Power, Status and Conflict Behavior:
Brazil as an Emerging Power in the International System

July 2014

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Abstract

Emerging powers like Brazil present a conundrum for both policymakers and academics, since they are unlike the majority of states for which diplomacy and theory has been developed. Uncertainty about Brazil’s rise and its intentions appears to have led some Latin American states, such as Venezuela, to try and balance against potential Brazilian dominance, while others, such as Argentina and Chile, attempt to work out ways to define the limits of Brazilian leadership through more cooperative means. Structural theories of international relations expect that Brazil’s rise in status, like those of all would-be great powers, should lead rather deterministically to conflict. Foreign policy approaches suggest that internal and external shocks may promote change, but recognize many factors also work to promote foreign policy stability. We investigate whether and how Brazil has changed its foreign policy orientation and conflict behavior in international affairs using a combination of qualitative and quantitative methods. Drawing upon foreign policy role theory, we analyze Brazil’s status in Latin America from 1960 to the present. We also examine changes in Brazilian conflict behavior using Bayesian MCMC Poisson change-point statistical models designed to capture structural breaks. Despite Brazil’s increasing claims to occupy the status of regional leader in recent years, we find little evidence of changes in Brazilian conflict behavior. Thus far, it appears that Brazil’s emergence as a potential great power has caused little disruption to the international system.
Introduction

The rise of Brazil has caught the attention of decision makers, pundits, academics, and the global media. Brazil’s rapid economic growth and development has led many observers to note a more assertive foreign policy orientation in recent years as well as greater interest in the provision and management of regional security. Brazil has campaigned for a seat on the U.N. Security Council and defied traditional alignment with the U.S. to engage Iran. Are these types of behaviors just the beginning of an assertive and more militarized foreign policy or will Brazil simply be satisfied with recognition of her status as a regional leader, and a member of the exclusive BRIC and IBSA clubs? Structural theories of international relations (IR) tend to see a deterministic relationship between rising powers and revisionist foreign policy and conflict behavior designed to bring about system change, while many approaches to foreign policy analysis recognize the domestic and international constraints on such revisionism. We attempt to contribute to this debate by examining Brazil’s beliefs about its identity through time, as well as its conflict behavior.

We accomplish this by examining both qualitative and quantitative evidence regarding Brazilian identity and behavior. We begin with a qualitative analysis of Brazil state identity as expressed through national role conceptions (NRCs).\(^1\) The role set of NRCs at any point in time helps us to understand how Brazil conceives of itself. Such self-conceptions provide an internal guide for foreign policy action and provide expectations to the rest of the world about Brazil’s international behavior. We look for significant changes in the role set that may lead to major foreign policy reorientation. Such reorientations may also be reflected in changes in Brazil’s conflict behavior. Our quantitative analysis uses a Bayesian Markov chain Monte Carlo (MCMC) Poisson change-point model to investigate whether there have been any dramatic changes in Brazilian conflict behavior over time. We suggest that by comparing Brazil’s words and

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\(^1\) A role is a recognized position or the kind of person it is possible to be in a social system (Thies, 2010). A NRC as conceived originally by Holsti (1970) is a state’s self-conceived role—thus, key foreign policy decision makers articulate either structural positions or the kinds of state it is possible to be.
deeds through NRCs and militarized interstate disputes (MIDs), we can assess whether claims about potential threats emanating from rising powers like Brazil are accurate.²

Our qualitative and quantitative analyses find little change in Brazil’s identity and remarkable continuity in conflict behavior across time. While individual NRCs may come and go, the balance of the role set reflecting Brazil’s identity has continuously stressed a role as a regional leader. Our statistical analysis of Brazil’s conflict behavior indicates that there were no structural breaks in Brazil’s conflict behavior, or at most one prior to 1900 rather than in later periods as would be expected from structural theories. Overall, we find little evidence in words or deeds, identity or militarized conflict that lends credence to the notion of an overly assertive or aggressive Brazil as it emerges into potential great power status.

