance portfolio of a state and that of the leader country (Bueno de Mesquita 1975); S indicator weighs the alliance portfolios of states by a distance metric (Signorino and Ritter 1999). I calculated the correlations between GDP per capita and these two satisfaction measures. For developing countries in 2000, the correlations between GDP per capita and Tau_b and S were 0.352 and 0.348, respectively, and were statistically significant.

¹⁸ Because dissatisfaction reduces the size of bargaining range but not necessarily eliminates it, the question "why do rational actors *still* fail to reach a negotiated settlement?" remains as a valid question. Here, I shall refer the reader to Fearon's rationalist accounts as well as to the psychological accounts of alternative theories, one of which I elaborate below.

Table 1: Satisfaction and Bargaining Range

		State A	
		richer (more satisfied)	poorer (less satisfied)
State B	richer (more satisfied)		
	poorer (less satisfied)		

Dissatisfaction of poorer developing countries influences not only their overall belligerence but also their willingness to take risks. The assumption of expected utility has face validity in international relations: states as well as individuals *in general* follow the option with the highest return. Yet because interstate conflict is a rare event, deviances from this “general” rationality pattern might help us solve the “war puzzle”, particularly if they follow a systematic pattern. Several studies in social psychology demonstrated that human beings do not follow rationality in certain contexts (Quattrone and Tversky 1988; Kaufmann 1994). The virtue of what is later called “prospect theory” is that it sheds light in a systemic way on why people (or in our case, state leaders) sometimes follow non-rational paths: in “domains of loss”, people/states become more risk-accepting; in “domains of gain”, people/states become more risk-averse. Inside the developing world, poorer countries are more likely to regard themselves as “losers” than are the countries with relatively higher GDP per capita levels. Consequently, poorer countries are more likely to take risks at the international level, thereby gambling on wars which might not be rational, in an expected utility sense, to wage. Again, this risk taking can result in conflicts between a poor developing country and another poor developing country as well as between a poor developing country and a relatively richer developing country. Yet one can expect that dyads with two dissatisfied states will carry higher risks of conflict due to the existence of two “gamblers” in the dyad. Again, a 2x2 table can help illustrate the dyads that carry higher risk of resort to violence due to increasing risk behavior. Dyads with two relatively richer developing states carry the lowest risk of resort to violence, whereas dyads with two relatively poorer developing states carry the highest risk.

Table 2: Satisfaction and Dyadic Risk*

State B	State A	
	richer (more satisfied)	poorer (less satisfied)
richer (more satisfied)	1	2
poorer (less satisfied)	2	3

* Higher numbers refer to higher risk.

Figure 3 below summarizes my theoretical arguments on the link between poverty (or lower economic development) and interstate conflict in the developing world.

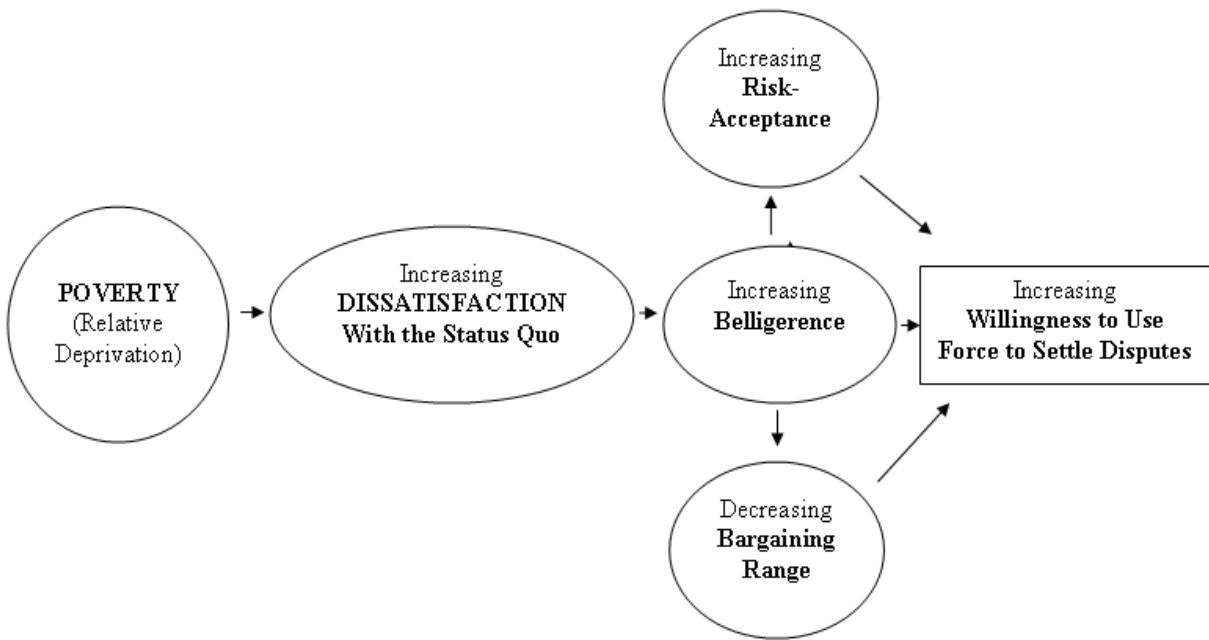


Figure 3: The theoretical link between poverty and interstate conflict

2.3.2. Economic Growth and Peace

Satisfaction of a state with the international system is shaped not only by its current position in the system, but also with its contemporary movement within the system. Thus, besides the aggregate economic development level, current economic growth rates can also influence the interstate relations of developing states by shaping their satisfaction with the system. I call this phenomenon *satisfaction in expectations*. Developing states with higher levels of growth can perceive themselves as beneficiaries of the system and become more conservative, whereas states with persistent negative growth rates can lose their faith in the system and adopt a more aggressive policy (Russett 1988). The Chinese case is a good example of growing international satisfaction as a result of economic growth. Chinese average economic growth in the last quarter of the twentieth century surpassed that of any other country. China's GDP per capita (in purchasing power and in 1990 US dollars) was \$907 in 1975 and \$3,747 in 2000. As a result, Chinese people are becoming more and more satisfied with their conditions than do the people of any other developing country. A recent survey by *PEW* reveals that the percentage of people that are satisfied with "national conditions" was greater in China (72%) in 2005 than in any other country that was surveyed (PEW Global Attitudes Survey, 2005).¹⁹ This is also the case at the state level. Today we find a Chinese state that exhibits "greater levels of 'status quo-ness' than ever before," (Johnson 2004, 66). Indeed, the Chinese President Hu Jintao and his advisers coined the term "peaceful rise" to eliminate any residual fear in China's neighbors against rising Chinese power (quoted in Waldron 2005, p.715).

One can argue that the satisfying effect of economic growth is not unique to developing countries. Rich countries as well might become more aggressive in times of economic adversity and more conservative in times of positive economic performance. Indeed, the *diversionary conflict* literature (Mueller 1973, Morgan and Bickers 1992, Fordham 1998), which argues that economic adversities at home increases the likelihood of leaders' use of force abroad to divert attention away from domestic problems, first and foremost studied the Western countries rather than the developing world. However, when we take into account the differences in the overall satisfaction with the international system in developed versus developing countries, we might expect more aggression in developing countries than in the developed ones in times of economic

¹⁹ This percentage was 69 in Jordan, 57 in Pakistan, 41 in Turkey and India, 40 in Lebanon, 35 in Indonesia, and 13 in Poland.

adversities. For a poor developing country whose overall satisfaction with the international system is already low, persistent economic failure will only eliminate any hopes of improvement and solidify the belief that the system is biased against it. By contrast, people in a rich developed country with high overall satisfaction with the international system are more likely to blame their current domestic policies than the international system for their recent economic failure. After all, they could not have been enjoying their prosperity if the system was biased against them. Consequently, economic growth can become a more important determiner of international conflict and peace in the developing world than it is in the developed world.²⁰

2.3.3. Economic Development, Democracy, and Peace

Economic development also has an indirect effect on interstate peace by helping establish as well as strengthen democratic regimes, which are argued to be more peaceful than others. Political scientists argued that such consequences of capitalist economic development as a rise in the size of middle class (Berger 1993), political mobilization of labor class (Rueschemeyer *et al.* 1992), and rising levels of education and literacy (Lipset 1960) create forces for democratization in a society. Confirming these theoretical expectations, several studies in comparative politics (e.g. Burkhart Lewis-Beck 1994, Bernholz 1997, Epstein *et al.* 2006) demonstrated that economic development and democracy go hand in hand and that increases in the development level of a country increase the likelihood of democratization in that country. Besides this democratizing effect of economic development, a few studies also suggested that economic development secures the survival of democratic regimes once they are established (Przeworski and Limongi 1997).

Also important is the relationship between economic development, satisfaction with the international system, and democracy, which is widely ignored in the literature. As the “wealth of nations” increase, so does nations’ satisfaction with the international system which renders this wealth possible. Satisfaction with the international system is likely to make those nations conservative and thus prevent the strengthening of extreme ideologies in their countries. On the one side, leaders in dissatisfied states can view democracy as an obstacle to their economic and

²⁰ Pacek and Radcliff (1995) suggest a similar *conditional* effect of economic factors at the individual level. Analyzing 17 nations between 1960 and 1987, they find that whereas in countries with low to moderate levels of welfare spending the economy has a dramatic effect on the vote when things are good than when things are bad, the economy plays less of a role in states with high levels of welfare spending regardless of the direction of the economic change.

political objectives, which are in general more ‘radical’ than those of the satisfied states; on the other side, the citizens of such countries also become more supportive of the radical non-democratic movements. Indeed, throughout the 20th century, totalitarian regimes took root only in countries which were highly dissatisfied with the international system (fascism in Germany, Italy, and Japan; communism in the USSR, China, and Cuba).²¹ As such, relative satisfaction with the international status quo of wealthier countries puts them in advantageous position vis-à-vis poorer countries in terms of ‘welcoming’ as well as sustaining democracy.

The fact that economic conditions influence the foundation, performance, and survival of democracy implies that economic factors also have an indirect effect on interstate peace through democracy because numerous studies in IR suggested that democracy decreases the likelihood of conflict between states (Lake 1992; Maoz and Russett 1993; Oneal and Ray 1997; Oneal and Russett 1997; Russett and Oneal 2001). Yet some recent findings have cast shadows on earlier findings about democratic peace and suggested that, contrary to the case in the developed world, democracy has no or miniscule peaceful effect in poor (Mousseau 2000, 2002; Mousseau, Hegre, and Oneal 2003) and/or non-Western (Henderson 2003) dyads. These recent findings are in line with my theoretical expectation that democracy has a peaceful effect on the interstate relations within the developing world only through economic development. First, because dissatisfaction (and hence increased aggressive behavior) of most developing countries is driven by persistent poverty and their underprivileged status in the global system, democracy by itself does not eliminate this dissatisfaction and thus can have no or miniscule independent effect on interstate peace in the developing world. And second, because democracy itself is strengthened and sustained with a healthy economic foundation and positive economic performance, democratic institutions in poorer countries will not be as solid and functional as the ones in richer countries. As such, democracy can provide a base for enhanced interstate peace so long as the people of a developing country are sufficiently wealthy (hence satisfied with the international system). Thus,

²¹ The Italian case is the most interesting one in that Italy before the World War I was considered one of the few ‘stable’ democracies in Europe (Doyle 1986). Yet only four years after the war, in 1922, Mussolini regime managed to come to power in Italy mainly because of the Italian *dissatisfaction* with both its domestic economic conditions and the European *status quo*. The Italian case warns us that dissatisfaction with domestic economic conditions and/or the international system not only impedes the establishment of democracies, but might also cause the breakdown of ‘stable’ democratic regimes. Indeed, this is a serious problem for contemporary democracies in Latin America which, for many, have failed to fulfill its economic promises. The 2006 Latinobarometer surveys, for example, reveals that 42 percent of Latin Americans do not prefer democracy to any other form of government. This figure is alarmingly higher in some Latin American countries: Mexico (46%), Honduras (49%), Brazil (54%), Paraguay (59%), and Guatemala (59%) (Latinobarometer Report 2006).

I argue that there is an interactive effect of development and democracy on interstate peace within the developing world, and I expect democracy to have little or no individual peaceful effect on interstate relations of poorer developing countries.

2.3.4. Economic Importance to the Great Powers and Peace

Finally, war is not simply a dyadic outcome; rather, it is as much systemic as a dyadic phenomenon, and this is particularly so for weaker states. The "hierarchical" nature of the international system, which is ignored by the dominant realist theory of international politics, is as important for a developing country with regard to foreign policy making as the "anarchic" nature of the international system (Escude 1998). And this issue gains particular importance for the "opportunity" aspect of interstate conflicts in the developing world. Major states not only define the structure of the international systems, but also *selectively* intervene in other countries' affairs to make sure that their own national interests are not hurt. This "selective intervention" is typically guided by the strategic, political, and/or economic importance of specific countries to major powers.

In the economic realm, the great powers have greater incentives to prevent wars between the states which are economically important to them. So far as their economic reverberations are concerned, a war between France and Britain is "unthinkable" for the world system, a war between Argentina and Brazil is "destructive", yet a war between Eritrea and Ethiopia is "tolerable", though unpleasant. Thus, the great powers are likely to spend more time and effort to avoid a war between Argentina and Brazil than they spend to avoid a war between Eritrea and Ethiopia. Paraphrasing Waltz (1959, p. 232), then, one can argue that in the developing world "wars occur when there is no one who is *willing* and *able* to prevent them." Anarchy, from this perspective, is a *conditional* reality and it prevails mainly in regions of the world where the great powers allow it to be so. Thus, relative unimportance to the great powers of poorer countries increases opportunities for conflict in the developed world.

In the next two chapters, I will test four hypotheses extracted from my arguments in the preceding section on two aspects of international conflict: involvement in dyadic militarized interstate dispute, and negotiated settlement in militarized interstate disputes.

CHAPTER 3

MILITARIZED INTERSTATE DISPUTES IN THE DEVELOPING WORLD

3.1. Introduction

I argued in Chapter 2 that overall economic development levels and recent economic growth rates of developing countries influence these countries' "willingness" to fight other countries. Lower economic development levels as well as recent economic failures results in increasing dissatisfaction with the international system, thereby increasing developing countries' overall belligerence as well as their willingness to take risks. Additionally, I argued that economic importance of developing countries to the great powers influences the "opportunities" for conflict in the developing world. Poorer countries' relative unimportance to the great powers increases opportunities for conflict in the developing world. Thus, I concluded that poorer countries with lower rates of economic growth and with lower importance to the great powers constitute the weakest links in the "third world peace".

Students of international conflict have first and foremost studied wars. The rarity of full-fledged wars produces some statistical problems, however. Therefore, there is an increasing trend among the students of international conflict to study all *militarized* conflicts to increase the number of conflict cases. Quantitative analyses of militarized interstate disputes have burgeoned in the last two decades. State-level theories of international conflict have demonstrated that *regime type* (Maoz and Russett 1992), *regime similarity* (Peceny *et al.* 2002), *economic development* (Mousseau 2000), *economic growth* (Oneal and Russett 1997), and *trade* (Hegre 2000) have discernable influences on militarized interstate disputes. On the other side, systemic theories -such as *bipolar stability* (Wayman 1984), *long cycle theory* (Thompson 1986), and *power transition theory* (Kim and Morrow 1992)- continued their tendency to analyze *wars* rather than lower-level conflicts.

In this chapter, I will try to reveal the statistical relationship between the aforementioned economic factors and occurrence of militarized interstate disputes in the developing world. I expect that higher levels of overall economic development, current economic growth, and

importance to the great powers as well as co-existence of higher wealth and democracy will decrease the likelihood of a militarized interstate dispute in a developing-state dyad.

3.2. Hypotheses

I extract four hypotheses from my theoretical arguments in Chapter 2. I have argued that higher levels of both overall economic development and current growth levels increase a developing state's satisfaction with the system, thereby making the country more conservative and less belligerent. I therefore expect that higher overall economic development as well as higher economic growth rates will reduce the likelihood of militarized interstate disputes in the developing world. Thus, my first two hypotheses are:

H.1. The greater the economic development level of a developing-state dyad, the lower the likelihood of a militarized interstate dispute in this dyad.

H.2. The greater the economic growth rate in a developing-state dyad, the lower the likelihood of a militarized interstate dispute in that dyad.

I also argued that because economic conditions influence the foundation, performance, and survival of democratic systems, democracy's influence on interstate relations of a developing country would be contingent on that country's economic development level. Hence my third hypothesis:

H.3. The influence of democracy on the likelihood of militarized interstate disputes in a developing-state dyad will be contingent on the economic development levels of states in this dyad.

H.3.a. In relatively wealthier dyads, democracy will decrease the likelihood of a MID.

H.3.b. In poorer dyads, democracy will have no impact on the likelihood of a MID.

Finally, I have argued that the great powers have greater incentives to prevent militarized conflicts between the states which are economically important to them and this makes non-military (diplomatic) solutions more likely in conflicts between countries that are relatively more important to the great powers. This brings me to my fourth hypothesis:

H.4. The greater the economic importance of a developing-state dyad to the great powers, the lower the likelihood of a militarized interstate dispute in that dyad.

3.2. Methodology

This research will take a contextual approach based on the differences between states regarding their economic development levels. My research is limited in its scope in that it aims to analyze dyadic conflict behavior of “developing states” only. Consequently, dyads with two “developed” countries will be excluded from my analysis. I will analyze only dyads with two developing states and the ones that include a developing state and a developed one, controlling for the “level of development” of the latter state in the second type of dyads.

Identifying the developed countries entails some degree of arbitrariness, especially when we study a long time period rather than a single point in time. Some of the 37 countries that are currently identified as developed countries by the World Bank and the IMF were not developed countries in large sections of this study’s time period and gained their “developed country” status towards the end of this period. Thus, I do not consider all current developed countries as a developed country in my study. Countries that have been identified as “developed” are the OECD countries during the period I analyze except Czech Republic, Slovakia, Hungary, Poland, Mexico, Turkey, South Korea, Ireland, Portugal, Spain, and Greece. I considered the latter countries “developing states” given their relatively lower GDP per capita and industrialization levels before the 1990s. I considered a country a developing country if its GDP per capita was at least 50 percent of the U.S. GDP per capita in more than half of the years between 1951 and 2000. Following the general practice, I did not consider oil-rich countries developed countries.²² Thus, the following countries are considered developed countries in this study: *the US, Canada, Britain, Netherlands, Belgium, Luxemburg, France, Switzerland, (West) Germany, Austria, Italy, Finland, Sweden, Norway, Denmark, Iceland, Japan, Australia, New Zealand, Andorra, Monaco, and Liechtenstein*. Any dyad that includes two of these developed countries will be excluded from my analysis.

The exclusion of all-developed-state dyads might introduce some concerns about a potential selection problem. My sample is limited to developing-state dyads and this makes it a censored-sample in terms of economic development. As such, the inclusion of economic development variable on the right-hand side of my equations produces a *selection on an*

²² Replication of the proceeding statistical analyses with five oil rich countries’ (*Bahrain, Kuwait, Qatar, Saudi Arabia, and the United Arab Emirates*) acceptance as developed countries did not change results substantially anyway.

independent variable situation. However, this type of selection is not problematic *per se*; it only limits the scope of our generalizations (King, Keohane and Verba 1994, pp. 140-1; Signorino 2002). Samples selected on an independent variable allow inferences for the given samples; and given that I am interested in the effects of economic development on the interstate relations of developing states only, this selection does not produce any problem for my analyses and inferences.

As stated above, the level of analysis of this study will be the dyadic level. Interestingly, most theories of international conflict have been empirically tested in the *non-directed dyad* context. Consequently, we know less about how a state's characteristics influence its behavior *per se* than how they influence its behavior *given* the characteristics of the state it interacts with. Some scholars (Ray 2001) have taken issue with the non-directed dyadic approach on the grounds that it obscures "who does what to whom". However, I do not share this concern for two reasons. First, searching for "who does what to whom" might cause as many problems as it solves; because "initiating" a dispute might be as much a strategic choice as a character-driven one, and distinguishing between the two is an unavoidably arbitrary task for any student of international conflict. Second, so far as peace among nations is concerned, the knowledge of "what happens between whom?" is no less helpful than the knowledge of "who does what to whom?". If, for instance, we know that the presence of a non-democratic, or less developed, or unstable country in a dyad increases the likelihood of conflict between the two states in that dyad, we know enough about where conflict is more likely and how to prevent this conflict.