**Rising Powers and Foreign Policy**

The problem of understanding change in IR and foreign policy has bedeviled scholars since the origin of the field, and in particular, since the theoretically unanticipated peaceful end of the Cold War (Rosati, Sampson and Hagan, 1994). The fact is that foreign policy for most states, most of the time, demonstrates remarkable continuity. Scholars tend to be taken off guard when major changes occur in the international system and in the foreign policy orientations of states. The reasons for this tend to be that the underlying structural characteristics of most states are stable. Rising powers, however, tap into a long-established source of change: economic growth that changes the global distribution of power and thereby encourages revisionist foreign policy goals that disrupt the international political order.

In most IR approaches to understanding change, the relationship between rising powers and changes in the international political order is relatively deterministic. Gilpin’s (1981) well-known realist argument is based on five key assumptions. First, the international system is in equilibrium if no state believes it is profitable to try and change it. Second, a state will attempt to change the system if it believes the benefits exceed the costs. Third, a state will engage in territorial, economic or political expansion until the

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² A MID is “the threat, display or use of military force short of war by one member state is explicitly directed towards the government, official representatives, official forces, property, or territory of another state” (Jones, Bremer and Singer, 1996: 168).
marginal costs are equal to or exceed the marginal benefits. Fourth, once an equilibrium is reached, the tendency is for the economic costs of maintaining the status quo to rise faster than the economic capacity to support it. Finally, if this disequilibrium is not resolved, then the system must change to reflect a new distribution of power. The differential growth of power is the primary driver of change, and war is the typical mechanism that leads to movement from one equilibrium point to another.

Many of Gilpin’s ideas about the role of uneven economic growth were derived from Organski’s (1958) and Organski and Kugler’s (1980) work on power transition theory (see also Levy 2008). In this approach, the international system changes as states rise and fall. Uneven economic growth drives this dynamic, and is itself a product of changes in population, economic productivity, and the state’s ability to extract resources from society. The dominant power in any system sets up the political order. Other great powers, middle powers and smaller states that benefit from the existing system are considered satisfied states that ally with the dominant power, bandwagon, and work to support and reinforce the international political order. Dissatisfied great powers pose the greatest threat to this system, as they believe the institutions, rules and division of benefits in the system are unfair. Dissatisfied great powers are most problematic when their power continues to grow relative to the dominant state. The key proposition that emerges from this theoretical approach is that war is most likely to occur when the dissatisfied challenger begins to achieve power parity with the dominant state. Once war occurs, and the challenger has overtaken the dominant state, then a new international system with new rules and political order is established.

Structural theories like these abound to account for the dynamic of systemic leadership, including additional work on Long Cycle Leadership Theory (Modelski, 1987), Power-Cycle Theory (Doran, 1991), Hegemonic Stability Theory (Kindleberger, 1973) and others (see Lake, 1993 for a review). These structural theories all presume that underlying changes in economic growth will inexorably lead to political revisionism, war, and ultimately a new international system with new leadership. Economic growth must also then be responsible for reordering domestic political priorities, including the foreign policy orientations of the rising powers. It is not surprising that these structural theories black-box this domestic process, especially given that some argue theories of
international relations cannot also be theories of foreign policy (Waltz, 1979; cf. Elman, 1996). Classical realists have often turned to typologies of states, such as “revisionist” vs. “status quo” states (Wolfers, 1962) to explain foreign policy orientations in the international system. Schweller’s (1997) neoclassical realism expands the typology to wolves, lions, lambs, jackals, owls, hawks, doves, foxes, and ostriches—each of whom is thought to engage in different foreign policy behavior based on their interests and capabilities. Yet, decisions to engage in foreign policy revisionism are still decisions, even if they are driven by structural imperatives (Hermann, 1990: 20; Carlsnaes, 1993; Welch, 2005). Leaders of rising powers must still work within their cultural and institutional milieu to reorient foreign policy in service of new global goals (Sprout and Sprout, 1965). We turn to the foreign policy literature for further insight into the potential for change in foreign policy.

Much of the study of foreign policy change is rooted in the notion analogous to the aforementioned structural IR theories that there is a stable foreign policy equilibrium that is disrupted by some internal or external shock that provides leaders a window of opportunity to reorient policy (Barnett, 1999; Gustavsson, 1999). Rosenau’s (1981) early work treated the state and its foreign policy decision makers as “adaptive entities” that work to minimize costs and maximize opportunities in the environment, much like Gilpin’s states in the international system. Decision makers adapt to the domestic and international environments, resulting in policy stasis until some shock occurs. Goldmann’s (1988) approach similarly identifies “policy stabilizers” that work to make foreign policy sticky, even as destabilizers in the environment lead policymakers to want to change courses to adapt. Volgy and Schwarz (1994) describe the various “webs of constraint” that work to maintain policy continuity, while Kleistra and Mayer (2001) discuss “carriers and barriers” for change.

Not all change is presumed to be abrupt and dramatic though. Hermann (1990) identifies four levels of possible foreign policy change: adjustment changes (in effort and scope), program changes (means and instruments), problem/goal changes (ends and purposes), and international orientation change (global role and activities). While the first level is somewhat incremental and even routine, a “major foreign policy redirection” includes the last three levels of change. According to Hermann, these changes can be
leader driven, a result of bureaucratic advocacy, domestic restructuring or external shocks. Internal and external shocks are again most likely responsible for major shifts in foreign policy orientation.

Skidmore (1994) proposes a more general model of foreign policy response rooted in the notion that change can be sporadic or evolutionary. The two familiar variables are the degree of external compulsion and the degree of domestic constraint. When external compulsion is high, we are likely to see policy adaptation and when it is low, we are likely to see rigidity. Domestically, a strong, centralized state that is autonomous from society can institute policy change with relatively low costs, while a weak, decentralized state may be unable to institute policy change. Skidmore suggests that this combination of variables underlies traditional realist and institutionalist interpretations of foreign policy change. Realism can best explain the behavior of middle powers that have modest international power, yet a great deal of domestic autonomy. Their sensitivity to external compulsion and flexibility to act in the domestic arena provides an opportunity for foreign policy change. High degrees of sensitivity and flexibility thus produce more evolutionary foreign policy change. Institutional approaches are better suited to explaining the behavior of states with high levels of international power and low levels of domestic autonomy, such as hegemons. The United States, for example, has a high degree of international capabilities and is therefore less sensitive to external compulsion, yet is relatively constrained on the domestic level. Foreign policy rigidity is more likely in this scenario. Low degrees of sensitivity and flexibility thus produce only sporadic change in foreign policy.

The kind of nuance introduced by Skidmore into the notion of foreign policy response to external shocks inducing major change is further explored in the literature grounded in role theory.\(^3\) Holsti (1982: 2) distinguished between normal foreign policy change, which is “slow, incremental and typified between low linkages between different sectors” of functional activity, and “foreign policy restructuring,” that “takes place more quickly, expresses an intent for fundamental change, is non-incremental and usually involves the conscious linking of different sectors.” Foreign policy restructuring is thus

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\(^3\) See Harnisch (2011), Thies (2010), Thies and Breuning (2012) for recent overviews of foreign policy role theory.
“the dramatic, wholesale alteration of a nation’s pattern of external relations” (Holsti, 1982: ix). Holsti actually concluded that small, developing states were more likely to engage in foreign policy restructuring, including China, which he argued moved from national role conceptions (NRCs) highlighting dependence to self-reliance to isolation to diversity between 1959 and 1976. Although Holsti (1982: 198) was somewhat skeptical that we could explain why some countries engage in foreign policy restructuring, while others do not, he ultimately suggested that countries that did restructure were mainly attempting to reassert autonomy. Yet, the attempt to restructure foreign policy did not always produce the desired results. In general, Holsti argued that success is more likely when states choose foreign policy roles that do not threaten the hegemon or its strategic interests. They are therefore less likely to end up in conflict over their new roles, rather than subject to “coercive, violent, and punitive actions” (Holsti, 1982: 218).