The temporal domain of this research is the period between 1950 and 2000. The rarity of "independent" states before 1950 as well as the lack of reliable economic data results in the exclusion of earlier years from the sample. Also, because most developing states lack the capability to reach non-neighboring states, I will only analyze contiguous dyads in order to avoid possible estimation problems that might result from the artificial inflation of the sample size with the inclusion of "irrelevant" cases. Two states are considered contiguous if they share a land border or are separated by less than 150 miles of water.

3.2.1. The Dependent Variable

The dependent variable of this section will be the *occurrence* of a militarized interstate dispute (MID) in a given dyad-year. Following Russett and Oneal (2001) and many others, onset

and continuation of MID events are treated the same.²³ A MID is defined as an event where the government or citizens of at least one state threatened, displayed, or used force against the government or citizens of at least one other state worldwide (Jones, Bremer, and Singer 1996). The dependent variable equals 1 if in a given year a dyad involves a MID, 0 otherwise. I will use the Zeev Maoz's (2005) dyadic MID data, which is a refined version of the Correlates of War (COW) data on MID events (Ghosn, Palmer, and Bremer 2004). Given the dichotomous nature of the dependent variable, I will use logistic regression (logit) in my estimations.

3.2.2. Explanatory Variables

Economic development: In measuring the economic development level of a country, I will use its real gross domestic product *per capita* (GDPpc) measured in purchasing power parities and constant dollars. Data availability becomes a serious problem in analyzing the economies of developing countries, however. In the most frequently used economic dataset *Penn World Table* (Version 6.1) (Heston, Summers, and Aten 2002), economic data are unavailable sporadically for many countries and there is no GDP data at all for eleven countries until the 1990s. Consequently, about 25% of observations in Penn World Table's GDPpc dataset are missing. Because missing data are concentrated on specific types of countries (warring, socialist, poor, etc.), exclusion of "no data" cases unavoidably produces a sample which is likely to produce biased results. Gleditsch (2002) introduces some practical measures to reduce the number of missing observations in Penn World Table's GDP as well as in International Monetary Fund's trade data. Gleditsch first fills in missing leads or tail parts of series by estimates based on first/last non-missing observation. This increases the number of cases with data by 11.2 percent. He then uses data in CIA's *World Factbook* for making estimations for the rest of cases that lack GDP data. This way, he fills in an additional 12.7 percent of "no data" cases. Thus, Gleditsch manages to have a complete dataset of GDP and GDP per capita for years between 1945 and 2000.

Because the average level of GDPpc increases over time, a measure of *relative* rather than absolute development seems more appropriate. Using nominal values of such indicators as gross domestic product per capita or energy consumption per capita in time-series settings is problematic, because even when using constant dollars we cannot avoid the problem of "rising

²³ Nevertheless, as a robustness check, I have reported results for *onset* MID events only in Appendix B.

average”. I doubt that it is a tenable assumption to presume that an annual consumption of 180,000 BTU per capita was generating the same mechanisms in Brazil in 1990 that it was generating in Britain in 1900. Britain was sitting atop of the global hegemony with that amount of energy consumption in 1900, whereas Brazil was only enjoying a middle-income state status in 1990 with the same amount of energy consumption per capita. Similarly, Spain was one of the higher-middle-income countries in 1950 with a GDPpc of \$ 2,800 in 1990 dollars, which equaled 28 percent of the GDPpc of the United States in 1950. Putting this constant GDPpc value in a time-unconscious sample would result in Spain’s being considered a lower-middle-income country for the given year in 1990 standards. A relative GDPpc measure avoids this problem. Whereas employment of nominal values assumes that “absolute gains” in economic development are the driving force of its influence on other social phenomena; employment of relational values assumes that “relative gains” are more important in gauging some, if not all, impacts of economic development. To make my point clearer, I show in Table 3 the difference between nominal and relative values of real GDP per capita of Ecuador for years 1990 and 2000. Ecuador’s real GDP per capita increased from \$3380 to \$3720 between 1990 and 2000 --an increase of about 10%. By contrast, both U.S. real GDP per capita and average world GDP per capita increased in the same time period substantially more than the Ecuadorian GDP per capita (from \$23005 to \$35619 in the American case –an increase of 55%; and from \$4249 to \$6196 for world average –and increase of 46%). Thus, although Ecuador’s nominal GDP per capita increased from 1990 to 2000, its relative GDP per capita vis-à-vis both the U.S. GDP per capita and world average *decreased* in the same period. In this case, while an economic development measure based on the nominal values of GDP per capita is going to see a positive movement in Ecuadorian economic development, an economic development measure based of relative values of GDP per capita will note a negative movement. The expectations about the consequences of such movements will be different in each case.

Thus, because I believe that a relative measure of economic development better reflects a state’s position in world economy which is theorized to influence the conflict behavior of states, I will measure economic development in relative terms. For each given year, I will accept the US GDPpc as baseline (100) and compare other states’ development levels with that of the US, i.e. $Relative\ Development_a = (GDPpc_a / GDPpc_{us}) * 100$. I will follow Dixon’s (1993) “weak link” principle, which assumes that the likelihood of conflict is primarily a function of the degree of

Table 3: Nominal vs. Relative Real GDP per capita in Ecuador, 1990 and 2000.

	Real GDPpc (Ecuador)	Real GDPpc (U.S.A)	Relative GDPpc (Ecuador/U.S.A.)	Real GDPpc (World average)	Relative GDPpc (Ecuador/world avg.)
1990	\$3380	\$23005	14.26 %	\$4249	79.54 %
2000	\$3720	\$35619	10.42 %	\$6196	60.04 %

constraints experienced by the less constrained state in each dyad, and consider the level of development of the less-developed state for each dyad-year, a variable I call *development low*. To minimize the direction of causality problems, all data on economic development will be lagged one year.

Economic growth: States enjoying economic success are disinclined to fight, because they are beneficiaries of the status quo. Because the country with a slower rate of economic growth poses the greater danger to peace, the slower growth rate in a dyad will be included in my analyses, a variable I will call *growth low*. Following Oneal and Tir (2006), I will calculate the geometric mean of annual of economic growth over the previous two years. Data are more problematic for economic growth rates, however. Although small yearly variations in GDP per capita levels allow Gleditsch to fill some missing GDP per capita values with the next or previous year's values, this is not the case for economic growth, which has a larger annual variance range and a smaller value range. Consequently, about 22% of the observations drop due to unavailability of data on economic growth. This is a significant amount of data loss. Moreover, because the missing data on economic growth are disproportionately data on the poorer developing countries, the ultimate sample with the *growth low* variable may be an unrepresentative sample, thereby producing biased results. I will therefore make two separate statistical analyses in each of the following sections, one with the *growth low* variable and one without.²⁴

²⁴ An alternative way to measure economic growth is to use changes in *energy consumption per capita*, which is sometimes used as a proxy for economic development. However, COW's energy consumption per capita data is too crude to be a proxy for economic growth, particularly for poorer countries. Most of the values for smaller countries are rough guesses, rather than exact values, which results in many no-growth cases in several years and many exorbitant-growth cases in some others. To give an example, according to the COW data, energy consumption per capita in Haiti from 1951 through 1960 was as follows: 2-2-2-3-3-3-4-6-7-7. Here, we have five no-growth years

Economic importance: My third economic variable -*economic importance*- represents the economic importance of developing states to the great powers. Because the period I analyze is the post-war era, which is characterized by American hegemony, I calculate the economic importance of states for the United States. Surely, the US was not the only great power in that era. However, on the one side the unchallenged dominance of the US in this era justifies a parsimonious measurement of economic importance based on trade with US; and on the other side, trade data is less available for other great powers. Missing bilateral trade data for some major powers such as the Soviet Union and China were at terrible levels, 38% and 40% respectively. I had the choice of either combining any trade data in an inconsistent manner or choosing one great power and measure a state's economic importance for this great power. I choose the second way. Thus, economic importance of a state for the American economy will be the value of the total trade (exports and imports) with the US relative to US GDP: *Total trade with the US / US GDP*. Again for each dyad-year, I consider the score of the country with lower economic importance for the US, a variable I call *economic importance low*. Data for trade will come from Gleditsch (2002) as well. In addition to Penn's GDP data, Gleditsch also expands IMF's *Direction of Trade* (DOT) dataset by using an additional source for socialist states -*The World Expert Data* (Faber and Nierop 1989)-, making estimates for missing export values using the target countries' available import data (and vice versa), and making linear interpolation where possible. Eventually, he manages to reduce the percentage of dyads with missing trade data from 56 percent to 25 percent.

Democracy: I will include a democracy variable to test the relevance of regime type to the militarized interstate disputes of developing states. To determine national levels of democracy and autocracy, I will use Polity IV (Marshall and Jaggers 2004) data, which has become the standard for measuring institutional democracy, particularly in the study of international conflict.²⁵ The Polity IV dataset provides an 11-point scale (0-10) of autocracy and

and two 50%-growth years. Evidently, these values are too crude to represent real growth rates of Haitian economy in this period.

²⁵ Like all other measurements of social phenomena, Polity IV captures only part of reality. Democracy is more than institutions; enjoyment of basic human and civil rights is also essential. -For an overview of the main problems in quantitative measures of democracy including Polity IV data, see Munck and Verkuilen (2002); for a case-study discussion of Polity IV's measurement of Israeli democracy, see McHenry and Mady (2006)- Yet despite its shortcomings, Polity IV has become the standard data for democracy, thereby gaining an inter-subjective validity among political scientists. Additionally, a practical superiority of Polity IV data has been its coverage of a longer

an 11-point scale (0-10) of democracy. To determine the ‘net’ democracy score of a country, I subtract its autocracy score from its democracy score, which yields a range of -10 to 10.²⁶ I adopt the ‘weak link’ principle in determining the effects of regime type on conflict as well and create a *democracy low* variable. As in the economic development variable, I will lag all data with one year.

Developed democracy: To capture the interactive effect between economic development and democracy, I construct a *developed democracy* variable, which simply equals the multiplication of *democracy low* and *development low* scores for each dyad.

3.2.3. Control Variables

Capability ratio: All theories of international relations give importance to the relative capabilities of states. Simply put, power creates opportunities for the use of force. To determine the capabilities of each country, I use the Correlates of War (COW) data (Singer & Small 1995), which gauges the National Capabilities of states from their population, industry, and military forces. I create the variable *capability ratio* by taking the ratio of the stronger state’s military capability index to that of the weaker member in each dyad. A higher score indicates higher power discrepancy, or less power parity, in a dyad.

Alliance: As in many other studies, the variable alliance equals one if countries A and B are formally allied through either a defense pact, entente, or non-aggression pact; it is zero otherwise. I will use COW’s data on alliances.

Major power: Several studies found that dyads with major powers are more prone to conflict than dyads with two minor powers. To control this effect, I use a *major power* variable, which equals 1 if a dyad includes at least one major power and 0 otherwise. The US, the USSR, Britain, France, and China are considered as major powers for the entire period I analyze; Germany and Japan are regarded as major powers after 1989.

time span (1800-2004) than its famous alternatives such as Freedom House data (1979-present) and Przeworski et al. (2000) (1950-1990).

²⁶ An alternative to this continuous (or graded) measure of democracy is a *dichotomous* measure of democracy, which would separate countries as democratic and non-democratic. However, as Elkins (2000) demonstrated, a continuous democracy measure is more consistent with the theoretical arguments for peaceful effects of democracy than is a dichotomous measure. If democratic institutions arguably increase the political costs of military conflicts, then one might expect that the stronger the institutional democracy, the stronger the peaceful effect of democracy. Hence, some democracy is better than none, and more democracy is better than less democracy. Nevertheless, as a robustness check, I will rerun my analyses with an alternate dichotomous measure of democracy as well.

Developed state: Finally, to control for the possible distinct relationship between all-developing-state dyads and the mixed (developing-developed) ones, I include a developed state dummy, which equals 1 if a dyad includes a developed state and 0 otherwise.

Because my data have a cross-sectional time-series feature, I had to introduce measures to correct or relieve temporal autocorrelation and cross-sectional heterogeneity. Following Beck, Katz, and Tucker's (1998) suggestion to correct temporal dependence and using Tucker's (1999) *btses* program, I created a *peaceyears* variable, which counts the years since last MID, and three cubic splines. Finally, I will report robust standard errors clustered on dyad.

Thus, my final equation on militarized interstate disputes of developing countries will be as follows:

$$\text{MID}_{ij,t} = a + b_1 \text{DEVlow}_{t-1} + b_2 \text{GROWTHlow} + b_3 \text{DEMlow}_{t-1} + b_4 \text{DEMlow}_{t-1} * \text{DEVlow}_{t-1} + b_5 \text{ECONIMPlow}_{t-1} + b_6 \text{CAPRATIO}_{ij,t} + b_7 \text{ALLIANCE}_{ij,t} + b_8 \text{DEVELOPED}_t + b_9 \text{MAJOR}_t + b_{10} \text{Peaceyears}_t + b_{10} \text{Splines} + e.$$

3.3. Results

Table 4 displays the results of the logistic regression analysis of the probability of a militarized dispute onset in a developing-state dyad. To start with the control variables, all but the developed-state variable have discernable effects on the relations within a developing-state dyad. Whereas formal dyadic alliances of developing states and increasing power discrepancy in a developing-state dyad were found to decrease the likelihood of a MID, inclusion of a major power in developing-state dyad was found to increase the likelihood of a dyadic MID. Also, the negative and significant coefficient of the *peaceyears* variable suggests existence of a strong inertia effect: the longer the peace history in a developing-state dyad, the lower the likelihood of a MID occurrence in that dyad.

As for my theoretical variables in Model I, *development low*'s coefficient has a negative sign and is significant at 95 % significance level ($p < .013$). This finding supports my first hypothesis. However, the *economic importance low* variable was found to have no discernable effect on MIDs in the developing world. Thus, my fourth hypothesis was not supported. In line with my theoretical expectation, however, the individual effect of *democracy low* in Model I was insignificant. This remained the same when I reran Model I with two alternate *dichotomous*

Table 4: Logit Estimates of the Probability of a Militarized Interstate Dispute in a Developing-state Dyad, 1951-2000.

Variables	Model I		Model II		Model III	
	Coefficient	Robust SE	Coefficient	Robust SE	Coefficient	Robust SE
Economic Importance _{low}	0.1662	0.6096	0.2784	0.6227	-0.0585	0.5386
Democracy _{low}	-0.0091	0.0120	-0.0116	0.0175	-0.0109	0.0109
Development _{low}	-0.0111**	0.0049	-0.0060*	0.0048	-0.0022	0.0062
Development*Democracy _{low}			-0.0012**	0.0007		
Growth _{low}					0.0772	0.8918
Capability ratio	-0.0061***	0.0013	-0.0062***	0.0013	-0.0060***	0.0017
Alliance	-0.3233***	0.1355	-0.3288***	0.1360	-0.3905***	0.1417
Major Power	0.4835***	0.1409	0.5072***	0.1425	0.3933***	0.1519
Developed	0.1751	0.2069	0.2055	0.2034	-0.0354	0.2392
Peaceyears	-0.1119***	0.0251	-0.1117***	0.0251	-0.1196***	0.0265
Spline 1	0.0253***	0.0028	0.0253***	0.0028	0.0264***	0.0030
Spline 2	-0.0141***	0.0014	-0.0141***	0.0014	-0.0147***	0.0015
Spline 3	0.0026***	0.0002	0.0027***	0.0002	0.0027***	0.0002
N	12175		12175		9552	
Log likelihood	-3138.7409		-3136.3737		-2329.2392	
Wald chi ² (11/12/12)	597.18		599.59		497.94	
Prob>chi ²	0.0000		0.0000		0.0000	
Pseudo R ²	0.2292		0.2298		0.2519	

P-values are based on one-tailed significance test. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$. Robust standard errors are clustered on each dyad.

democracy variables (Democracy-Autocracy >5 and Democracy-Autocracy >7). Democracy's negative effect did not gain statistical significance at 90% level even when I took the economic development variable out ($p < .167$). These finding counter the law-like argument for democratic peace (Levy 1988) and supports Henderson's (2003) and Goldsmith's (2006) earlier findings, which suggested that the individual peaceful effect of democracy is limited to Western Europe and North America.

Table 5 displays the substantive effects of *capability ratio*, *alliance*, *major power*, and *development low* variables on the probability of a dyadic MID in a developing-state dyad. I assumed that the dyad had no dyadic alliance and did not include a developed country or a major power. All other variables in Model I were set to their mean values. Dyadic alliances reduce the probability of a dyadic MID by 27%, whereas major power inclusion increases that probability by 38%. When power discrepancy in a dyad is doubled from its mean value, the probability of a MID in that dyad decreases by 37%. As for *economic development*, a standard deviation increase (from 15% from 29%) in the relative GDP per capita of the poorer country in a developing-state dyad decreases the likelihood of a MID in that dyad by 14%.

Table 5: Percentage Change in the Predicted Probability of a MID in a Developing-state Dyad.

Variable	Change in $p(\text{MID})$
capability ratio	- 37%
alliance	- 27%
major power	+ 38%
economic development	- 14%

* Changes in predicted probabilities are changes from the base predicted probability of actual use of force in Model I (which was 0.04). For *economic development* variable, it refers to an *increase* by one standard deviation from its mean value. For *capability ratio* variable, it refers to doubling power discrepancy from its mean value. For *alliance* variable, it denotes a shift from no alliance to alliance. For *major power* variable, it denotes a change from a dyad that does not include a major power to one that does include one.

Although the results in Model 1 suggest no significant independent effect of democracy on dyadic MIDs in the developing world, the results in Model II of Table 4 do support my interactive effect hypotheses and suggest the existence of a contingent peaceful effect of democracy. The interactive term of development and democracy has a negative coefficient, which is statistically significant at 95 %. Using Brambor, Clark, and Golder’s (2006) technique for interpreting interactive models, Figure 4 below displays the varying marginal effect of

democracy at different scores of development low at 90% confidence level.²⁷ Democracy's marginal effect on the probability of a dyadic MID in the developing world is statistically insignificant until the relative development level of the poorest country in that dyad reaches to 29% of the U.S GDP per capita. This finding is in line with my hypothesis 3.a. After that threshold, however, the marginal *negative* effect of democracy on the probability of a MID in a developing-state dyad becomes statistically significant, which also supports my hypothesis 3.b. So far as dyadic MIDs in the developing world are concerned, it seems that democracy's peaceful effect is limited to dyads that include relatively richer developing countries.²⁸

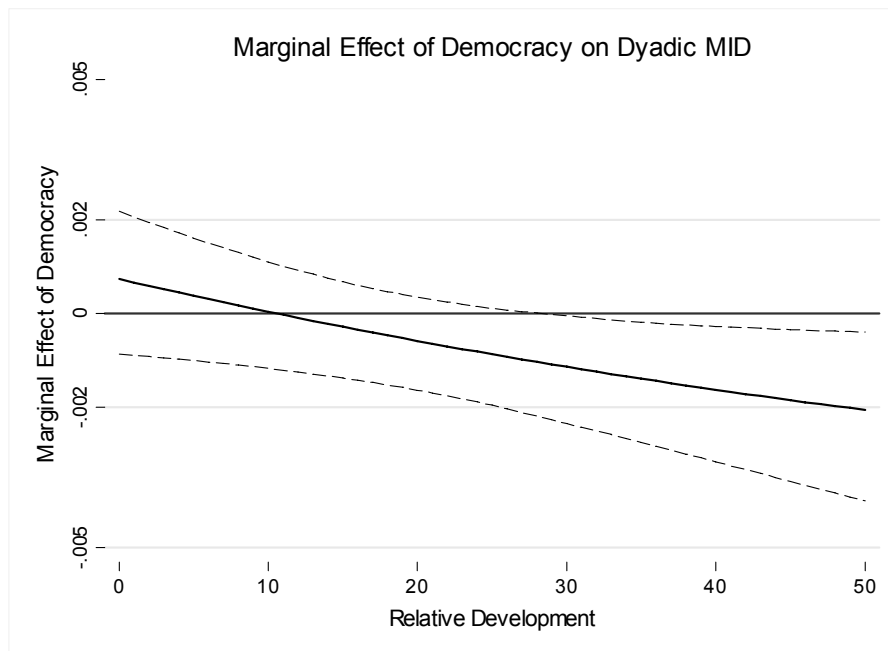


Figure 4: Marginal Effect of Democracy on the Probability of a *Militarized Interstate Dispute* in a Developing-state Dyad, 1951-2000, 90% Confidence Interval.