For example, Germany’s foreign policy role conception as a civilian power underwent scrutiny as a result of a dramatic external/internal shock in the 1990s posed by reunification (Harnisch, 2001). Structural realists would suggest that Germany’s rising power should lead to the remilitarization of the state and its foreign policy, institutionalists would suggest continuity in the civilian power role due to Germany’s embeddedness in a variety of international institutions, and constructivists would also expect continuity based on the stability of German foreign policy culture. Harnish (2001) suggests a role theoretic approach better explains the aspects of change and continuity of German foreign policy than any of the existing theoretical paradigms. He finds that Germany has by and large kept its traditional civilian power role conception, though changes to that role conception thought to be induced by relative changes in power and institutions were actually mediated through the existing civilian power role conception. Thus, the end of the Cold War may have caused significant reflection on Germany’s primary role conception and enactment, but it was not determinative in changing its foreign policy orientation. This example is a strong caution to structural determinism, and leads us to adopt a foreign policy orientation to rising powers that considers the “carriers and barriers” to change in foreign policy orientation and behavior.

In this paper, we consider the foreign policy orientations of states to be comprised of the role sets they have developed. A role set consists of any number of roles attached
to a single status (Deng, 2008; Thies, 2001). The aforementioned civilian power role might also contain auxiliary roles, such as mediator of conflict, internal developer, international developer, peacekeeper, and the like. In our case, we are interested in the role set developed by Brazil whose status is now widely regarded as a rising power within the existing international hierarchy. The role set at any point in time also represents a snapshot of Brazil’s self-conceived identity.4 There have been no previous attempts to classify Brazil’s role set over time, though the literature we review below frequently refers to roles as well as critical junctures when Brazilian foreign policy undergoes redirection or restructuring. Those critical junctures include periods when the underlying economic development model changes leading to changes in material power. Are there other internal or external shocks that may cause a reorientation of Brazil’s role set? Will any of these changes result in observable, behavioral changes, especially in Brazil’s conflict behavior? The aforementioned structural theories of International Relations would expect that Brazil’s behavior would become more conflictual as its power grows, though our foreign policy approach suggests that “webs of constraint” may restrain such behavior.

We propose two hypotheses relating previous structural international relations theories and foreign policy analyses with conflict behavior. Our first hypothesis is that major foreign policy breaks associated with the changes in the economic development model and consequent changes in Brazilian material power will produce sporadic and dramatic NRC changes and conflict behavior. Essentially, if major changes in Brazilian power occur, then Brazil’s self-conceived identity and behavior will change abruptly as well. If this hypothesis receives confirmation, then structural theories of international relations may gain some support for their view that Brazil’s rise, like that of all rising powers, will lead to more aggressive foreign policy orientations and increased conflict.

H1: Increases in Brazilian relative material power are directly and positively correlated with the adoption of revisionist NRCs and changes in militarized conflict behavior (structural hypothesis).

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4 We assume that a repertoire of roles, or role set, is equivalent to an identity. The relationship between role and identity is contested in the literature, especially for individual identity. We argue that the role set is a reasonable representation of state identity.
Yet, if we observe evolutionary changes in NRCs that comprise Brazil’s role set over time and no major changes in conflict behavior, then structural international relations theories may be incorrect. Instead, foreign policy analysts that emphasize the web of domestic constraints that work to maintain continuity and evolutionary change in identity and behavior are correct. Rather than being carried along by underlying structural shifts in power, Brazilian foreign policy makers may exert their agency to determine Brazilian national identity and foreign policy behavior.

H2: Domestic political processes mediate changes in relative material power leading to more deliberate changes in NRCs and militarized conflict behavior (agent hypothesis).