²⁷ In this and all other calculations of predicted probabilities, the dyad is assumed to be non-allied and include no developed country or major power; all other variables are set at their mean values.

²⁸ The results in Model 1 did not show any substantial change when I re-ran the same model with *onset* MIDs only (see Model 1-b in Appendix B). In Model 2b, however, the individual effect of *democracy* variable gained statistical significance and pushed the “development threshold” for marginal negative effect of democracy to a higher level (38%). It seems that democracy's marginal negative effect on dyadic MIDs in the developing world becomes more limited when we consider onset MIDs only.

Finally, *growth low*'s coefficient estimate in Model III is far from statistical significance. Thus, my second hypothesis is not supported either. If we assume that we would have similar results in a larger sample that would include the countries with missing economic growth data, then this finding might lead us to an interesting tentative conclusion. The combined effect of significant overall development effect in Model I and insignificant current growth effect in Model III might suggest that developing countries are influenced more by where they stand economically than where they are heading to. This means that the fruits of economic development are likely to be reaped in the long run. The Chinese case provides some support to this interpretation. The Figures 5a and 5b below display the Chinese MID-year ratio (which is the percentage of Chinese MID-years to all Chinese dyad-years in a given year) and the Chinese real GDP per capita from 1950 to 2000, respectively. Whereas on the one side Chinese GDP real per capita increased steadily and substantially between 1970 and 2000, on the other side there has been a marked 'long-term' decline in the 'ratio' of annual Chinese MID-years.

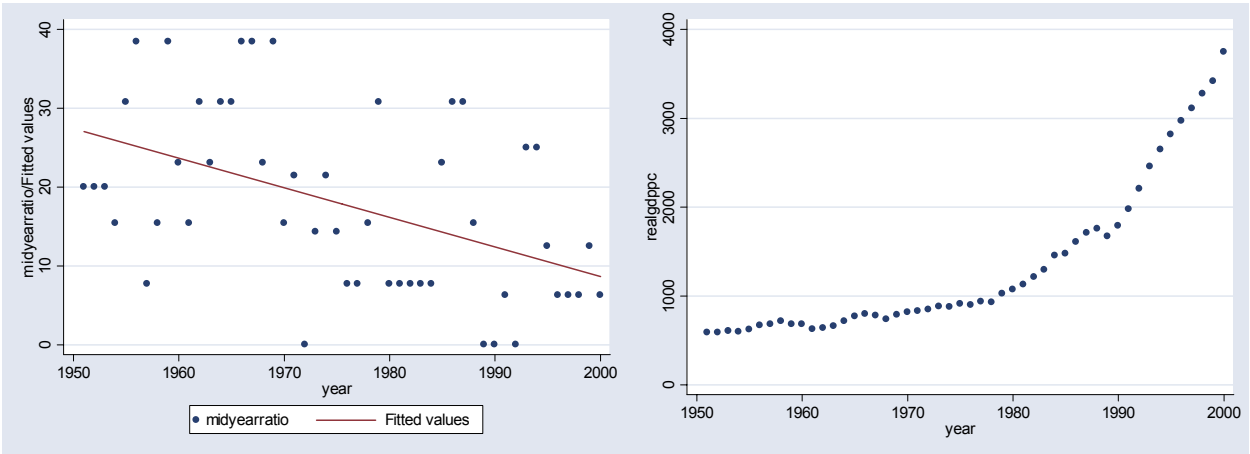


Figure5a

Figure5b

Figure5a: Annual Ratio of Chinese MID-years to Chinese Dyad-years, 1950-2000
Figure5b: Chinese real GDP per capita in 1996 US Dollars.

However, we have to be cautious about deriving any rigid conclusions from Model III, because about 22% of the cases in models II and III are missing in Model III. Because a

disproportionate portion of these cases involve relatively poorer countries, the sample in Model III is likely to produce biased results. A comparison of the *democracy low* and *development low* variables' coefficients and statistical significances in Model III with those in Model I seems to support this point. Whereas in Model I *democracy low* variable has a coefficient of 0.0091 and a *p* value of 0.224, in Model III *democracy low*'s coefficient increases to 0.0109 and its *p* value decreases to 0.201. By contrast, *development low* variable's highly significant negative effect in Model I shrinks in size and loses its statistical significance in Model III. It seems that the exclusion of disproportionately poorer dyads results in changes that work in favor of *democracy low* variable and at the expense of *development low* variable regarding these variables' negative effects on MIDs in the developing world. This can also be seen in a comparison of pair-wise correlations in included and excluded cases. In the 9552-case sample employed in Model III, the correlation between *democracy low* and MID is -0.0328, and the correlation between *development low* and MID is -0.0315. By contrast, in the 2623 cases which were excluded in Model III, the correlation between *democracy low* and MID is +0.0289, and the correlation between *development low* and MID is -0.0793. These changes demonstrate that exclusion of relatively poorer dyads due to missing data on economic growth favors democracy's negative effect on MID over development's negative effect, thereby confirming previous reservations regarding the non-randomness of the sample in Model III.²⁹

3.4. Sensitivity Analyses

3.4.1. Dispute Type/Severity

In a further test of my hypotheses, I reran my models with a more specific dependent variable: MIDs in which *use of force* materialized. Not all MIDs have equal seriousness and violence. Some remain as mere threats, some include actual use of force, and some escalate into full-scale wars. Until recently, IR scholars focused in large part on the possible causes of involvement in a MID and the issue of what happens after a MID starts (the "escalation" problem

²⁹ The importance of this non-randomness in Model III goes beyond this study. It is also relevant to any study that includes economic growth as an independent variable and assumes away randomness of the excluded cases. To give a recent example, about 12% of cases in Oneal and Tir's (2006) study -roughly, 50,000 out of 400,000- are dropped from their sample due to missing data on economic growth. Given the non-randomness of excluded variables, one wonders whether the results in Oneal and Tir's study as to the relationship between diversionary politics and democratic peace would still be the same when the excluded cases are included.

in IR jargon) has received miniscule academic attention. This dominance of “MID involvement” as the dependent variable in most quantitative studies of international conflict might obscure the difference between low and high levels of conflict/violence in international relations. Indeed, reasons that help states keep their militarized disputes at low levels might be as important as the reasons that prevent the occurrence of such disputes. After all, normatively speaking, most of us would prefer two “threats” to use force to a single “use” of force, particularly if it is a “fatal” one.³⁰

Table 6 displays the results of the logistic regression analysis of the probability in a developing-state dyad of a militarized dispute occurrence in which *actual* military force is used. The dependent variable (*useforce*) equals 1 if a dyad in a given year has a MID in which military force is used, and 0 otherwise.

The impacts of control variables remain the same in Model IV, which is a replication of Model I. Whereas formal dyadic alliances of developing states and increasing power discrepancy between two states in a developing-state dyad were found to *decrease* the likelihood of actual use of force, major power involvement *increased* the probability of actual use of force in developing-state dyads.

A striking change occurred in the effect of *economic importance low* variable in Model V (and later in Model VI). In line with my theoretical expectations, the sign of this variable’s coefficient was negative and statistically significant at 95% significance level in Model V (at 99% in Model VI), which suggested that increasing economic importance for the United States of countries in developing-state dyads decreased the likelihood of actual use of military force within that dyad. This finding supports my fourth hypothesis in the context of MIDs with actual

³⁰ A few studies (e.g. Hegre 2000, Oneal and Tir 2006) used an alternative set of MIDs (*fatal* MIDs) to analyze more serious disputes. I have no theoretical objection to the usage of this set of MIDs as a dependent variable. Even, I think that it might better capture conflict escalation than does the “use of force” threshold I employ here. However, I have some reservations about fatal MIDs when it comes to empirical research. The fatality (*whether* as well as *how many*) of about 10% of MIDs have yet to be determined. This might create a serious missing data problem when studying fatal MIDs. In my sample, for example, 129 out of 1357 developing-dyad MIDs have no fatality information. This might be a serious problem particularly if we consider the fact that only 143 MIDs out of the 1224 MIDs for which data is available have escalated into a fatal dispute with over 25 fatalities. 129 cases can change the picture drastically. I therefore prefer “use of force” threshold to fatality. Nevertheless, I have reported results for *fatal* MIDs in Appendix C. (Following the majority, I used “over 25” fatality threshold rather than the zero fatality threshold).

use of force.³¹ It seems that economic importance to the great powers reveals its conflict-dampening effect in higher-level conflicts only. Finally, *development low* retained its negative sign and 95% statistical significance in Model V as well, providing further support to my first hypothesis.

Table 6: Logit Estimates of the Probability of a MID with actual *Use of Force* in a Developing-state Dyad, 1951-2000.

Variables	Model IV		Model V		Model VI	
	Coefficient	Robust SE	Coefficient	Robust SE	Coefficient	Robust SE
Economic Importance _{low}	-1.5510**	0.7464	-1.4477**	0.7865	-1.8294***	0.7060
Democracy _{low}	-0.0135	0.0138	0.0126	0.0223	-0.0182	0.0157
Development _{low}	-0.0119**	0.0059	-0.0053	0.0058	-0.0016	0.0072
Development*Democracy _{low}			-0.0015**	0.0009		
Growth _{low}					-0.3311	1.0164
Capability ratio	-0.0070***	0.0016	-0.0071***	0.0016	-0.0082**	0.0023
Alliance	-0.4241***	0.1491	-0.4315***	0.1490	-0.5002***	0.1602
Major Power	0.3348**	0.1553	0.3630***	0.1552	0.1939	0.1770
Developed	0.2652	0.2322	0.2967*	0.2219	0.0627	0.2751
Peaceyears	-0.1133***	0.0254	-0.1130***	0.0253	-0.1172***	0.0259
Spline 1	0.0273***	0.0031	0.0273***	0.0031	0.0288***	0.0033
Spline 2	-0.0152***	0.0016	-0.0152***	0.0016	-0.0160***	0.0017
Spline 3	0.0028***	0.0003	0.0028***	0.0003	0.0029***	0.0003
N	12175		12175		9552	
Log likelihood	-2672.0203		-2669.1367		-1962.8648	
Wald chi ² (11/12/12)	513.54		522.99		421.50	
Prob>chi ²	0.0000		0.0000		0.0000	
Pseudo R ²	0.2271		0.2279		0.2439	

P-values are based on one-tailed significance test. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$. Robust standard errors are clustered on each dyad.

³¹ When I further broke this effect in Model IV into parts as imports and exports, I found that importance for U.S. imports was more influential ($\beta = -3.83$; $p < 0.01$) on actual use of force in a developing-state dyad than was importance for U.S. exports ($\beta = -1.56$; $p < 0.463$).

Table 7: Percentage Change in the Predicted Probability of a MID with Actual Use of Force in a Developing-state Dyad.

Variable	Change in $p(\text{useforce})$
capability ratio	- 41%
alliance	- 34%
major power	+ 29%
economic development	- 15%
economic importance	- 11%

* Changes in predicted probabilities are changes from the base predicted probability of actual use of force in Model IV (which was 0.028). For *economic development* and *economic importance* variables, it refers to an *increase* by one standard deviation from their mean values. For *capability ratio* variable, it refers to doubling power discrepancy from its mean value. For *alliance* variable, it denotes a shift from no alliance to alliance. For *major power* and *developing country* variables, it denotes a change from a dyad that does not include a major power / developing country to a dyad that does include one.

Table 7 displays the substantive effects of *capability ratio*, *alliance*, *major power*, *economic importance*, and *economic development* variables on actual use of force in a developing-state dyad. I assumed that the dyad has no dyadic alliance and does not include a developed country or a major power. All other variables in Model IV are set to their mean values. Of the two control variables, alliance has the greater substantive effect. Dyadic alliances reduce the probability of actual use of force by about one third. Similarly, a standard deviation increase in the power ratio of states decrease the likelihood of the actual use of force by 41%. By contrast, major power involvement increases the same probability by 38%. As for economic importance, a developing-state dyad with higher economic importance for the United States is 11% less likely to have a MID with actual use of force. Lastly, a standard deviation increase (from 15% from 29%) in the relative GDP per capita of the poorer country in a developing-state dyad decreases the likelihood of a MID with actual use of force by 15%.³²

³² Model IV-b in Appendix C offers a replication of Model IV on *MIDs with over 25 fatalities*. The results in Model IV-b are radically different from those in Model IV. *Economic development*, *economic importance*, and *major power inclusion* lose their statistical significances in Model IV-b. There are two alternative ways to explain this radical divergence. 1) The factors that influence state leaders' decisions to escalate a MID change drastically when fatalities are involved. 2) The radical divergence in Model IV-b is due to missing data rather than any real substantial difference. Given the relatively moderate change the statistical significances of variables have shown across different models and dependent variables so far, it seems to me that the second explanation is more likely to be the correct explanation of the radical divergence in Model IV-b than is the first explanation.

As for *democracy low*, its coefficient estimate was again insignificant in Model IV. However, as in Model II, the coefficient of the interactive *developed democracy* variable in Model V was negative and statistically significant at 95% in Model V, suggesting again that the influence of democracy on dyadic MIDs in the developing world is contingent on economic development levels of countries in dyad. Figure 6 displays the varying marginal effect of democracy on the probability of actual use of force in a developing-state dyad at different scores *development low* at 90% confidence level. Democracy's negative marginal effect on dyadic MID observance in a developing-state dyad becomes significant once the relative development level of the poorest country in that dyad reaches to 22% of the American GDP per capita. Thus, my interactive effect hypothesis regarding MIDs is supported with MIDS with actual use of force as well. Democracy seems to have no discernable effect on the probability of a MID with actual use of force in relatively poorer developing-state dyads and does have a discernable negative effect on the same probability in relatively richer developing-state dyads.

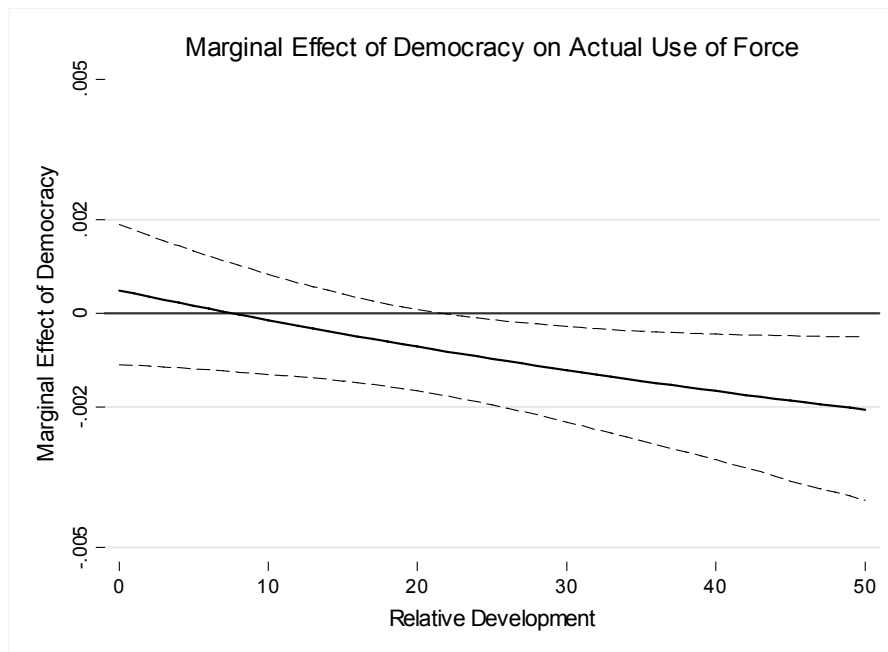


Figure 6: Marginal Effect of Democracy on the Probability of a MID with Actual Use of Force in a Developing-state Dyad, 1951-2000, 90% Confidence Interval.

A final note is on Model VI which includes the *growth low* variable. The *growth low* variable did not have a statistically significant effect on actual use of force in the developing world either. As such, we can make the same tentative conclusion we made above. Assuming that we would have similar results in a larger sample that would include the countries with missing economic growth data, the combined effect of significant overall development effect in Model IV and insignificant current growth effect in Model VI suggest that decisions regarding the actual use of military force by developing countries are influenced more by where these countries stand economically than where they are heading to. However, again, we have to be cautious about deriving any conclusions from Model VI because of missing data. Although for some variables results may not be substantially different in fuller and partial samples (as in the case of *economic importance low* variable in Models IV and VI), it is very likely that the non-randomness of excluded cases will cause biased results in the partial sample (as in the case of *development low* and *democracy low* variables in Model VI).

As a final test of my hypotheses on MIDs, I reran my first three models this time on a set of even more restricted militarized interstate conflicts: MIDs that escalated into *full-scale wars*. Table 8 displays the results of the logistic regression analysis of the probability in a developing-state dyad of the occurrence of a militarized interstate dispute which escalated into a *full-scale war*, which is defined by the COW Project as a MID with at least 1,000 annual battlefield deaths. The dependent variable in model VII through IX (*war*) equals 1 if a dyad in a given year has a full-scale war, 0 otherwise.

Starting again with the control variables, *capability ratio* variable retained its sign and statistical significance in Model VII. However, the significant effects of *alliance* and *major power* variables disappeared in this model, suggesting that in the developing world dyads that include a major power is more conflict-prone when it comes to militarized conflict short of war and that dyadic alliances' conflict-dampening effects are limited to lower-level conflicts.

Economic importance low variable also lost its previous negative sign and statistical significance in "actual use of force" models. As for *development low* variable, it also lost its statistical significance in Model VII, although coming very close to 90% significance ($p < .121$). Lastly, as in Models I and IV, the individual effect of *democracy low* variable on wars in the developing world was not statistically significance in Model VII either.

Table 8: Logit Estimates of the Probability of a MID with *full-scale war* in a Developing-state Dyad, 1951-2000.

	Model VII ³³		Model VIII ³³		Model IX ³³	
Variables	Coefficient	Robust SE	Coefficient	Robust SE	Coefficient	Robust SE
Economic Importance _{low}	-3.9818	3.5038	-4.0342	3.8327	-1.5467	3.5154
Democracy _{low}	0.0218	0.0625	0.1457**	0.0776	0.0427	0.0674
Development _{low}	-0.0313	0.0267	0.0134	0.0129	0.0037	0.0333
Development*Democracy _{low}			-0.0113***	0.0048		
Growth _{low}					-6.4313*	4.621
Capability ratio	-0.0348**	0.0190	-0.0370**	0.0217	-0.0440	0.0371
Alliance	-0.6780	0.5963	-0.7396*	0.5804	-0.7344	0.7058
Major Power	-0.0081	0.6023	0.1513	0.4199	-1.9740**	1.0748
Peaceyears	-0.2098	0.2726	-0.2071	0.2717	-0.1362*	0.0965
Spline 1	0.0468*	0.0359	0.0491*	0.0349	0.1319	0.1212
Spline 2	-0.0264*	0.0185	-0.0277*	0.0179	-0.0733	0.0677
Spline 3	0.0051**	0.0031	0.0051**	0.0029	0.0137	0.0128
N	12175		12175		9552	
Log likelihood	-342.30557		-337.40677		-190.09638	
Wald chi ² (10/11/11)	36.48		40.30		41.37	
Prob>chi ²	0.0001		0.0000		0.0000	
Pseudo R ²	0.2330		0.2440		0.2810	

P-values are based on one-tailed significance test. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$. Robust standard errors are clustered on each dyad.

In Model VIII, however, the negative coefficient of the interactive *developed democracy* variable was significant at 99% significance level, providing additional support to my interactive hypothesis. Graph 4 displays the varying marginal effect of democracy on the probability of a full-scale war in a developing-state dyad at different scores *development low* at 90% confidence level. The development threshold for democracy's negative effect was even higher in this case. Democracy's negative marginal effect on the likelihood of full-scale war in a developing-state

³³ The variable *developed state* was dropped because there were no full-scale wars in contiguous dyads in which one country was a developed country and the other was a developing one.

dyad becomes significant once the relative development level of the poorest country in that dyad reaches to 40% of the American GDP per capita. Democracy seems to have no discernable effect on the probability of a full-scale war in relatively poorer developing-state dyads. Thus, we can conclude that in the context of full-scale wars in the developing world, too, democracy's impact on dyadic interstate conflict depends on the economic development scores of dyad members.

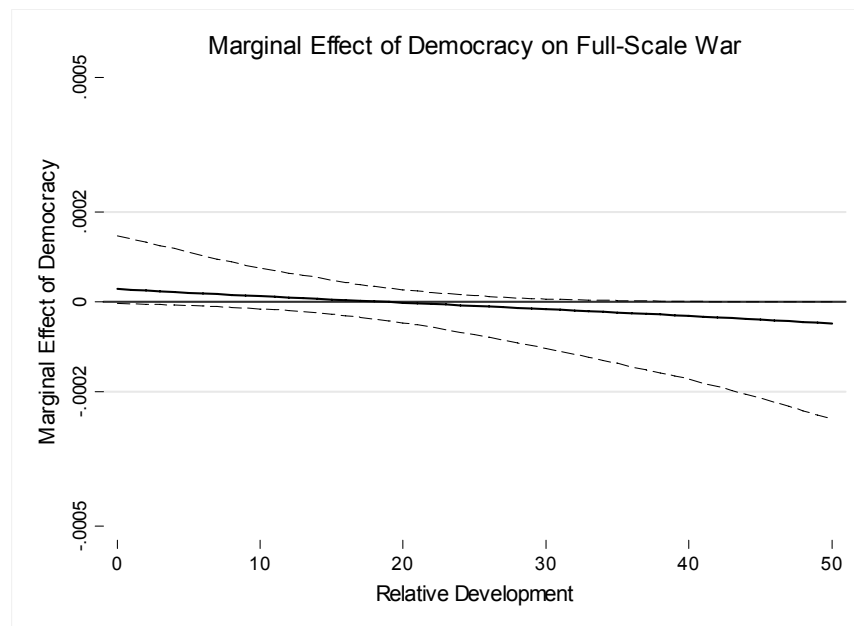


Figure 7: Marginal Effect of Democracy on the Probability of a *Full-Scale War* in a Developing-state Dyad, 1951-2000, 90% Confidence Interval.

The inclusion of the interactive *developed democracy* variable also refined the marginal effect of development on full-scale war and made it statistically significant at 90%. Surprisingly, however, results in Model VIII of Table 8 suggest not only an economic limitation to democratic peace, but also a modest *democratic limitation* to economic peace in the developing world. As displayed in Figure 7, economic development had no discernable impact on the probability of a full-scale war in a developing-state dyad that included at least one strongly autocratic state. Development's negative impact on the likelihood of the occurrence of a full-scale war gains 90% statistical significance only after the democracy score of the less democratic state in a

developing-state dyad reaches 7 (which equals to a democracy-minus-autocracy score of -4). This suggests an indirect peaceful effect of democracy in the developing world. Economic development's peaceful effect regarding wars in the developing world becomes more certain and augments in size as the democracy scores of states in a dyad increase.

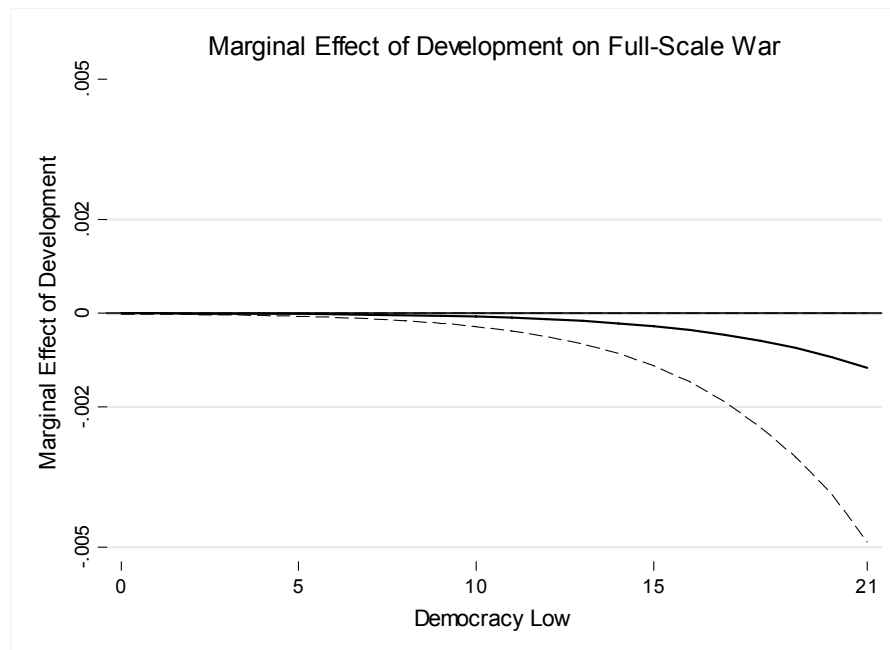


Figure 8: Marginal Effect of *Development* on the Probability of a *Full-Scale War* in a Developing-state Dyad, 1951-2000, 90% Confidence Interval.

Finally, in Model IX *economic growth*'s sign was negative and statistically significant at 90% level. Using the same one-standard-deviation-increase formula I used above, a developing-state dyad with higher economic growth rates is found to be 27% less likely to have a full-scale war. Again, assuming that we would have similar results in a larger sample that would include the countries with missing economic growth data, it seems that in the developing world economic growth is considerably effective in preventing the outbreak of full-scale wars, but not so when it comes to lower level MIDs.

The analyses of full-scale wars in this last section rest on the assumption that factors that lead states into militarized conflicts and factors that escalate such conflicts into full scale wars are independent of one another. However, there is always a likelihood of selection bias when we analyze higher level conflicts such as wars that are very likely to involve some type of “escalation” (Reed, 2000). If some factors influence both the probability of engaging in a MID as well as the probability of escalation of that MID into war, estimates from a single war model will be biased. To see if there is indeed a selection effect regarding wars in the developing world and my independent variables, I rerun my Model VIII on Table 4 using a two-stage *Heckman selection* model (Heckman 1976). In this two-stage Heckman selection model, which in this case is an *Heckman probit* model given the dichotomous nature of the dependent variable, the first (selection) model will estimate the probability of a MID in a developing-state dyad for any given year and the second (outcome) model will estimate the probability of escalation of such MIDs into full-scale wars with the additional information (inverse Mill’s ratio -or *rho*-) coming from the first equation. Computation of Heckman selection models require that the outcome model has at least one independent variable that is not included in the selection. To meet that requirement, I dropped from the selection (MID) equation the *economic importance* variable, which was found to have no discernable effect on MIDs anyway.

Table 9 presents results from the two-stage Heckman selection models. In Model VIII-H, which is a replication of Model VIII with the Heckman selection model, the *rho* variable that gauges the correlation between the errors in the selection model and the outcome model was statistically significant at 95% level. This suggests that the occurrence of a dyadic MID in the developing world and escalation of these MIDs into full-scale wars are *not* independent of one another. However, the signs of the coefficient estimates as well as their statistical significances remained the same. The only exception was change in statistical significance of *economic importance* variable. The effect of economic importance was insignificant in the Model VIII, but became significant at 90% in the Heckman selection model (Model VIII-H). This result confirms the finding on MIDs with actual use of force and provides further support to my Hypothesis 4.

In the Heckman selection replication of Model IX which included the *economic growth* variable, the *rho* variable did not gain statistical significance at 90% ($p > \chi^2 = 0.24$). Thus, for Model IX, we *cannot* reject the null hypothesis that the occurrence of a dyadic MID in the developing world and escalation of these MIDs into full-scale wars are *independent* of one

another (i.e. $\rho=0$). The negative and significant effect of economic growth on full-scale war did not change anyway.

Table 9: Two-Stage Heckman Probit Estimates of the Probability of a MID with full-scale war in a Developing-state Dyad, 1951-2000¹

	Model VIII-H		Model IX-H	
Variables	Coefficient	Robust SE	Coefficient	Robust SE
Economic Importance _{low}	-3.4594*	2.4278	-2.1417	2.5556
Democracy _{low}	0.0804**	0.0392	0.0333**	0.0202
Development _{low}	0.0111	0.0131	0.0062	0.0141
Development*Democracy _{low}	-0.0053**	0.0029		
Growth _{low}			-3.2945**	2.0001
Capability ratio	-0.0082**	0.0046	-0.0121**	0.0068
Alliance	-0.2520	0.2110	-0.3503*	0.2567
Major Power	0.0392	0.2710	-0.7332**	0.4180
Peaceyears	-0.0732***	0.0197	-0.0694***	0.0278
Spline 1	0.0107**	0.0054	0.0222**	0.0101
Spline 2	-0.0062**	0.0030	-0.0126**	0.0057
Spline 3	0.0012**	0.0006	0.0024**	0.0011
ρ	0.5472	0.5229	0.7281	0.3682
Wald test of independence ($\rho=0$)	chi ² (1) = 4.64	Prob > chi ² = 0.0312	chi ² (1) = 1.39	Prob > chi ² = 0.2380
N	12175		9552	
Censored observations	10905		8593	
Uncensored observations	1270		959	
Wald chi ² (11)	48.77		50.79	
Prob>chi ²	0.0000		0.0000	

P-values are based on one-tailed significance test except for ρ , for which it is a two-tailed test.

*** $p<0.01$; ** $p<0.05$; * $p<0.10$.

Robust standard errors are clustered on each dyad.

! Selection equation not reported.

3.4.2. All-Developing-State Dyads

All of the statistical analyses above used a sample that was comprised of contiguous ‘developing-state dyads’, which were defined as contiguous dyads with at least one developing

state. Such dyads came in two forms: all-developing-state dyads, which included two developing states; and mixed dyads, which included one developing state and one developed state. I believe that an analysis of interstate conflict behavior of developing countries requires the study of both groups of dyads, of course controlling for the difference between the two, for which I included ‘developed-state’ as a control variable in my models. The effect of the *developed-state* variable on various types of MIDs in the developing world was consistently insignificant, suggesting that –other things being equal- mixed dyads did not have a discernable difference from all-developing-state dyads in terms of the likelihoods of having any type of militarized interstate dispute. However, given the unexplained heterogeneity issue I elaborated in Chapter 2, it is still possible that certain factors have different effects on MIDs in all-developing-state dyads vs. in mixed dyads. To see if this is the case, in this section I will replicate the major analyses I did above in the sample of ‘all-developing-state dyads’.

The exclusion of mixed dyads drops 1184 cases from the sample and shrinks the sample size from 12175 to 10991. Table 10 displays the replications of Model I, Model IV, and Model VII –respectively- on a sample of all-developing-state states from 1951 to 2000. All of these models were the base models that did not include the interactive *developed democracy* term or the *growth low* variable. So far as the three theoretical variables (economic development, economic importance, and democracy) are concerned, the results were almost identical in terms of the signs and significances of coefficient estimates. As in previous analyses, democracy’s independent effect on the likelihood of a dyadic MID was consistently insignificant across three categories of MIDs. In the same vein, economic importance to the great powers had no significant impact on the likelihood of MIDs in general, but had a significant negative impact on the likelihood of higher levels MIDs, MID with use of force and MIDs with full-scale war. Lastly, increasing economic development was again found to decrease the likelihood of MIDs in general and MID with use of force. Like in Model VII, economic development’s independent effect on the likelihood of full-scale wars was insignificant. However, as in Model VIII, inclusion of interactive *developed democracy* variable (not reported here) refined the marginal effect of development on full-scale war and made it statistically significant at 90%, albeit this time with a slightly higher ‘democracy threshold’ of 8 (democracy-autocracy score of -5). Economic development’s negative effect on the likelihood of a full-scale war between two

contiguous developing states gained statistical significance at 90% only when the less democratic country in a dyad achieved a democracy score of 8 or above.

Table 10: Logit Estimates of the Probability of a MID, Actual Use of Force, and, Full-Scale War in an ALL-Developing-State Dyad, 1951-2000.[!]

Dependent Variable:	Model X		Model XI		ModelXII (heckman)	
	<i>MID</i>		<i>Use of Force</i>		<i>Full-Scale War</i> ^{!!}	
Variables	Coefficient	Robust SE	Coefficient	Robust SE	Coefficient	Robust SE
Economic Importance_{low}	0.6412	1.0469	-1.2609*	0.9484	-2.3373*	1.9092
Democracy_{low}	-0.0038	0.0128	-0.0094	0.0148	0.0201	0.0228
Development_{low}	-0.0097**	0.0052	-0.0086*	0.0059	-0.0032	0.0127
					chi ² (1) = 4.12	Prob > chi ² = 0.04
N	10991		10991		10991	
Log likelihood	-2828.0487		-2414.8192		-3104.329	
Wald chi²(10)	516.93		439.92		49.74	
Prob>chi²	0.0000		0.0000		0.0000	
Pseudo R²	0.2255		0.2222			

P-values are based on one-tailed significance test. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$.

Robust standard errors are clustered on each dyad.

! Control variables not reported.

!! Selection equation not reported.

The signs and statistical significances of the *economic growth* variable in replications of Model III, VI, and IX (Table 10) were also identical with the ones in the original models. In the sample of developing-state dyads with two developing states, too, economic growth was found to have no significant effect on the probability of MIDs in general or MIDs with actual use of force but did have a statistically significant negative effect on the probability of a MID with full-scale war. Again, assuming that we would have similar results in a larger sample that would include the countries with missing economic growth data, it seems that in developing world economic growth is more effective in preventing the outbreak of full-scale wars than in preventing involvement in lower-level militarized interstate disputes.

Table 11: Logit Estimates of the Probability of a MID, Actual Use of Force, and, Full-Scale War in an ALL-Developing-State Dyad, 1951-2000.[!]

	Model XIII		Model XIV		Model XV	
Dependent Variable:	<i>MID</i>		<i>Use of Force</i>		<i>Full-Scale War</i>	
Variables	Coefficient	Robust SE	Coefficient	Robust SE	Coefficient	Robust SE
Economic Importance _{low}	0.4244	1.0290	-1.4992**	0.9083	0.0214	3.6729
Democracy _{low}	-0.0089	0.0140	-0.0179	0.0148	0.0441	0.0644
Development _{low}	-0.0014	0.0067	0.0012	0.0075	0.0099	0.0314
Economic Growth _{low}	0.1138	0.9139	-0.2913	1.0529	-6.0442*	4.5730
N	8642		8642		8642	
Log likelihood	-2121.1532		-1795.5336		-188.05291	
Wald chi ² (11)	437.48		375.17		37.31	
Prob>chi ²	0.0000		0.0000		0.0001	
Pseudo R ²	0.2472		0.2389		0.2775	

P-values are based on one-tailed significance test. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$.
[!] Control variables not reported.

The last results on economic development, economic growth, economic importance, and democracy confirm earlier results in the larger sample and thus suggest that there is no discernable difference between mixed dyads and all-developing-state dyads so far as the independent effects of the theoretical variables are concerned. However, an interesting change in results occurred in the replications of models with the interactive *developed democracy* variable (Models II, V, and VIII). The interactive term was not statistically significant in the first two models (MIDs in general and MIDs with use of force) and nor did the marginal effect of democracy on the likelihood of these two types of MIDs gain statistical significance at any point of economic development (Figures 9 and 10). Only the marginal effect of democracy on the probability of a full-scale war in an all-developing-state dyad gained statistical significance after a relative development threshold of 40% (Graph 11).

The complete insignificance of marginal effects of democracy in Graphs 6 and 7 at first implies that the earlier significant findings in relatively richer developed-state dyads (Graphs 2 and 3) were driven by the inclusion of developed states. However, a careful analysis of the two samples suggests that it is not the exclusion of developed states per se but what these states take

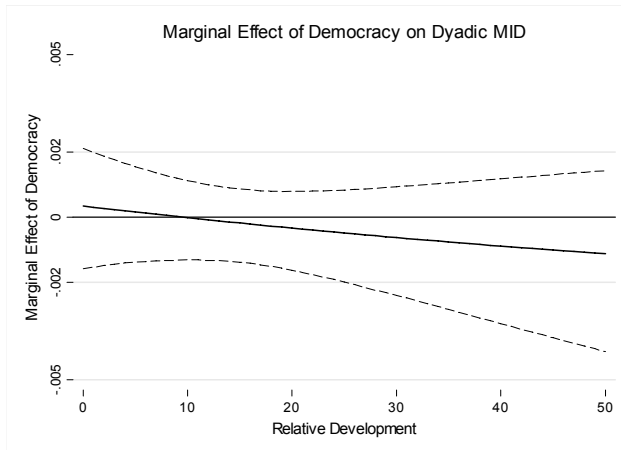


Figure 9

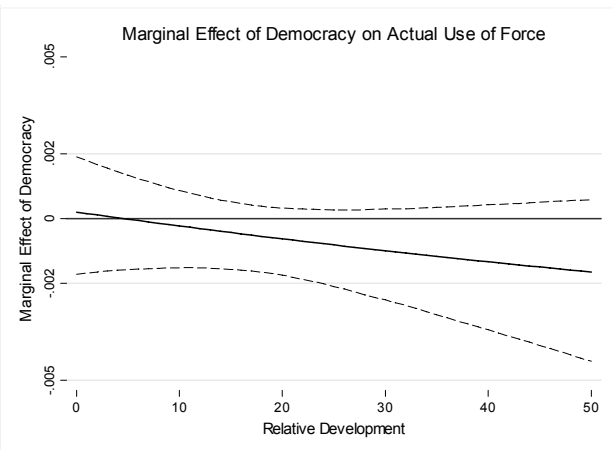


Figure 10

Figure 9: Marginal Effect of *Democracy* on the Probability of a *Dyadic MID* in an ALL-Developing-state Dyad, 1951-2000, 90% Confidence Interval.

Figure 10: Marginal Effect of *Democracy* on the Probability of a *Dyadic MID* with *Actual Use of Force* in an ALL-Developing-state Dyad, 1951-2000, 90% Confidence Interval.

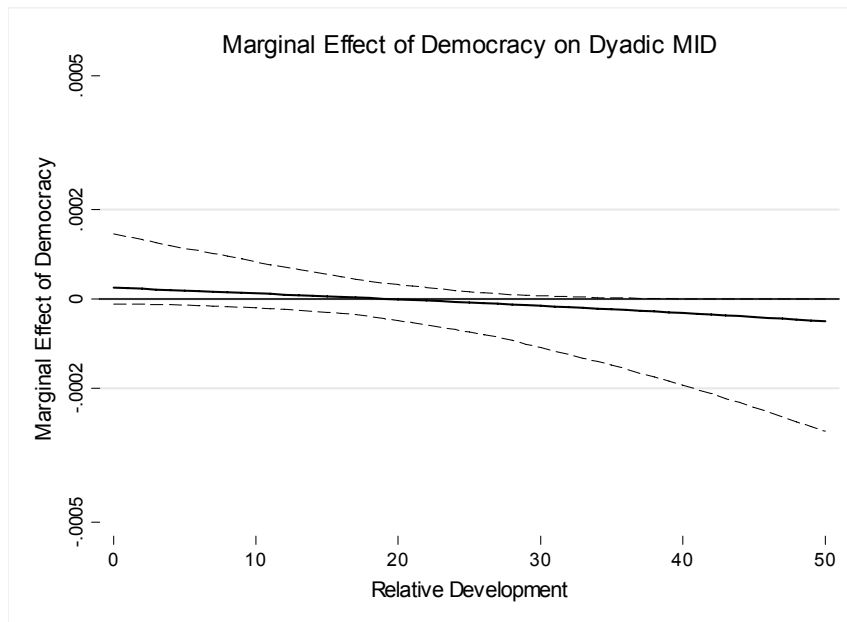


Figure 11: Marginal Effect of *Democracy* on the Probability of a *Dyadic MID* with *Full-Scale War* in an ALL-Developing-state Dyad, 1951-2000, 90% Confidence Interval.

away with themselves is the underlying reason for the change in results. The exclusion of developed states result in a disproportionate loss of relatively richer developing-state dyads, because developing states neighboring developed states happen to be, on average, much richer than developing states neighboring other developing states. The average *relative development low* score of dyads was 14.5 for the entire sample, 12.8 for all-developing-state dyads, and 30.8 for mixed dyads. Clearly, exclusion of developed states is taking away a disproportionate number of relatively richer developing-state dyads (such as Italy-Greece, Austria-Czech Republic, and Japan-South Korea), which are more than likely to have had a key influence on earlier results. Of the 1331 developing-state dyads with a *development low* score of 29 or above in the entire sample (the threshold for statistical significance of democracy's marginal negative effect on MIDs with actual use of force in the entire sample), 583 dropped when 1184 developing-state dyads with developed states are excluded. As such, the change in results regarding the statistically significant marginal negative effect of democracy at higher development scores does not necessarily weaken earlier arguments and findings; rather, by indicating the crucial influence of relatively wealthy dyads on marginal effect of democracy, it is actually providing additional support to my Hypothesis 3.a on the limitedness of democracy's peaceful effects to relatively richer developing-state dyads.