We begin by looking at Brazilian NRCs that have previously been identified in the foreign policy literature. This qualitative evidence about Brazilian status and identity is then followed by a quantitative analysis of changes in militarized conflict behavior. The combination of qualitative and quantitative evidence about foreign policy orientations should allow us to assess our hypotheses.

**National Role Conceptions and Brazilian Foreign Policy Analysis**

There is a small, but growing literature on Brazilian foreign policy that makes reference to roles and status changes. While this literature is not grounded in role theory per se, we use the insights from this literature as a coding source for our NRCs. We review the qualitative evidence on NRCs identified by scholars for Brazil as comprising its role set, and look for changes in that role set over time. If structural IR theories are correct, then we should see dramatic changes in Brazilian NRCs as well as the way they are received by others (especially the United States) as Brazil’s power grows. Foreign policy approaches to change would also expect that major internal and external shocks could bring about foreign policy restructuring, though Harnisch (2001) suggests those shocks are mediated by the existing role set. Rather than wholesale change, a role theoretic approach suggests modification of roles based on structural imperatives.
We start with a brief overview of the foreign policy literature on Brazil. Giacalone (2012) survey of the literature finds Brazilian foreign policy scholars debating along several fronts related to autonomy. The first axis of this debate concerned whether to practice “confrontational autonomy” or “national autonomy.” Confrontational autonomy would involve active confrontation of the hegemon through revolution that would lead to breaking old economic and political ties. On the other hand, national autonomy was a strategy of maintaining good relations with the hegemon while supporting one’s own development projects. Most of the late military governments pursue a national autonomy strategy through development. The second aspect of the debate concerned “autonomy through distance” versus “autonomy through participation” that involved shifting from the non-automatic acceptance of international regimes to actively trying to shape those regimes. Democratic governments largely continued national autonomy and became much more active in their participation in international regimes. Giacalone (2012: 338-339) notes a revival of the “confrontational autonomy” approach in the 2000s that coincides with the dominant view of Brazil’s rise.

In general, the concern with autonomy or the type of autonomy seemed to wax and wane in Latin America based upon changes in the environment (Giacolone, 2013; Russell and Tokatlian, 2003; Seabra, 2012). Lima and Hirst (2006: 22-23) argue that changes in Brazil’s foreign policy are linked to critical junctures in the prevailing development model. They identify two critical junctures in the 20th Century: the 1930s crisis of the agro-exporting model that was replaced with the import-substitution model; and, the 1990s exhaustion of protected industrialization and replacement with integration into the global economy. The former is related to “autonomy through distance,” while the latter is associated with “autonomy through participation” and later in the Lula administration with “autonomy through diversification” according to Vigevani and Cepaluni (2007: 1313). This focus on methods of attaining autonomy provides some initial confirmation of Holsti’s (1982: 198) aforementioned argument that countries that engage in foreign policy restructuring are mainly attempting to reassert autonomy.

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5 Vigevani and Oliveira (2007) argue that the Cardoso administration attempted to replace “autonomy through distance” with “autonomy through integration.”
Landry (1974) provides a good overview of Brazilian roles in the 1960s and 1970s, which as we know revolve around themes of autonomy/independence and development. The adoption of the internal developer role in the early 1960s, while normally devoid of international reference (see Holsti, 1970: 269), was seen as a way to avoid “Chinese or Japanese encroachment into the almost virgin Amazon” (Landry, 1974: 24). Indeed, Landry (1974: 27) suggests that authoritarianism and development were advocated by the four military administrations that ruled Brazil between 1964 and 1974. Internal security needs were also met by the internal developer role since economic growth and prosperity could coopt the growing middle class and the working class. In addition to developmentalism, Landry (1974: 28) argues that independence is the other dominant theme of Brazilian foreign policy since the early 1960s. The active independent role was predominant between 1961 and 1964, since there are some trade-offs between internationally financed development and independence. Joao Goulart especially pushed a Third World champion role as part of his approach to independence. Relations with the U.S. were seen at this point moving away from Brazil as a U.S. “viceroys” or regional-subsystem collaborator role, to a “mature partnership” with Brazil occupying more of a regional leader role. The Médici-Nixon meeting in Washington in 1971 confirmed that the U.S. will secure North America and Brazil will take care of South America in this changing conception of the relationship between the two states. Brazil is also viewed as enacting an anti-communist agent role in her foreign policy, perhaps even more so than the U.S. (Landry, 1974: 30). Brazil also pursued a developer role in the region to provide aid to “under countries” like Uruguay, Paraguay and Bolivia.

Landry further notes that by the mid-1970s the strict bipolarity of the Cold War was beginning to loosen, such that neither the U.S. nor the Soviets could expect to exert complete control over allies. This would apply in particular to countries like Brazil that occupy a middle power role. After reviewing the elements of Brazil’s strength, Landry suggests that it contains the elements to be considered a middle power and even an emerging power that contends for great power status in the future. The rival role relationship between Argentina and Brazil was not thought to impede this emergence,

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Lafer (2000: 223) argues that autonomy and development have been the dominant themes in Brazilian foreign policy since the 1930s.
since Argentina was internally weak at the time and Brazil was strengthening. Selcher (1985) notes that the rival role relationship had been converted to simple competition by the mid-1980s.

By the early 1980s, Brooke (1981: 167) declares that Brazil is emerging as the “superpower of the South.” Referencing a 1980 report by the Commission on United States-Brazilian Relations, he notes that “Brazil has a different vision of the world, a different role and different responsibilities than we” (Brooke, 1981: 168). The vision relates to its emergence as a Third World power based on developing the kinds of resources often found in the developing world, such as agriculture and mining. The aforementioned internal developer role is also complemented by a global trader role and regional integrator through its search for new markets and trading opportunities in the region and around the world. Brooke (1981: 174) also notes that “Brazil is also bidding for military power.” The military power role is supported by the fact that by the 1980s Brazil had become the sixth largest arms exporter in the world due to its home grown weapons industry. Brooke also describes an unconvincing enactment of the ally role with the U.S. from the U.S. point of view, as well as a failure to enact an anti-communist agent role internationally as Brazil increasingly seeks out its own national interest, rather than that of the hegemon. Finally, Brooke (1981: 178-180) describes a liberalizing autocracy role adopted by the Figueiredo regime through its policy of abertura. While this policy is largely aimed at a domestic audience, it does have international ramifications through relations with the U.S. (especially as President Carter repeatedly condemned Brazil’s human rights record) and as Brazil requires stable domestic employment to support its international trading goals.

Barbarosa (2001) argues that since the 1991 formation of Mercosur, Brazil has played the role of regional integrator or regional leader in the economic sphere. The goal is to strengthen the domestic economies of Latin American states through integration so that they can be better competitors on the international market. Part of this project also involved the role of developer, as Brazil was key in developing the physical infrastructure to encourage integration, especially along its northern border with Guyana and Venezuela. By 1999, this included welcoming hemispheric integration through the

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7 See Selcher (1985) and Thies (2001; 2008) for more on the rival role in Latin America.

Alden and Vieira (2005) reinforce the middle power role and the regional leader role for Brazil and argue that since 2003 it has occupied a trilateral leadership role with South Africa and India that is distinctive of the multilateralism associated with middle powers. The authors note that in the 20th Century, Brazil has pursued a policy of maintaining friendly and constructive relations with its neighbors in the region, including pursuing a mediator-integrator role to settle territorial disputes diplomatically as well as push for increasing open economic regionalism through Mercosur and other regional trade agreements.8 Brazil has also pursued an “unwritten alliance” or allied role with the U.S. alongside multilateral approaches to problems. The pursuit of trilateralism for Brazil began with the election of Lula in 2003 and the resulting IBSA Forum was formalized in the Declaration of Brasilia signed that same year by the foreign ministers of the three states. The trilateral role relationship envisions “formalized co-operation between regional hegemons who pool together their material and principled assets to achieve clear national interests in multilateral fora of negotiation” (Alden and Vieira, 2005: 1086). Alden and Vieira (2005: 1086) also note that domestic support for this trilateral role relationship is limited, suggesting that its enactment may be inconsistent when international and domestic political priorities conflict. Brands (2011) similarly sees Brazilian grand strategy under Lula moving to hasten the end of unipolarity and move toward multipolarity with more multilateral cooperation that will favor Brazil’s interests.