3.5. Concluding Remarks

In this chapter, I analyzed the impact of three economic factors on various levels of militarized interstate disputes in the developing world. Some of the arguments and analysis I made in this chapter had already been utilized by some other scholars in different contexts. Mousseau (2000, 2002) and Lemke (2002) stand out as two scholars who have also investigated the relationship between economic development, democracy, and international conflict. However, my research differed from and complemented them in multiple ways. First, I analyzed the developing world only. Second, unlike Mousseau, I employed an economic model with three economic variables, which went beyond the democratic peace. Third, unlike Lemke's theory which applies to a small set of dyads (hegemon-challenger relations), my theory was simpler and could apply to any developing-country dyad. Also, methodically, I measured development in relative terms and analyzed multiple degrees of conflict.

Table 12: Comparison of the *individual* effects of the theoretical variables across three groups of MIDs.

	<u>MIDs (all)</u>	<u>Use of Force</u>	<u>War</u>
<i>Economic Importance</i>		_**	_ (p<.128)
<i>Democracy</i>			
<i>Development</i>	_**	_**	_ (p<.121)
<i>Economic growth</i>			_**

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$.

My empirical results provided strong support to some of my hypotheses and only partial support to others. First, economic development levels of states in a developing-state dyad were found have strong negative impact on the probability of lower as well as higher level MIDs in the developing world. Therefore, my first conclusion is that economic development is a significant component of long-term interstate peace in the developing world. This research provides further empirical strength to the remarks made by the Nobel Committee while awarding Bangladeshi Muhammad Yunus for the 2006 Nobel Peace Prize: “lasting peace cannot be achieved unless large population groups find ways in which to break out of poverty,” (*The Hindu*).³⁴

However, contrary to my second hypothesis, current growth rates were not found to have a significant impact on MIDs in the developing world, except for the bloodiest ones, i.e. wars. When combined with the afore-mentioned negative impact of overall economic development, this finding might suggest that whereas the fruits of economic growth are real and present when it comes to full-scale wars, they are likely to be reaped in the long run rather than the short run so far as other lower level MIDs are concerned. However, given the serious problem of non-random missing data on economic growth rates of particularly poorer developing countries, one has to be

³⁴ Because my arguments on the relationship between economic development and interstate conflict were based on the idea of *relative* deprivation, I measured economic development in relative terms. However, replications of Models I, IV, and VII with nominal values of GDP per capita in constant U.S. dollars (which is more relevant to absolute deprivation) did not change substantive effects of economic development. GDP per capita (low) was also found to have negative and statistically significant effects on the likelihood of a MID in general, a MID with actual use of force, and a full-scale war. Thus, it seems that both relative deprivation and absolute deprivation are relevant to interstate conflict in the developing world.

cautious about making overly rigid conclusions regarding the impact of economic growth on militarized interstate conflicts in the developing world.

The results also provided substantial support to my fourth hypothesis on economic importance to the great powers. Initial analyses of all MID types suggested that economic importance had no discernable impact on MID types in the developing world. Yet in later analyses, economic importance to the great powers was found to have significant negative impact on the likelihood of higher-level MID types which included actual use of force, although not the ones that escalated into full-scale war. One tentative conclusion that might sum up these different findings could be that the great powers allow more room for rhetorical/diplomatic use of military force (threat and show) in developing-state dyads that are relatively important for their economies; however, the great powers narrow this room down when it comes to actual use of force or engaging in full-scale war, which might disturb their own economies substantially.

An important finding in this chapter was democracy's very limited influence on MID types in the developing world. My findings suggested that democracy had no significant independent/individual effect on any degree of MID types. This finding was in marked contrast to the findings in several earlier studies that utilized a global sample. However, analyses of all three types of MID types supported my interactive effect hypothesis. Peaceful effect of democracy in the developing world was found to be dependent on the development levels of states in a dyad. Democracy was found to have a discernable peaceful effect only in relatively richer developing-state dyads. Thus, this research provides additional support to earlier arguments about an "economic limitation" to democratic peace (Mousseau 2000, 2002; Mousseau, Hegre, and Oneal 2003). My findings also suggested that the economic threshold for democracy's peaceful effect on interstate relation in the developing world happens to be much higher than it was found to be by previous studies that used global samples. Lastly, an indirect peaceful effect of democracy in the developing world was its supportive role for the negative impact of economic development on the probability of MID types. On the one side, economic development's negative effect on all types of MID types augmented as the democracy scores of states in a dyad increased. On the other side, economic development's negative effect on full-scale wars in the developing world required a modest degree of democratic improvement.

The results on economic development, economic growth, economic importance, and democracy did not change when I narrowed down the sample to dyads with two developing

states only. Consistency of results across the larger and smaller samples suggests that there is no discernable difference between mixed dyads and all-developing-state dyads so far as the independent effects of the theoretical variables are concerned. However, results did change in models with the interactive *developed democracy* term. The marginal effect of democracy on the likelihood of MIDs did not gain statistical significance at any point of economic development, except for the MIDs with full-scale wars. Nevertheless, a scrutiny of the two samples revealed that the exclusion of developed states also results in a disproportionate loss of relatively richer developing-state dyads, which are very likely to have had a crucial influence on the marginal effects of democracy.

Finally, an interesting finding with methodological implications was variance of results across different types of MIDs. Such common variables as economic development, economic growth, alliance, and major power involvement had varying impacts on different types of MIDs. Thus, results in this chapter challenge the traditional assumption that we can treat all militarized interstate disputes (MIDs) as units of one single meaningful group. Rather, it seems that some factors have divergent impacts on different types of MIDs depending on the disputes' seriousness. If this is the case, students of international conflict should be more cautious about extracting general conclusions from analysis of specific MIDs.

CHAPTER 4:

NEGOTIATED SETTLEMENT OF MILITARIZED INTERSTATES DISPUTES IN THE DEVELOPING WORLD

4.1 Introduction

As I have noted in the sensitivity analyses section of the previous chapter, studying what happens after militarized interstate disputes (MIDs) start might be as important and revealing as studying the outbreak of MIDs. After a long focus on MID occurrence, there is an increasing interest among scholars of international conflict in studying such areas as dispute escalation (Senese 1997; Vasquez and Henehan 2001), dispute settlement (Dixon and Senese 2002; Frazier and Dixon 2006), conflict mediation (Brecher and Wilkenfeld 1997; Bercovitch and Houston 2000, Terris and Maoz 2005), and conflict management (Regan and Stam, 2000). In this chapter, I will study dispute settlement and test the theoretical links between economic factors and interstate conflict/peace that I laid down in Chapter II in the context of settlement of militarized interstate disputes.

Negotiated settlement of militarized international disputes is not a widely-studied area. Dixon and Senese (2002) and Frazier and Dixon (2006) are two notable studies that dealt with negotiated settlements in a direct way. Dixon and Senese mainly dealt with how democracy influences the chances of negotiated settlements in militarized interstate disputes. Their findings suggested the existence of a discernable positive relationship between mutual democracy and negotiated settlement of militarized disputes. Frazier and Dixon (2006), on the other hand, studied the intricate relationship between third-party mediation and negotiated dispute settlement and found that although all types of intermediary activities improve the chances of disputants reaching a negotiated settlement in a MID, IGOs (intergovernmental organizations) are the most effective conflict managers.

4.2. Hypotheses

In one of their robustness checks, Dixon and Senese (2002, p. 564) include economic development as a control variable and, interestingly, find that it has significant *negative* effect on the likelihood of negotiated dispute settlement. However, I doubt that their finding will replicate in this study for three reasons. First, given the theoretical expectations outlined in Chapter 2 regarding economic factors' playing a more determining role in the developing world and the empirical support those expectations received in Chapter 3, I expect that economic development is going to have a more discernable influence in the settlement of militarized disputes of developing countries. Second, as I have argued in Chapter 3, I believe that using nominal values of such figures as Gross Domestic Product per capita or energy consumption per capita (which Dixon and Senese utilize) as a measure of economic development in time-series settings can be problematic. Using nominal values of such figures ignore the "rising average" question over years for economic development. Again, results may vary if relative values for economic development are employed. Third, Dixon and Senese reported results from Heckman-selection models although in none of these models did the *rho* indicator attained a statistically significant estimate. Given the sensitivity of Heckman-selection models to model specification, I do not think that it is correct to go along with Heckman-selection even when we have no firm statistical support for the existence of a selection effect. Results may well vary in simpler logistic regression models.

I argued in Chapter 2 that overall economic development levels and recent economic growth rates of developing countries influence these countries' "willingness" to fight other countries. Lower economic development levels as well as recent economic failures results in increasing dissatisfaction with the international system, thereby increasing developing countries' overall belligerence as well as their willingness to take risks. Assuming that negotiated settlement of interstate conflicts derive from a motive to "peacefully" resolve the conflict in the sense of keeping the costs of conflict as low as possible and/or preventing further escalation of the conflict, satisfied states will be more likely to strive for a negotiated settlement because satisfaction is expected to make countries more conservative and less belligerent. Given the theoretical relationships between economic development and satisfaction as well as economic growth and satisfaction, which I elaborated in Chapter 2, I expect that higher overall economic

development as well as higher economic growth rates will *increase* the likelihood of a negotiated settlement in militarized conflicts of developing countries. Thus, my first two hypotheses are:

H.5. *The greater the economic development level of a developing-state dyad which is having a MID, the higher the likelihood of negotiated settlement.*

H.6. *The greater the economic growth rate in a developing-state dyad which is having a MID, the higher the likelihood of negotiated settlement.*

Dixon and Senese argued that in disputes between two democratic states “both parties are not only normatively constrained from implementing especially violent or coercive strategies, but they are also normatively inclined to strive for some form of peaceful reconciliation of their competing interests and values,” (2002, p. 549). Their empirical findings also suggested some positive relationship between democracy and negotiated settlement in MIDs. However, given the arguments I laid down in Chapter 2 as to the contingent relationship between economic development and democracy in the developing world, I expect that the effect of democracy on settlements of militarized interstate disputes in the developing world will also be contingent on the economic development levels of countries in dyads. Hence, my seventh hypothesis is:

H.7. *The influence of democracy on settlements of militarized interstate disputes in the developing world will be contingent on the economic development levels of states in a dyad.*

H.7.a. *In relatively wealthier dyads, democracy will increase the likelihood of negotiated settlements.*

H.7.b. *In poorer dyads, democracy will have no impact on the likelihood of negotiated settlements.*

I have also argued in Chapter 2 that the economic importance of developing countries to the great powers influences the "opportunities" for conflict in the developing world. Relative unimportance to the great powers of poorer countries increases opportunities for conflict in the developing world. The great powers have higher incentives to discourage states that are economically important to them to escalate militarized conflicts and to encourage them to find some type of negotiated settlement. I therefore expect that conflicts between states that are economically important to the great powers have a higher likelihood of involving negotiated settlement than other types of settlement such as forced concessions. Thus, my final hypothesis will be:

H.8. *The greater the economic importance to the great powers of a developing-state dyad which is having a MID, the higher the likelihood of a negotiated settlement.*

4.3. Methodology

This chapter continues the contextual approach of the previous chapter in the sense that it will analyze negotiated settlements in militarized interstate disputes of “developing states” only. Consequently, dyadic militarized disputes between two “developed” countries will be excluded from my analysis. I will analyze only dyadic MIDs which include at least one developing state, heretofore named ‘developing-state MIDs’. I use the same list of developed countries I used in the previous chapter. The temporal domain of this research remains the same as well: 1951 to 2000. Lastly, to maintain consistency between the two chapters as well as to avoid the problem of distinct opportunities for escalation/de-escalation in militarized disputes in contiguous vs. non-contiguous dyads, I will analyze MIDs between contiguous states only. Again, two states are considered contiguous if they share a land border or are separated by less than 150 miles of water.

4.3.1. The Dependent Variable: *Negotiated Settlement*

The dependent variable of this study will be negotiated settlement of militarized interstate disputes (MIDs). The data for dispute settlement come from the MID dataset used in Chapter 3 (Maoz 2005), which incorporates these data from COW’s MID dataset. COW’s MID data include four categories of settlements: negotiated settlement, imposed settlement, no settlement, and unclear. A ‘negotiated settlement’ is defined by “the successful attempt to confer, bargain, or discuss an unresolved issue with a view towards reaching an acceptable settlement” and identified as “some type of agreement (formal or informal), the lack of any unconditional surrender or giving up on concessions, and the absence of any attempt of external imposition of a settlement.” An ‘imposed settlement’ is defined as “an agreement that has been forced upon another state by means of overwhelming authority and without invitation.” The ‘no settlement’ category includes cases that lack “any formal or informal effort which successfully resolves or terminates the dispute.” Lastly, the ‘unclear’ category includes cases where “the historical sources present either a conflicting or opaque interpretation of dispute termination” (Jones, Bremer, and Singer 1996, 181). The dependent variable, *negotiated settlement*, is a dichotomous variable and equals 1 if the dispute was settled with negotiation and 0 otherwise. 136 of the 1507 militarized disputes I analyze in this chapter were settled with negotiation (9%). Like Dixon and

Senese (2002), I exclude disputes with ‘unclear’ settlements from my sample as well. Twenty disputes are dropped for this reason.³⁵

4.3.2. Explanatory Variables

The four explanatory variables of this chapter are imported from Chapter 3: *relative economic development low*, *democracy low*, *economic growth low*, and *economic importance low*. The measurement of these variables and their sources remain the same. Please refer to Chapter 3 for details regarding these variables.

4.3.3. Control Variables

All the control variables in the previous chapter (*capability ratio*, *alliance*, *major power status*, and *developed state status*) are also imported into this chapter. Three additional control variables will be used in this chapter: *territorial issue*, *dispute duration*, and *third-party mediation supply*.

Territorial issue: Many studies suggested a strong relationship between territorial disputes and escalation of militarized dispute (Vasquez and Henehan 2001, Senese 2005). It is also expected that militarized disputes involving territorial issues will have a lesser chance of a negotiated settlement. To control for this potential effect, I include a *territorial issue* variable. It will be a dummy variable that equals 1 if the issue at stake in a dispute is territory-related and 0 otherwise. The data on territory involvement come from the revision type section of Zeev Maoz’s (2005) dyadic MID dataset.

Dispute duration: Because negotiation requires some time and because longer disputes are likely to involve negotiation as the dispute gets more salient and costly, I include a *dispute duration* variable to control for the duration of MIDs. The data for duration of disputes come from Zeev Maoz’s (2005) dyadic MID dataset, which measures the length of militarized disputes in days. I take the natural logarithm of days to take into account the declining marginal effect of duration in very long disputes. Some studies (Dixon and Senese 2002; Frazier and Dixon 2006) also suggest a curvilinear relationship between dispute duration and negotiated settlements. They have argued that whereas initial lengthening of disputes tends to increase chances of negotiated settlement, disputes that continue too long tend to be less likely to lead to settlement. I therefore include an additional squared term of duration to control for a curvilinear relationship.

³⁵ Results in the replications of the proceeding statistical analyses including these 20 cases remained very similar.

Thus, my final equation on settlements of militarized interstate disputes of developing countries will be as follows:

$$\begin{aligned} \text{NEGOTIATED SETTLEMENT}_{ijt} = & a + b_1\text{DEVlow}_{t-1} + b_2\text{GROWTHlow} + b_3\text{DEMlow}_{t-1} + \\ & b_4\text{DEMlow}_{t-1} * \text{DEVlow}_{t-1} + b_5\text{ECONIMPlow}_{t-1} + b_6\text{CAPRATIO}_{ijt} + b_7\text{ALLIANCE}_{ijt} + \\ & b_8\text{DEVELOPED}_t + b_9\text{MAJOR}_t + b_{10}\text{TERRITORY}_t + b_{11}\text{DURATION}_t + b_{11}(\text{DURATION}_t)^2 + \\ & b_{13}\text{Peaceyears}_t + b_{14} \text{ Splines} + e. \end{aligned}$$

4.4 Results

Table 13 displays the results of the logistic regression analysis of the probability of a negotiated settlement in a developing-state MID. Missing data on economic growth becomes a problem in this chapter as well. About 24% of the MIDs drop out due to unavailability of data on economic growth. As outlined in the previous chapter, because the missing data on economic growth are disproportionately data on poorer developing countries, the ultimate sample with the *growth low* variable will be an unrepresentative sample, thereby producing biased results. Therefore, in this chapter also, I will make two separate statistical analyses, one with the *growth low* variable and one without.

As in the case of the analysis of full-scale wars in Chapter 3, analysis of dispute settlement comes with some potential for selection bias. If some factors influence both the probability of engaging in a MID as well as the probability of negotiated settlement in that MID, estimates from a single negotiated settlement model will be biased. To check if there is indeed a significant selection effect regarding dispute settlement in developing-state MIDs, I first ran my Model I and II in Table 13 using two-stage *Heckman selection* models (Heckman 1976), instead of logistic regression. Given the dichotomous nature of the dependent variable, I used *Heckman probit* models. However, the *rho* variable (or inverse Mill's ratio) which gauges the correlation between the errors in the selection model (MID occurrence) and the outcome model (dispute settlement) was far from 90% statistical significance in any model -- Model I ($p > \chi^2 = 0.73$), Model II ($p > \chi^2 = 0.75$), and Model III ($p > \chi^2 = 0.69$). Therefore, we *cannot* reject the null hypothesis that the occurrence of a dyadic MID in the developing world and negotiated

settlement of that MID are *independent* of one another (i.e. $\rho=0$). I therefore report one-stage logistic regression estimates in Table 13.³⁶

Table 13: Logit Estimates of the Probability of a *Negotiated Settlement* in a Developing-state MID, 1951-2000.

Variables	Model I		Model II		Model III	
	Coefficient	Robust SE	Coefficient	Robust SE	Coefficient	Robust SE
Economic Importance _{low}	-0.6530	1.8114	-0.5417	1.8237	0.3353	1.7807
Democracy _{low}	0.0045	0.0228	0.0395	0.0457	0.0066	0.0238
Development _{low}	0.0165*	0.0119	0.0286**	0.0131	0.0191*	0.0120
Development*Democracy _{low}			-0.0030	0.0027		
Growth _{low}					1.4947	2.0964
Capability ratio	0.0030	0.0026	0.0031	0.0026	0.0003	0.0038
Alliance	0.4074**	0.2387	0.4179**	0.2320	0.2081	0.2675
Major Power	-0.1586	0.3292	-0.1131	0.3284	-0.8725**	0.4113
Developed	-0.3598	0.4033	-0.3637	0.4005	-0.2790	0.5434
Territory	-0.1802	0.2528	-0.1792	0.2526	-0.0014	0.2721
Duration	0.7914***	0.2377	0.7798***	0.2360	0.7465***	0.2578
Duration ²	-0.1123***	0.0335	-0.1102***	0.0330	-0.1152***	0.0385
N	1487		1487		1134	
Log likelihood	-439.11959		-438.30781		-337.41576	
Wald chi ² (10/11/11)	29.58		33.14		27.74	
Prob>chi ²	0.0010		0.0005		0.0036	
Pseudo R ²	0.0346		0.0364		0.0417	

P-values are based on one-tailed significance test. *** $p<0.01$; ** $p<0.05$; * $p<0.10$; Robust standard errors are clustered on each dyad.

To start with the control variables, except for *dyadic alliance*, none of the control variables imported from Chapter 3 (*capability ratio*, *major power status*, and *developed state*

³⁶ The signs and statistical significances of the theoretical variables remained the same in Heckman selection models anyway.

status) were found to have in Model I any significant effect on the likelihood of negotiated dispute settlement in a developing-state MID. Dyadic alliance was found to have a positive and statistically significant (at 95%) effect on the likelihood of negotiated settlement in a developing-state MID. As for the additional control variables of this chapter, contrary to expectations, developing-state MIDs involving territorial issues were *not* found to have any significantly lower chance of being settled through negotiation. The territory variable's coefficient estimate was insignificant at 90%. However, the coefficient estimates for both dispute duration and its squared value were statistically significant at 99%. Confirming previous findings, the sign of the *dispute duration* variable was positive and the sign of its squared value was negative. This suggests that dispute duration increases the chances of negotiated settlement up to a certain point and starts to decrease the likelihood of negotiated settlement afterwards.

As for my theoretical variables in Model I, *development low*'s coefficient has a negative sign and is significant at 90% significance level ($p < 0.083$). This finding supports my fifth hypothesis. The higher the economic development level of states in a developing-state MID, the higher is the likelihood of the settlement of this issue in a negotiated way. However, the *economic importance low* variable was found to have no discernable effect on the likelihood of a negotiated settlement in MIDs in the developing world. Thus, my eighth hypothesis was not supported. In line with my theoretical expectation, however, the individual effect of *democracy low* in Model I was also statistically *insignificant*. This remained the same when I reran Model I with two alternate *dichotomous* 'joint democracy' variables (Democracy-Autocracy > 5 and Democracy-Autocracy > 7). This finding counters the previous finding of positive effect of democracy on the likelihood of negotiated settlement in the context of all MIDs including the developed-developed dyads (Dixon and Senese 2002). However, it is in line with my findings in the previous chapter as well as with Henderson's (2003) and Goldsmith's (2006) earlier findings, thereby providing additional strength to the argument that independent peaceful effect of democracy is limited to the developed world.

Table 14 presents the substantive effects of *economic development* and *alliance* variables on the probability of negotiated dispute settlement in a developing-state MID. When calculating predicted probabilities, I assumed that the dyad had no dyadic alliance and did not include a developed country or a major power, and the dispute did not involve territorial issues. All other variables in Model I were set to their mean values. Dyadic alliance was found to increase the

Table 14: Percentage Change in the Predicted Probability of a MID in a Developing-state Dyad.

Variable	Change in $p(\text{negotiated settlement})$
Economic development	+ 16.2%
Alliance	+ 44.2%

* Changes in predicted probabilities are changes from the base predicted probability of negotiated settlement in Model I (which was 0.083). For *economic development* variable, it refers to an *increase* by one standard deviation from its mean value. For *alliance*, it denotes a shift from zero (non-existence) to one (existence).

probability of negotiated dispute settlement by 44%. Also, a standard deviation increase (from 13% to 23%) in the relative GDP per capita of the poorer country in a developing-state MID increases the likelihood of negotiated settlement in that MID by an average of 15%. Graph 1 below displays the varying probability of negotiated dispute settlement in a developing-state MID at different scores of *economic development low*.

Model II in Table 13 tests my interactive effect hypothesis (H.7). The results in Model II do not support my interactive effect hypothesis. The interactive term of development and democracy is not statistically significant at 90% and, as shown in Figure 12 below, the marginal effect of democracy does not gain 90% statistical significance at any score of *economic development low*. Democracy not only lacks a significant positive effect on the likelihood of negotiated dispute settlement in MIDs between poorer developing countries as I predicted in hypothesis 7.b, but it also has no significant effect on the likelihood of negotiated dispute settlement in MIDs between relatively richer developing countries either. Thus, hypothesis 7.a is not supported. However, a combination of Dixon and Senese's earlier finding about the significant positive effect of democracy on the likelihood of negotiated dispute settlement in *all* dyadic MIDs (including MIDs between two developed countries) with this study's finding that democracy has no significant effect on the likelihood of negotiated dispute settlement in MIDs of developing countries may lead us to a tentative conclusion: So far as negotiated dispute settlements in dyadic MIDs are concerned, democracy's peaceful effect is limited to MIDs

between developed countries. Thus, hypothesis 7.a seems to be supported in a global sample of all countries, if not within a sample of the developing world.³⁷

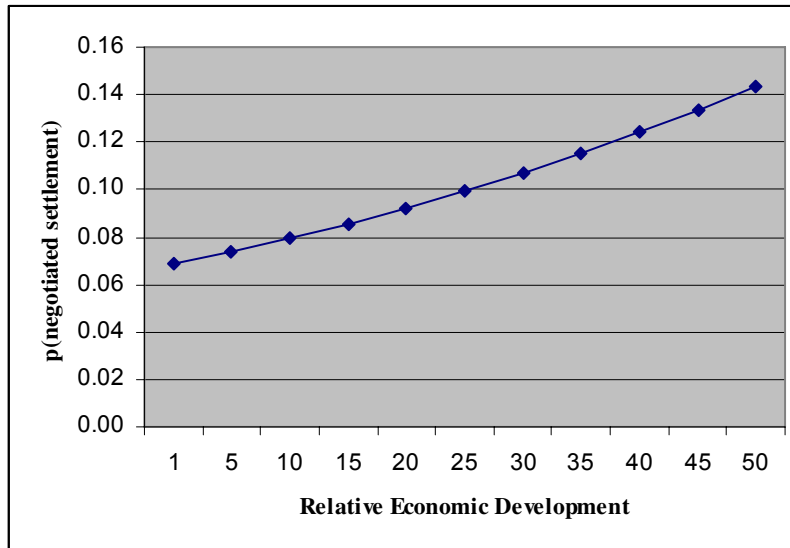


Figure 12: Probability of negotiated dispute settlement in a developing-state MID, 1951-2000.*

* Probability calculations are based on the assumptive values used in Table 2.

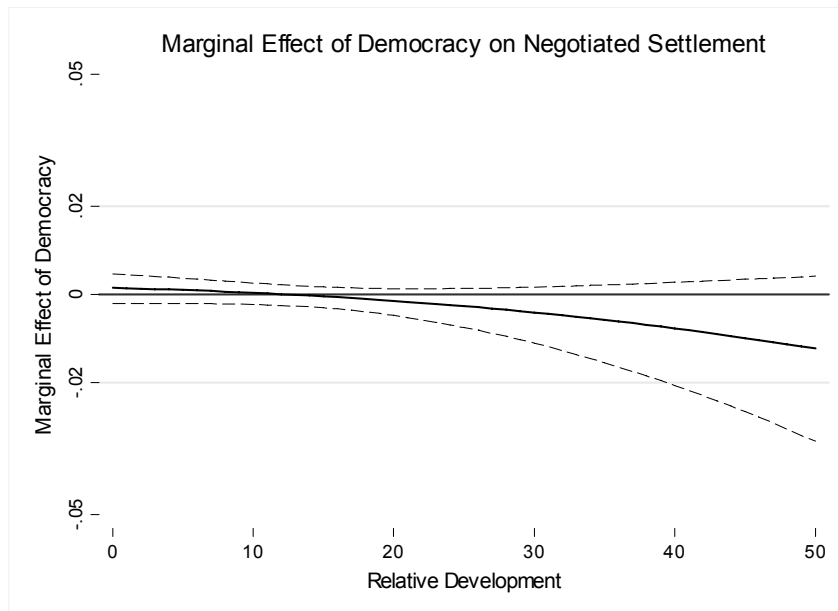


Figure 13: Marginal Effect of Democracy on the Probability of *Negotiated Settlement* in a Developing-state MID, 1951-2000, 90% Confidence Interval.

³⁷ However, as I have noted above, one can challenge Dixon and Senese’s findings on the ground that Dixon and Senese reported results from Heckman-selection models although in none of these models *rho* attained a statistically significant value. Results may have varied in simpler logistic regression models.

Finally, *growth low*'s coefficient estimate in Model III has a positive sign as expected but is far from statistical significance. Thus, my sixth hypothesis is not supported either. Again, if we assume that we would have similar results in a larger sample that would include the countries with missing economic growth data, then this finding might lead us to an the same tentative conclusion we made in Chapter 3. The combined effect of significant overall development effect in Model I and insignificant current growth effect in Model III might suggest that developing countries are influenced more by where they stand economically than where they are heading to. This means that the fruits of economic development are likely to be reaped in the long run. However, as in the case of MID involvement, we have to be cautious about deriving any rigid conclusions from Model III, because about 24% of the cases in models I and II are missing in Model III. Because a disproportionate portion of these cases involve relatively poorer countries, the sample in Model III is likely to produce biased results.

4.5. Sensitivity Analysis

4.5.1. All-Developing-State Dyads

The effect of the *developed-state* variable on probability of negotiated settlement in a developing-state MID was insignificant in all three models in Table 14, suggesting that –other things being equal- mixed dyads did not have a discernable difference from all-developing-state dyads in terms of the likelihoods of having any type of militarized interstate dispute. However, given the unexplained heterogeneity issue I elaborated in Chapter 2 and 3, it is still possible that certain factors have different effects on settlement of disputes in all-developing-state dyads vs. in mixed dyads. To see if this is the case, in this section I will replicate the models in Table 14 within the sample of ‘all-developing-state dyads’, which excludes dyads with a developed country.

The exclusion of mixed dyads drops 171 cases from the sample and shrinks the sample size from 1487 to 1316. Table 15 displays the replications of Model I, Model II, and Model III – respectively- on a sample of all-developing-state states from 1951 to 2000. So far as the three theoretical variables (economic development, economic importance, and democracy) are concerned, the results were almost identical in terms of the signs and significances of coefficient

estimates. As in Model I, democracy's independent effect on the likelihood of negotiated dispute settlement was insignificant in Model IV as well. In the same vein, economic importance to the great powers had no significant impact on the likelihood of negotiated dispute settlement. Lastly, increasing economic development was again found to increase the likelihood of negotiated settlement in an all-developing-state MID. Economic development's positive impact on the likelihood of negotiated dispute settlement was significant at 90% ($p < 0.083$).³⁸ The results for the interactive *developed democracy* variable also remained the same. In Model V, the

Table 15: Logit Estimates of the Probability of a *Negotiated Settlement* in an ALL-Developing-state MID, 1951-2000.

Variables	Model IV		Model V		Model VI	
	Coefficient	Robust SE	Coefficient	Robust SE	Coefficient	Robust SE
Economic Importance _{low}	0.8081	1.9263	0.7442	1.9301	2.2981	2.0300
Democracy _{low}	0.0063	0.0238	0.0395	0.0474	0.0030	0.0243
Development _{low}	0.0181*	0.0130	0.0311**	0.0141	0.0150	0.0132
Development*Democracy _{low}			-0.0032	0.0029		
Growth _{low}					1.1394	2.1614
Capability ratio	0.0039*	0.0029	0.0041*	0.0029	0.0021	0.0037
Alliance	0.3480*	0.2393	0.3630*	0.2313	0.2020	0.2629
Major Power	-0.4233	0.4220	-0.3810	0.4207	-1.5092***	0.6528
Territory	-0.1731	0.2586	-0.1715	0.2578	-0.0100	0.2776
Duration	0.8062***	0.2653	0.7737***	0.2634	0.7072***	0.2774
Duration ²	-0.1167***	0.0372	-0.1142***	0.0365	-0.1114***	0.0417
N	1316		1316		1028	
Log likelihood	-396.04321		-395.24259		-309.31944	
Wald chi ² (9/10/10)	33.22		37.53		29.56	
Prob>chi ²	0.0001		0.0000		0.0010	
Pseudo R ²	0.0361		0.0380		0.0460	

P-values are based on one-tailed significance test. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$; Robust standard errors are clustered on each dyad.

³⁸ As in the previous section, results from a Heckman selection model did not suggest a significant selection effect nor differed remarkably from the results in Table IV.

interactive term of development and democracy was not statistically significant at 90% and the marginal effect of democracy did not gain 90% statistical significance at any score of economic development low. Finally, economic growth was not found have any significant effect on the likelihood of negotiated settlement in MIDs between two developing states either. Thus, so far as my theoretical variables are concerned, we can conclude exclusion of mixed dyads did not result in any remarkable change in the signs and statistical significances of my variables.

4.5.2. Territorial MIDs

It is plausible that the influence of certain factor on interstate conflict (or on any specific aspect or level of conflict) vary depending on the severity or contentiousness of the conflict. A few recent studies suggested that the impact of well-known substantive variables may actually have little or no influence on conflict involving highly contentious issues. James, Park, and Choi (2006), for example, found that the well-known negative influence of democracy on the probability of dyadic militarized interstate disputes disappear in territorial conflicts (or claims). In this section, I will test if the above findings, especially the positive effect of economic development on the probability of a negotiated dispute settlement, holds true in territorial MIDs of developing countries as well.

Of the 1487 developing-state MIDs between 1951 and 2000, only 542 of them (36.4%) involved territorial issues. Given this drastic reduction in sample size, some changes in statistical significances are expected. Table 16 below presents the results of logistic regression estimates of the probability of a negotiated settlement in a *territorial* developing-state MID. Some of the results in Table 16 are indeed different from the ones in earlier Tables. To start with, in Model VII, economic development's sign was still positive but its coefficient estimate fell slightly below the 90% statistical significance level ($p < 0.110$). This can be due to the nature of territorial disputes. But it is also very plausible that this change results from the drastic shrinkage in sample size. In any case, we can still conclude that in the territorial militarized disputes of developing states, too, higher levels of economic development increases the chances of negotiated dispute settlement, albeit this time with a slightly lower certainty. It is also interesting that, contrary to implications of earlier research (James, Park, and Choi 2006), economic development's substantive effect on the probability of negotiated settlements in territorial disputes becomes even larger: a standard deviation increase (from 13% to 22%) in the relative GDP per capita of the poorer country in a territorial developing-state MID increases the likelihood of negotiated

settlement in that MID by 21%, which is 6% higher than the substantive effect of economic development in all developing-state MIDs (Model I).

Another remarkable change in Model VII was that the positive sign of the *economic importance* variable gained statistical significance at 90%, suggesting that higher economic importance to the great powers increases the chances of negotiated settlement in dyadic territorial disputes of developing states. Using the same assumptive values in Table 14 and

Table 16: Logit Estimates of the Probability of a *Negotiated Settlement* in a *Territorial Developing-state MID*, 1951-2000.

Variables	Model VII		Model VIII		Model IX	
	Coefficient	Robust SE	Coefficient	Robust SE	Coefficient	Robust SE
Economic Importance_{low}	2.9323*	2.0893	3.4690*	2.3821	2.6617	2.2296
Democracy_{low}	-0.0095	0.0418	0.0893*	0.0651	0.0078	0.0444
Development_{low}	0.0246[‡]	0.0201	0.0525**	0.0234	0.0284*	0.0208
Development*Democracy_{low}			-0.0065**	0.0043		
Growth_{low}					-5.3875**	2.8361
Capability ratio	0.0103	0.0094	0.0123*	0.0089	0.0071	0.0091
Alliance	0.1827	0.4624	0.2070	0.2313	0.0456	0.4791
Major Power	-0.8378	0.8169	-0.7133	0.7988	-1.3195*	0.9963
Developed	-0.9180	1.1284	-0.8047	1.1332	-0.5371	1.0774
Duration	0.3543	0.3921	0.2729	0.3846	0.3367	0.2225
Duration²	-0.0638[‡]	0.0511	-0.0528	0.0502	-0.0693[‡]	0.0558
N	542		542		431	
Log likelihood	-158.7107		-156.91962		-136.5481	
Wald chi²(9/10/10)	16.85		25.34		19.97	
Prob>chi²	0.0511		0.0047		0.0295	
Pseudo R²	0.0351		0.0460		0.0533	

P-values are based on one-tailed significance test. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$; † $p < 0.11$
Robust standard errors are clustered on each dyad.

holding all other things constant, a standard deviation increase (from 0.021% to 0.074%) in the economic importance to the United States of the less important country in a territorial developing-state MID increases the likelihood of negotiated settlement in that MID by an

average of 15%. If such characteristics of territorial disputes as having a tendency to be more salient (Vasquez 1993) and having a higher likelihood of escalation (Vasquez and Henehan 2001, Senese 2005) allow us to consider territorial disputes as more contentious and serious, then this finding is also in line with the finding in Chapter 3 about the previous contingent impact of economic importance on militarized interstate disputes. The peaceful effects of economic importance to the great powers on interstate relations of developing countries seems to be relevant only for relatively more serious types and degrees of interstate conflicts such as MIDs with actual use of force in Chapter 3 and territorial MIDs in this chapter.

The results as to the independent effect of democracy on negotiated dispute settlement remained the same in the sample of territorial developing-state MIDs. The democracy variable's coefficient estimate was far from statistical significance in Model VII as well. However, the coefficient estimate of the interactive *developed democracy* variable was significant in Model VIII, suggesting a potential contingent effect of democracy. Yet as shown in Figure 14, the marginal effect of democracy on the probability of negotiated dispute settlement in territorial disputes of developing states did not gain 90% statistical significance at any score of economic development. Thus, once again, democracy seems to have neither an independent nor a

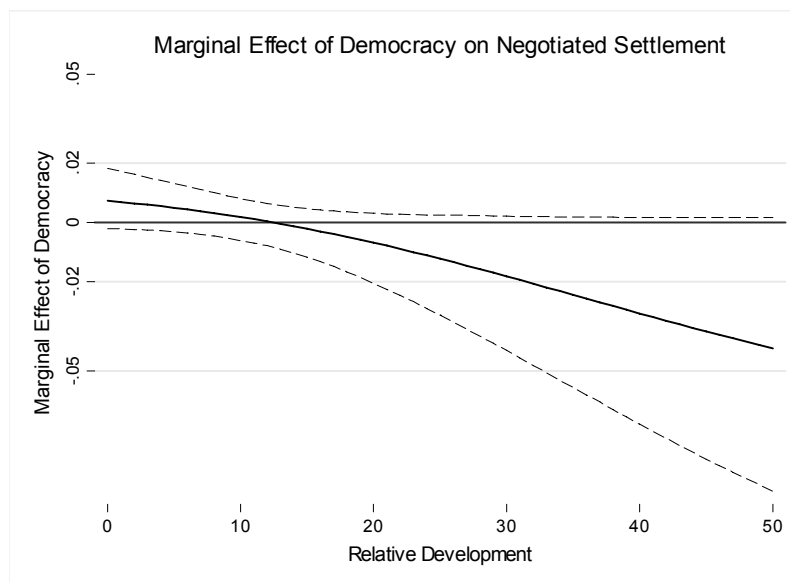


Figure 14: Marginal Effect of Democracy on the Probability of *Negotiated Settlement* in a *Territorial Developing-state MID*, 1951-2000, 90% Confidence Interval.

contingent effect on the probability of negotiated dispute settlement in the militarized disputes of developing states.

Lastly, an interesting change of results occurred in the sign and statistical significance of the economic growth variable in Model IX. The coefficient estimate for the *growth low* variable had a negative sign and was statistically significant at 95%, suggesting that higher levels of economic growth *decrease* the chances of negotiated dispute settlement in dyadic territorial disputes of developing states. All other variables held constant, a shift from no economic growth to 5% economic growth in the country with lower economic performance in a territorial developing-state MID, *decreases* the likelihood of negotiated settlement in that territorial MID, on average, by 22%. This finding contradicts my sixth hypothesis and it is hard to come up with a solid explanation for it. It might be a product of nonrandom sample resulting from missing data on economic growth rates. But if it is not, there seems to be a specific relationship between economic growth and territorial disputes which does not exist between economic growth and non-territorial disputes. It might be that, at least for the relatively less industrialized economies, a growing economy also makes territory more valuable, hence less negotiable. And if this is the case, Choucri and North's (1975) lateral pressure theory gains some relevance to settlement of militarized disputes, if not their outbreak, in the developing world. And a combination of this negative effect of economic growth with the positive effect of economic development in Model VII suggests that economic growth's impact on the settlement of territorial disputes of developing countries has opposite short-term and long-term effects.

4.5.3 Control for Dispute Severity

A control variable that was included in both Dixon and Senese (2002) and Frazier and Dixon (2006) and was found to have a significant positive effect on the likelihood of negotiated settlement was *dispute severity*, for which 'dispute fatality' was used as a proxy indicator. It is argued and expected that prospects for negotiation are going to be higher in disputes with higher severity. I chose to exclude 'dispute fatality' variable in this study because of the problem of missing data on dispute fatalities. About 8.5% of MID observations drop due to missing data when I include a 'fatal dispute' variable. I therefore decided to exclude dispute severity from my basic models and do a separate test for it. A replication of the models in Table 13 with the additional 'fatal dispute' variable is presented in Table 17. *Fatal dispute* is a binary variable that

takes the value of one for each MID in which fatalities reached or exceeded 25 people, 0 otherwise. Data come from Maoz (2005).

As expected, fatal dispute's sign is positive and its effect on negotiated dispute settlement is statistically significant at 99%. Dispute fatality increases the likelihood of a negotiated settlement in a developing-state MID. The substantive effect of third-party mediation supply was also substantial. A developing-state MID with a fatality of 25 people or more was, on average, three times (205%) more likely to be settled with negotiation than was a developing-state MID

Table 17: Logit Estimates of the Probability of a *Negotiated Settlement* in a Developing-state MID with additional control for dispute severity (fatalities), 1951-2000.

	Model X		Model XI		Model XII	
Variables	Coefficient	Robust SE	Coefficient	Robust SE	Coefficient	Robust SE
Economic Importance _{low}	-0.3159	3.9514	-0.1342	1.8419	0.5031	1.8257
Democracy _{low}	0.0093	0.0253	0.0463	0.0503	0.0518	0.0420
Development _{low}	0.0273**	0.0113	0.0372***	0.0142	0.0355**	0.0158
Development*Democracy _{low}			-0.0024	0.0055		
Growth _{low}					1.9879	2.2128
Capability ratio	0.0031	0.0034	0.0031	0.0029	0.0018	0.0039
Alliance	0.3377	0.2698	0.3514*	0.2597	0.2192	0.2769
Major Power	-0.0926	0.3464	-0.0451	0.3487	-0.7356**	0.4132
Developed	-0.2519	0.4324	-0.2573	0.4345	-0.1804	0.5508
Territory	-0.1662	0.2963	-0.1639	0.2984	-0.0229	0.3176
Duration	0.7017***	0.2597	0.6872***	0.2564	0.6912***	0.2798
Duration ²	-0.1068***	0.0372	-0.1043***	0.0365	-0.1141***	0.0415
Fatal dispute	1.4252***	0.2285	1.4057***	0.2227	1.3361***	0.2253
N	1362		1362		1038	
Log likelihood	-354.86603		-354.34183		-282.25869	
Wald chi ² (11/12/12)	83.03		82.46		70.38	
Prob>chi ²	0.0000		0.0000		0.0000	
Pseudo R ²	0.0716		0.0729		0.0777	

P-values are based on one-tailed significance test. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$. Robust standard errors are clustered on each dyad.

with no or less-than-25 fatality.³⁹ Inclusion the *fatal dispute* variable also boosted the fitness of the first two models by almost doubling the *chi square* and *R square* values in those models.

As far as my theoretical variables are concerned, the results in Table 17 are not very dissimilar from the ones in Table 13. As in Model I, the coefficient estimates for *economic importance low* and *democracy low* variables do not gain statistical significance in Model X either. The coefficient estimate for the interactive developed democracy variable was also insignificant in Model XI and the marginal effect of democracy on the probability of negotiated dispute settlement in a developing-state MID did not gain 90% statistical significance at any score of economic development. As for economic development, its sign was still positive and its effect was again statistically significant, this time at an even higher level of certainty (95%, $p < 0.012$). Lastly, in Model XII, economic growth variable failed to achieve statistical significance one more time. Thus, we can conclude that the additional control for dispute fatalities did not result in any remarkable change in the effects of my theoretical variables on negotiated settlement of developing-state MIDs.

4.5.4. Control for Third-Party Mediation

The course as well as the settlement of a militarized dispute can be influenced by outside intervention. Third-party mediation is expected to change the course of militarized interstate disputes (Dixon 1996). Even more, recent research suggests that negotiated settlement of a militarized interstate dispute is more likely when there is some type of third-party mediation (Frazier and Dixon 2006). It is therefore worthwhile to replicate the models in Table 13 with an additional control for third-party mediation. The reader might wonder why I did not include this control in the first place. In fact, I initially wanted to include third-party mediation as a control variable. However, because the widely-used mediation dataset of Berkovitch (1997) was covering years up to 1992 only, hence dropping most of the post-Cold War years, I decided to exclude third-party mediation from the basic models and do a separate test for it.

Models in the following section include an additional control variable named '*mediation supply*', which equals one if a third-party offered mediation to resolve the dispute, and 0 otherwise. '*Mediation supply*' refers to cases in which third-party mediation was offered to

³⁹ Results were very similar when I re-ran the model with an alternate '*fatal dispute*' variable that equaled 1 if there was at least one fatality.

resolve the dispute, regardless of its acceptance or rejection by the parties to the dispute. This type of measurement of mediation is likely to avoid potential selection bias in considerations of only the cases in which mediation actually occurred (Terris and Maoz 2005). What is theoretically relevant here is not whether mediation offer was accepted and actually took place but whether it was offered in the first place and hence existed as a potential facilitator for negotiated settlement. Data for third-party mediation supply come from Terris and Maoz (2005), who merged Zeev Maoz's (2005) dyadic MID dataset with Bercovitch's (1997) mediation dataset. Of the 1218 developing-state MIDs between 1951 and 1992, in 229 of them (18.8%) at least one third-party offered mediation.

Table 18 displays results of logistic regression estimates of the probability of a negotiated settlement in a developing-state MID with additional control for third-party mediation supply. As expected, *mediation supply* variable has a positive sign with statistical significance at 99% in all three models. Third-party mediation offers increase the likelihood of a negotiated settlement in a developing-state MID. The substantive effect of third-party mediation supply was also enormous. The likelihood of negotiated dispute settlement was, on average, 2.2 times (122%) higher in disputes in which there was some type of third-party mediation offer than it was in disputes that did not involve any third-party mediation offer.

As for my theoretical variables, results remain the same for economic importance and democracy. As in Model I, the coefficient estimates for *economic importance low* and *democracy low* variables do not gain statistical significance in Model XIII either. Although the interactive developed democracy variable is significant in Model XIV, the marginal effect of democracy on the probability of negotiated dispute settlement in a developing-state MID did not gain 90% statistical significance at any score of economic development (Figure 15).

An interesting change occurred in the statistical significance of *economic development low* variable. The positive effect of economic development on the likelihood of negotiated dispute settlement lost its statistical significance at 90% ($p < 0.150$). A possible explanation for this significance loss might be that earlier significant findings were biased results that incorrectly attributed partial explanatory power of third-party mediation supply to economic development. But another possible explanation for this loss of significance is that it is a result of shrinkage in sample and exclusion of most of the post-Cold War years. And there seems to be some support for the second explanation. In the first place, the correlation between *economic development low*

and *mediation supply* was very low between the years 1951 and 1992 – a meager ‘-0.05’. This low correlation figure sheds doubts on the first potential argument that the change is driven by third-party mediation supply’s re-claiming some of the explanatory power of economic development. Additionally, the economic development low variable loses its statistical significance in the case of exclusion of post-1992 disputes even without controlling for third-party mediation supply ($p < 0.185$). Thus, it seems that it is the exclusion of post-Cold War cases (and maybe a resultant reduction in sample size) and not the inclusion of third-party mediation

Table 18: Logit Estimates of the Probability of a *Negotiated Settlement* in a Developing-state MID with additional control for *Third-Party Mediation Supply*, 1951-2000.

	Model XIII		Model XIV		Model XV	
Variables	Coefficient	Robust SE	Coefficient	Robust SE	Coefficient	Robust SE
Economic Importance _{low}	0.3310	3.4819	0.4186	3.3064	2.1405	3.6621
Democracy _{low}	0.0142	0.0275	0.0928**	0.0573	0.0210	0.0265
Development _{low}	0.0117 [¥]	0.0112	0.03112**	0.0148	0.0091	0.0121
Development*Democracy _{low}			-0.0056*	0.0037		
Growth _{low}					3.1022*	2.1894
Mediation Supply	1.0621***	0.2410	1.0334***	0.0379	1.2305***	0.2821
Capability ratio	0.0038*	0.0029	0.0040*	0.0029	0.0014	0.0038
Alliance	0.4847**	0.2316	0.5565***	0.2273	0.2550	0.2517
Major Power	-0.1679	0.3505	-0.1004	0.3501	-1.1113***	0.4383
Developed	-0.2006	0.4526	-0.1927	0.4481	0.1379	0.6386
Territory	-0.3315*	0.2553	-0.3450*	0.2540	-0.1854	0.2771
Duration	0.7266***	0.2639	0.7110***	0.2675	0.6590***	0.2826
Duration ²	-0.0993***	0.0376	-0.0969***	0.0379	-0.0995***	0.04283
N	1218		1218		949	
Log likelihood	-362.2828		-360.67623		-274.39723	
Wald chi ² (11/12/12)	79.25		82.57		69.23	
Prob>chi ²	0.0000		0.0000		0.0000	
Pseudo R ²	0.0705		0.0746		0.0916	

P-values are based on one-tailed significance test. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$; [¥] $p < 0.15$
Robust standard errors are clustered on each dyad.

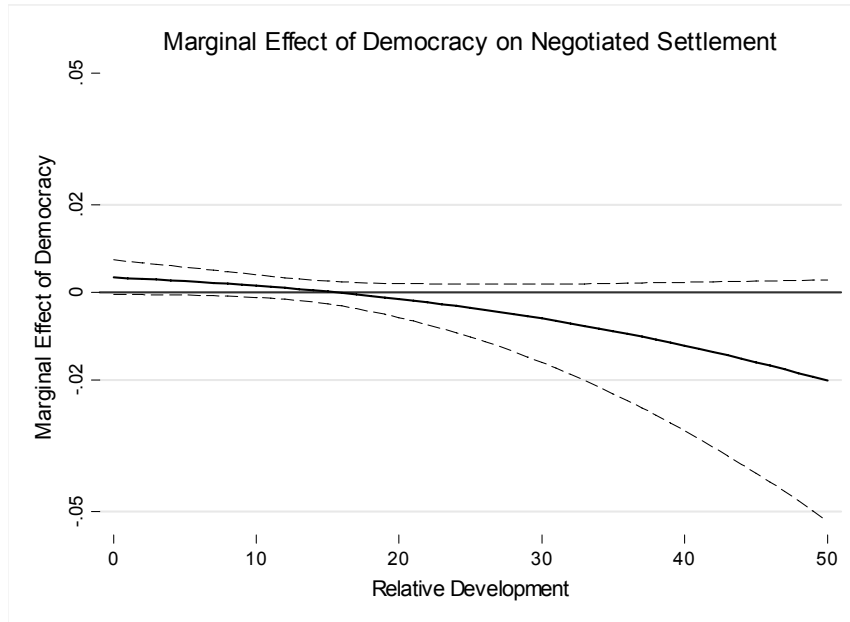


Figure 15: Marginal Effect of Democracy on the Probability of *Negotiated Settlement* in a Developing-state MID with Additional Control for Third-Party Mediation, 1951-2000, 90% Confidence Interval.

supply as a control variable that leads to a significance loss for the *economic development low* variable.⁴⁰

Finally, another interesting change occurred in the statistical significance of *growth low* variable in Model XV. Growth low's sign was positive and its effect was statistically significant at 90% ($p < 0.074$). This finding is in line with my sixth hypothesis. When controlled for third-party mediation supply, higher economic growth rates increase the likelihood of negotiated settlement in a developing-state MID. All other variables held constant, a shift from no economic growth to 5% economic growth in the country with lower economic performance in a developing-state MID, *increases* the likelihood of negotiated settlement in that territorial MID, by an average of 15%.

⁴⁰ Another support for this argument is that when 'mediation supply' and 'fatal dispute' are simultaneously included as control variables, the positive effect of economic development regains its statistical significance at 95% ($p < 0.029$)

4.6. Conclusion:

In this chapter, I have studied negotiated dispute settlement in militarized interstate disputes of developing states. Using some additional control variables relevant for dispute settlement, I tested my hypotheses on the effects on negotiated dispute settlement of economic development, economic growth, economic importance, and democracy. Results provided partial support to my hypotheses. Economic development was found to have a strong positive effect on the likelihood of negotiated dispute settlement across various models and samples, except one that included third-party mediation supply as a control variable and excluded post-1992 years due to data unavailability on mediation. Thus, so long as the negotiated settlement of MID is an indication of a resolve to keep the costs of conflict as low as possible and/or to prevent further escalation of the conflict and is preferred over other settlement options, this finding provides further evidence as to the peaceful impact of economic development on interstate relations of developing countries.

Table 19: The *individual* effects of the theoretical variables across various samples and controls.

	ALL MIDs	No ‘mixed’ MIDs	Territorial MIDs	with ‘Fatal dispute’	with ‘Mediation supply’
Economic Importance			+#		
Democracy					
Development	+#	+#	+ [†]	+#	
Economic Growth			-**		+#
N	1487	1316	542	1362	1218

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$. † $p < 0.11$

However, the statistical support for the effects of economic importance to the great powers or recent economic growth on negotiated dispute settlement in developing-state MID was contingent and ambiguous. Economic importance to the great power was found to have a significant positive effect on the likelihood of negotiated settlement only in the territorial

disputes of developing countries. This finding was in line with the earlier finding in Chapter 3 that the peaceful effects of economic importance to the great powers on interstate relations of developing countries seems to be relevant only for relatively more serious types of interstate conflicts. The results for economic growth were very ambiguous. Economic growth's effect on negotiated dispute settlement in the developing world was insignificant in earlier models with and without mixed dyads. In territorial MIDs, however, economic growth's effect on negotiated dispute settlement became negative and statistically significant. Thus, reserving the caveat about the missing data on economic growth, we could make a tentative conclusion similar to the one we made in Chapter 3 that peaceful fruits of economic development are likely to be reaped in only the long run when it comes to settlement of militarized disputes as well. However, the last finding on economic development, that its positive effect becomes significant when a control for third-party mediation supply is introduced, sheds some doubts on this tentative conclusion. If this significant positive effect is not a result of the non-random shrinkage in sample size due to missing data on economic growth and mediation, then earlier insignificant results on economic growth's effect on negotiated dispute settlement might be a result of model misspecification. We will be able to know this more certainly only when we have more complete data on economic growth as well as third-party mediation.

As for democracy, there was no support for either an individual or an interactive effect of democracy on negotiated dispute settlement in the developing world. These results contradicted earlier finding of Dixon and Senese as to the positive effect of democracy on negotiated dispute settlement. As such, my results provide further support to the arguments about the different mechanisms that are at force in developing vs. developed countries and the ones about the limitedness to the developed world of the peaceful effect of democracy on interstate relations. There seems to be some qualitative differences between developing countries and the developed one when it comes to certain aspects of their interstate relations and it seems that settlement of militarized disputes is one of them.

Finally, a finding with methodological implications was the change of results across different measurements of the same variable. Dixon and Senese measured economic development with nominal values of energy consumption per capita and found a negative relationship between economic development and the likelihood of negotiated dispute settlement, whereas I measured economic development as relative gross domestic per capita and found a

positive relationship between the two.⁴¹ Although it is hard to argue that “absolute vs. relative” discussion is relevant for every issue regarding economic development, this distinction is certainly important when our theories entail a specific measurement. Thus, the empirical analyses in this chapter underlined once again the importance of valid measurement of social phenomena.

⁴¹ Interestingly, when I re-ran all models in this chapter with an economic development variable measured as the nominal values of GDP per capita in constant U.S. dollars, economic development’s effect on negotiated dispute settlement became insignificant. Thus, it seems that the distinction between absolute and relative deprivation is relevant to settlement of militarized disputes in the developing world. Relative evaluations of economic conditions were more influential on negotiated settlement of militarized disputes than were the absolute evaluations of economic conditions.

CHAPTER 5

CONCLUSION

“Say not ‘I have found *the* truth’, but rather, ‘I have found *a* truth’.” – Khalil Gibran.

5.1. The Research

The study of both economic factors as major explanatory variables and developing countries as a distinct field of study has been neglected in the quantitative studies of interstate conflicts. In this research, I have studied the influence of certain economic factors on interstate conflicts of developing countries. I provided an approach that rested on the concept of satisfaction and related economic factors to interstate conflict in the developing world through their effects on states’ satisfaction with the international and local status quo.

I argued in Chapter II that overall economic development levels and recent economic growth rates of developing countries influence these countries’ “willingness” to use force to settle their disputes with other countries. Lower overall economic development and recent economic failures result in increasing dissatisfaction with the international and local status quo, thereby increasing developing countries’ overall belligerence as well as their willingness to take risks. I also argued that the economic importance of developing countries to the great powers influences the “opportunities” for conflict in the developing world. The relative unimportance to the great powers of poorer countries increases opportunities for conflict in the developing world. Thus, I concluded that poorer countries with lower rates of economic growth and with lower importance to the great powers constitute the weakest links in the “third world peace”. Additionally, I argued that because economic conditions influence the foundation, performance, and survival of democratic systems, democracy would not have an independent peaceful effect on interstate relations of developing countries; instead, democracy’s influence on interstate relations of a developing country would be contingent on that country’s economic development level.

In Chapter III and IV, I tested several hypotheses derived from my arguments in Chapter II on involvement in a dyadic militarized interstate dispute and the settlement of militarized interstate disputes, respectively. My empirical results provided strong support to some of my hypotheses and partial support to others. My hypothesis regarding economic development's peaceful effects on the interstate relations of developing countries received the most consistent support in both chapters. On the one side, higher economic development levels of states in a developing-state dyad were found have a strong *negative* impact on the probability of lower as well as higher level MIDs in the developing world. On the other side, higher economic development was found to *increase* the likelihood of negotiated dispute settlement across various models and samples. Thus, my first conclusion is that economic development is a significant component of interstate peace in the developing world.

However, contrary to my theoretical expectations, current growth rates were not found to have a significant impact on MIDs in the developing world, except for full-scale wars, or a consistent effect on the probability of negotiated settlement of disputes. When combined with the above-mentioned negative impact of overall economic development, this finding might suggest that, in most cases, the fruits of economic growth are likely to be reaped in the long run rather than the short run. However, given the serious problem of non-random missing data on economic growth rates of particularly poorer developing countries, we have to be cautious about drawing firm conclusions regarding the impact of economic growth on militarized interstate disputes in the developing world and their settlements.

The results in Chapter III and IV provided partial support to my hypothesis on economic importance to the great powers. In both chapters, economic importance to the great powers was found to have significant effects only when relatively severer conflicts were at stake. In Chapter III, higher economic importance to the great powers was found to decrease the likelihood of higher-level MIDs which included actual use of force, but not MIDs in general. In the same vein, in Chapter IV, higher economic importance to the great powers was found to increase the likelihood of negotiated settlement only in the 'territorial' militarized disputes of developing countries. Thus, a second conclusion of this study is that economic importance of developing countries to the great powers is an important element of the "interstate conflict puzzle" in the developing world, at least with regard to conflicts with higher severity.

Contrary to the dominant arguments in the existing “democratic peace” literature yet in line with my theoretical expectations, my findings in both chapters suggested unequivocally that democracy had no independent/individual peaceful effect either on the occurrence of militarized interstate disputes or on the settlement of such disputes. These findings confirm Henderson’s (2003) and Goldsmith’s (2006) earlier findings and suggest that conflict-dampening as well as conciliation-inducing effects of democracy is limited to interstate relations among developed countries. As such, what has so far been known as “democratic peace” might more appropriately be relabeled the “*developed* democratic peace.”

However, my findings in Chapter III supported my contingent effect hypothesis. So far as involvement in dyadic MIDs are concerned, the peaceful effect of democracy in the developing world was found to be dependent on the development levels of states in a dyad. Democracy had a discernable conflict-dampening effect only in relatively richer developing-state dyads. This finding provides additional support to earlier arguments about an “economic limitation” to the democratic peace (Mousseau 2000, 2002; Mousseau, Hegre, and Oneal 2003). Thus, economic development had a constraining effect on democracy’s impact on dyadic militarized interstate disputes not only across the developed versus developing worlds, but also within the developing world as well. In the results of analyses of settlements of developing-state-MIDs in Chapter IV, however, this contingent effect of democracy was nonexistent. There was no support for either an individual or a contingent effect of democracy on the probability of negotiated dispute settlement in militarized interstate disputes in the developing world. It seems that even the contingent peaceful effect of democracy in the developing world evaporates once militarized interstate disputes break out.

Figure 16 provides a summary of the empirical findings of this study. 1) Economic development has a strong direct effect on the achievement of relative interstate peace within the developing world.⁴² 2) Recent economic growth rates have weak direct effect on relative interstate peace within the developing world. 3) Economic importance to the great powers has strong direct effect on relative interstate peace within the developing world, especially when severer disputes are at issue. 4) Democracy only has a contingent effect on relative interstate

⁴² Additionally, economic development has various indirect effects on relative interstate peace in the developing world through its positive effects of economic importance to the great powers, democracy, and alliance formation. When dyadic alliance ties in the developing world were regressed on all other theoretical and control variables used in this study, economic development was found to have a strong positive effect on dyadic alliance, and this effect was statistically significant at 99.9%.

peace within the developing world. 5) Dyadic alliances have very strong direct effects on relative interstate peace within the developing world.

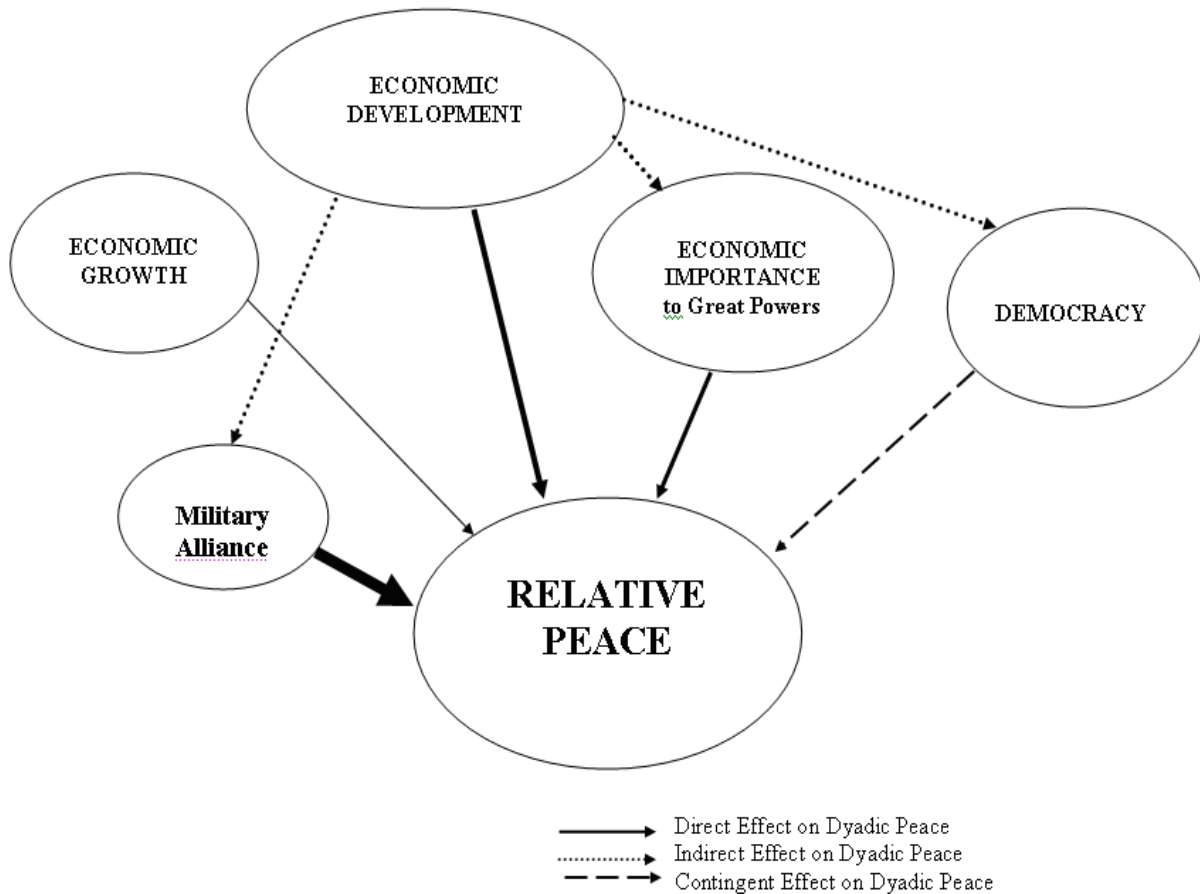


Figure 16: Summary of Findings: The Economy and Correlates of Peace in the Developing World

5.2. Importance of Empirical Findings and Implications for Future Research

Earlier in this study, I highlighted the importance of context in international relations and made a case for the separate analysis of interstate conflict in the developing world. The empirical results in Chapters III and IV demonstrated once again the importance of context in international relations. The marked contrast between the results in some earlier studies and the results in this study regarding the effects of economic development and democracy on the occurrence of militarized interstate disputes and their settlements provide further support to the arguments about the existence of different mechanisms that are at work in developing versus developed

countries (Ayoob 1995). There seems to be some qualitative differences between developing countries and the developed ones when it comes to certain aspects of their interstate relations and it seems these differences matter at least so far as involvement in militarized interstate disputes and settlement of such disputes are concerned. There is no reason not to suspect that the qualitative differences between the developing and the developed world are relevant to other research programs in the field international conflict, such as the purported peaceful effects of international trade or international organizations. It is up to the scholars of international conflict to investigate further the relevance of the differences between the developing and the developed world and how these differences relate to international conflict.

Given the important role of content in this study, my findings remind us once again that we should be more humble in our propositions and should avoid universal arguments in political science. Given the *dynamic* and *varying* nature of the object of social scientific research, I doubt that there is much room for universal theories in social sciences. King, Keohane, and Verba (1994, p. 103) posit that those theories that are put forward as applying to everything and everywhere are either presented in a “tautological manner” (in which case they are neither true or false) or in a way that allows “empirical disconfirmation” (in which case we will find that they make incorrect predictions). They go on to argue that most useful social science theories are valid under particular conditions (for instance, interstate relations where the use of force is not an issue) or in particular settings (for instance, in developed but not in less developed countries). It is here that we (re)appreciate the importance of contextual analysis, for they let us know under what circumstances our explanations hold.

The empirical results of this study also highlighted the role of economic factors in interstate relations of developing countries. Thus, scholars of international conflict should take economics more seriously when studying “third world security.” The consistent significant effect of economic development, in particular, across various samples and models suggest that models that fail to control for economic development are going to be underspecified.

Another interesting finding of this study was the variance in the substantive effects of many theoretical and control variables across different types/degrees of militarized interstate disputes (MIDs). Such prominent variables as economic development, economic growth, alliance, and major power involvement had varying –even opposite- impacts on MIDs with differing degrees of severity. As such, results in this study call into question the traditional

assumption that we can treat all militarized interstate disputes (MIDs) as units of one single meaningful group. Rather, it seems that some factors have divergent impacts on different types of MIDs depending on disputes' severity, suggesting that the differences in the decision-making and data-generating processes in lower and higher level militarized disputes are far from negligible. If this is the case, students of international conflict should be more cautious about extracting general conclusions from analyses of specific MIDs.

Like any other study, this one also comes with its own limitations. A major limitation in studying interstate relations of less developed countries is the limited availability of data on many variables. This study shares the common missing data problem regarding variables such as democracy, international trade, dispute fatality, and economic growth. The most crippling missing data problem was the one on economic growth rates. Although small yearly variations in GDP per capita levels allowed us to fill some missing GDP per capita values with the next or previous year's values, this was not the case for economic growth, which has a larger annual variance range and a smaller value range. Consequently, in models with the economic growth variable, over 20% of the observations had to be dropped due to unavailability of data on economic growth. This is a significant amount of data loss. Moreover, because the missing data on economic growth are disproportionately data on the poorer developing countries, the samples used in models with the economic growth variable are likely to be unrepresentative samples, thereby producing biased results. In Chapter III, for example, exclusion of relatively poorer dyads due to missing data on economic growth favored democracy's negative effect on MIDs over development's negative effect on MIDs. The importance of the non-randomness of the missing data on economic growth goes beyond this study. It is also relevant to any study that includes economic growth as an independent variable and assumes away randomness of the excluded cases. Scholars of international conflict ought to be more cautious when they make inferences from models that include economic growth as an independent variable.

Again like any other quantitative study, this study also relies on the researcher's personal – and inevitably subjective - choices with respect to appropriate measurements of explanatory variables. I used specific measurements regarding economic development (relative development), economic growth (average growth in the previous two years), democracy (continuous scale), and economic importance to the great powers (importance for the U.S. economy). The results remained very much the same in replications of my models with alternate

measurements of economic development (GDP per capita in constant dollars), economic growth (average growth in the previous three years), and democracy (dichotomous score). Thus, the results in this study regarding these three variables are sufficiently robust.

As for economic importance to the great powers, I used only one measurement: economic importance for the United States. In an ideal setting, I would be measuring the economic importance of developing countries to *all* the great powers. However, missing bilateral trade data for some major powers such as the Soviet Union and China were at terrible levels, 38% and 40% respectively. Therefore, to avoid inconsistent amalgamation of trade data, I eventually decided to use economic importance for the U.S. economy as a proxy for economic importance to the great powers. I believe that American economic and military predominance in the post-WWII era gave some justification for this measurement. Nevertheless, trade is not the only major economic activity. An alternate measurement of economic importance would be foreign direct investment (FDI). Indeed, some studies (Souva and Prince, 2006) utilized FDI values as a measure of economic dependence and found that they had an independent effect on interstate conflict even when the effect of trade dependence was controlled. I avoided using FDI to measure economic importance to the great powers on two grounds: 1) trade's dominance over investment in the international economy until very recently and 2) data unavailability on FDI for years before 1970. As foreign direct investment becomes more embedded in world economy and as the data on international trade as well as foreign direct investment becomes more complete, future research will be able to shed light in a more reliable and comprehensive way into the multiple aspects of economic importance of developing countries for world economy and how they relate to international relations of these countries.

5.3. Policy Implications

The results of this study also have very important implications for policy. First and foremost, they suggest that, in the developing world, economic development is not just an issue of economic or humanitarian concern, but also a fundamental security issue. To achieve sustainable global peace, policies that would foster economic development in the developing world as well as economic integration of developing countries with the world economy ought to be encouraged and supported on a global scale. Also, current overly-confident expectations about

the peaceful consequences of democratization in the developing world should be re-evaluated. Democratization in the developing world does not seem to bring international peace unless it is coupled with economic development. It is not democracy, but economic development that seems to be the dominant factor in the “Third World peace.”

APPENDIX A

PAIR-WISE CORRELATIONS (CHAPTER 3)

N=12175 (Model I & II)

	mid	capratio	alliance	developed	demlow	devlow	dem*dev	econimp
mid	1.0000							
capratio	0.0994	1.0000						
alliance	-0.1096	-0.1145	1.0000					
developed	0.0104	0.2600	-0.1892	1.0000				
demlow	-0.0245	-0.0557	0.0446	0.1419	1.0000			
devlow	-0.0433	0.0538	0.1276	0.3749	0.1313	1.0000		
dem*dev	-0.0417	0.0015	0.0489	0.3634	0.7702	0.4862	1.0000	
econimp	-0.0030	0.2115	0.0355	0.2557	0.1269	0.1795	0.2144	1.0000

N=9552 (Model III)

	mid	capratio	alliance	developed	demlow	devlow	dem*dev	econimp	growthlow
mid	1.0000								
capratio	0.1151	1.0000							
alliance	-0.1091	-0.1299	1.0000						
developed	-0.0004	0.2629	-0.1917	1.0000					
demlow	-0.0328	-0.0483	0.0704	0.1681	1.0000				
devlow	-0.0315	0.1130	0.1184	0.4550	0.2170	1.0000			
dem*dev	-0.0435	0.0184	0.0593	0.3950	0.7713	0.5799	1.0000		
econimpusa	0.0016	0.2447	0.0162	0.2869	0.1236	0.2319	0.2201	1.0000	
growthlow	0.0139	0.1424	-0.0213	0.1468	0.0459	0.1013	0.0866	0.1076	1.0000

N=2623 (Excluded cases in Model III)

	mid	capratio	alliance	developed	demlow	devlow	dem*dev	econimp
mid	1.0000							
capratio	0.0523	1.0000						
alliance	-0.1041	-0.0514	1.0000					
developed	0.0444	0.2529	-0.1790	1.0000				
demlow	0.0289	-0.0605	-0.1641	0.0396	1.0000			
devlow	-0.0793	-0.0733	0.1974	0.2139	-0.0588	1.0000		
dem*dev	-0.0264	-0.0555	-0.0605	0.2406	0.7588	0.3450	1.0000	
econimp	-0.0246	0.1557	0.1606	0.1211	0.0444	0.1095	0.0546	1.0000

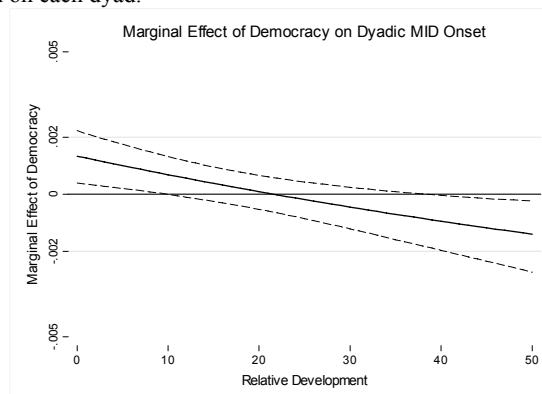
APPENDIX B

MID ONSET MODEL

Table 20: Logit Estimates of the Probability of a *Militarized Interstate Dispute Onset* in a Developing-state Dyad, 1951-2000.

Variables	Model I-b		Model II-b		Model III-b	
	Coefficient	Robust SE	Coefficient	Robust SE	Coefficient	Robust SE
Economic Importance _{low}	0.3011	0.5038	0.4287	0.5206	0.0159	0.5241
Democracy _{low}	0.0048	0.0103	0.0318**	0.0148	0.0046	0.0104
Development _{low}	-0.0101**	0.0048	-0.0034	0.0046	-0.0026	0.0057
Development*Democracy _{low}			-0.0014***	0.0006		
Growth _{low}					-0.2535	0.9476
Capability ratio	-0.0058***	0.0014	-0.0060***	0.0014	-0.0060***	0.0018
Alliance	-0.2202**	0.1241	-0.2273***	0.1252	-0.2912***	0.1234
Major Power	0.5946***	0.1533	0.6294***	0.1541	0.5165***	0.1601
Developed	0.2926*	0.2230	0.3333*	0.2160	0.1228	0.2654
Peaceyears	-0.0687***	0.0172	-0.0683***	0.0172	-0.0848***	0.0217
Spline 1	0.0206***	0.0023	0.0205***	0.0023	0.0212***	0.0026
Spline 2	-0.0118***	0.0012	-0.0112***	0.0012	-0.0116***	0.0013
Spline 3	0.0020***	0.0001	0.0020***	0.0001	0.0021***	0.0002
N	12175		12175		9552	
Log likelihood	-2725.0063		-2721.4522		-2095.1613	
Wald chi ² (11/12/12)	473.55		479.48		455.85	
Prob>chi ²	0.0000		0.0000		0.0000	
Pseudo R ²	0.1591		0.1602		0.1827	

P-values are based on one-tailed significance test. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$. Robust standard errors are clustered on each dyad.



APPENDIX C

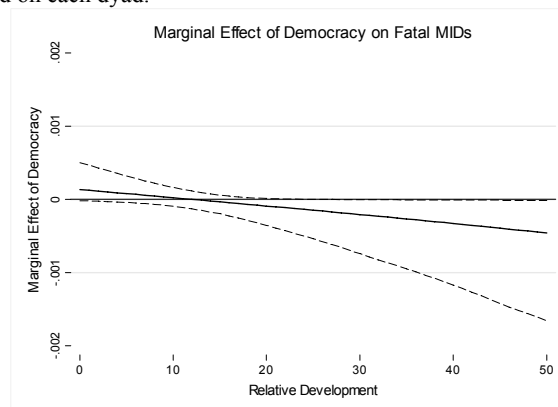
FATAL-MID MODEL

Table 21: Logit Estimates of the Probability of a MID with at least 25 fatalities in a Developing-state Dyad, 1951-2000.

	Model IV-b		Model V-b		Model VI-b	
Variables	Coefficient	Robust SE	Coefficient	Robust SE	Coefficient	Robust SE
Economic Importance _{low}	-2.7787	2.7625	-2.9326	2.7762	-1.8470	3.0143
Democracy _{low}	-0.0015	0.0250	0.0607*	0.0382	-0.0100	0.0309
Development _{low}	-0.0080	0.0153	-0.0072	0.0090	0.0051	0.0201
Development*Democracy _{low}			-0.0045**	0.0022		
Growth _{low}					-1.2168	1.7182
Capability ratio	-0.0197**	0.0090	-0.0200**	0.0094	-0.0171*	0.0121
Alliance	-0.7996***	0.2948	-0.8231***	0.3016	-1.0826***	0.3511
Major Power	0.2512	0.3420	0.3145	0.3361	-0.6607*	0.4186
Developed	-1.8211**	0.8167	-1.7058**	0.7747	-1.9523**	1.1391
Peaceyears	-0.1915***	0.0747	-0.1913***	0.0740	-0.1454***	0.0539
Spline 1	0.0221**	0.0089	0.0222**	0.0088	0.0300***	0.0111
Spline 2	-0.0133***	0.0049	-0.0134***	0.0049	-0.0167***	0.0062
Spline 3	0.0029***	0.0010	0.0029***	0.0010	0.0031***	0.0012
N	12046		12046		9456	
Log likelihood	-578.37406		-576.12312		-381.93941	
Wald chi ² (11/12/12)	95.06		97.48		59.98	
Prob>chi ²	0.0000		0.0000		0.0000	
Pseudo R ²	0.1945		0.1977		0.2127	

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$.

Robust standard errors are clustered on each dyad.



APPENDIX D

PAIR-WISE CORRELATIONS (CHAPTER 4)

N=1487 (Model I & II)

	NegSet	demlow	devlow	econimp	capratio	alliance	developed	majorpow	territory	duration	duration ²
Negset	1.0000										
demlow	0.0040	1.0000									
devlow	0.0245	0.0794	1.0000								
econimp	-0.0120	0.0917	0.2222	1.0000							
capratio	0.0202	0.0706	0.0314	-0.0178	1.0000						
alliance	0.0705	0.1593	0.0715	-0.0003	-0.0635	1.0000					
developed	-0.0266	-0.0042	0.5488	0.2186	0.0855	-0.1619	1.0000				
majorpow	-0.0293	-0.0878	0.2004	0.2559	0.2723	-0.2156	0.4619	1.0000			
territory	-0.0028	0.1326	-0.0455	0.0051	-0.1370	0.0244	-0.1810	-0.1446	1.0000		
duration	0.0493	0.0016	-0.1490	-0.0556	-0.0496	-0.0763	-0.1491	-0.0722	0.2150	1.0000	
duration ²	0.0199	0.0018	-0.1553	-0.0610	-0.0514	-0.1032	-0.1463	-0.0720	0.1975	0.9642	1.0000

N=1134 (Model III)

	negset	demlow	devlow	econimp	capratio	alliance	developed	majorpow	territory	duration	duration ²	growth
Negset	1.0000											
demlow	0.0279	1.0000										
devlow	0.0281	0.0977	1.0000									
econimp	-0.0108	0.1049	0.2449	1.0000								
capratio	-0.0060	0.1383	0.0548	-0.0275	1.0000							
alliance	0.0705	0.2553	0.0758	-0.0290	-0.0642	1.0000						
developed	-0.0423	0.0406	0.5509	0.2453	0.0141	-0.1770	1.0000					
majorpow	-0.0837	-0.0679	0.2382	0.2875	0.1452	-0.2484	0.4812	1.0000				
territory	0.0294	0.0830	-0.0582	-0.0093	-0.1135	0.0183	-0.1706	-0.1359	1.0000			
duration	0.0371	-0.0255	-0.1642	-0.0473	-0.0208	-0.0734	-0.1675	-0.0677	0.2685	1.0000		
duration ²	0.0071	-0.0293	-0.1709	-0.0525	-0.0272	-0.0995	-0.1700	-0.0648	0.2558	0.9636	1.0000	
growth	0.0066	0.0435	0.0714	0.1308	0.0115	-0.0854	0.1473	0.1793	0.0410	0.0254	0.0236	1.0000

N=353 (Excluded cases in Model III)

	negset	demlow	devlow	econimp	capratio	alliance	developed	majorpow	territory	duration	duration ²
Negset	1.0000										
demlow	-0.0834	1.0000									
devlow	0.0116	0.0053	1.0000								
econimp	-0.0526	-0.0145	0.1136	1.0000							
capratio	0.0811	-0.0653	-0.0281	0.1169	1.0000						
alliance	0.0675	-0.2151	0.0619	0.2095	-0.0516	1.0000					
developed	0.0219	-0.1388	0.5609	0.2393	0.2065	-0.1068	1.0000				
majorpow	0.1572	-0.1597	0.0541	0.0892	0.5664	-0.1022	0.4144	1.0000			
territory	-0.1189	0.3090	0.0122	0.0661	-0.1849	0.0297	-0.2051	-0.1800	1.0000		
duration	0.0953	0.1006	-0.1036	-0.0598	-0.1337	-0.0654	-0.1142	-0.0831	0.0601	1.0000	
duration ²	0.0660	0.1099	-0.1158	-0.0514	-0.1265	-0.0929	-0.1026	-0.0901	0.0417	0.9664	1.0000

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BIOGRAPHICAL SKETCH

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