Brands (2011) does not particularly frame his discussion around trilateralism, but notes the continuing evolution of the military power role, the middle power role, and regional leader role. The regional leader role is much the same conceptualization as employed under trilateralism. In fact, Brands agrees with Burges’ (2008) assertion of Lula’s intent to enact a consensual hegemon role in the region through continued regional

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8 See Ricupero (1995) for a discussion of Brazilian foreign policy along both the axis of relative equality among partners and the axis of asymmetrical relations that informs Alden and Vieira (2005). Lafer (2000) also draws on these axes to help explain the origins of contemporary Brazilian identity. Burges (2005) suggests that Lula’s foreign policy, while demonstrating continuity with the past, also attempts a psychological transformation in its underpinnings demonstrating auto-estima (self-confidence) in the pursuit of South-South relationships that overcome traditional North-South dependencies, both economic and psychological.
integration that brings political and economic benefits while tying Latin America closer to Brazil (c.f., Giacalone, 2012: 338-339). Similarly to Alden and Vieira, Brands also finds somewhat inconsistent domestic support for this type of active international role, especially when it imposes domestic costs. Internationally, support for this role may also fall prey to competing national interests, as the BRIC and IBSA groups often express solidarity for each other, until they disagree on some issue, such as Brazil’s bid for a UN Security Council seat (Brands, 2011: 39). Brands (2011: 40) even suggests that the U.S. partnership may be approaching a rival role relationship, especially when Lula engaged Iran or opposed the FTAA (c.f., Hakim 2002: 154; Lima and Hirst, 2006: 33).

The increasingly assertive foreign policy under Lula (2003-10) has been matched with a general acceptance of Brazil as a rising power among academic and policy circles (Hurrell, 2010: 60; Sotero, 2010; Engstrom, 2012: 835; Seabra, 2012: 194). Engstrom (2012) argues that there is likely to be a great deal of continuity from Lula to Dilma, especially as Dilma has continued to press for global institutional reforms, continued to pursue South-South dialogues, increased the formalization of the IBSA forum, and continued preference of soft over hard power, although the focus on the region versus the global leads him to call Brazil an “ambivalent regional leader.” Flemes and Wehner (2012: 12) similarly indicate ambivalence in regional leadership, as Brazil is currently not ready to pay the costs of economic integration, but is willing to provide regional security.9 The low levels of multilateral leadership and selective distributional leadership open the door to regional contestation of its leadership role.10 For example, since 2003, this has resulted in a competitive partnership role emanating from a balance of power strategy from the perspective of Argentina—more cooperative at the regional level and more competitive at the global level.

Malamud (2011) takes the argument one step further to suggest that Brazil has not succeeded at achieving recognition with the region for its regional leader role, but that it has been much more successful at attaining an intermediate global power or middle power role on the global scene. Malamud suggests that there have been only erratic attempts at region building, a lack of regional support for Brazil’s global goals, and rival

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9 See also Bertazzo (2010) on Brazil’s leadership in regional security.
contenders in Argentina and Mexico (and even Venezuela under Chávez for regional leadership. Soares de Lima and Hirst (2006: 32) perhaps more charitably, note that “assuming the role of a regional power has generated unprecedented demands on Brazil and seems to require capabilities that go beyond Itamaraty’s unquestioned diplomatic skills.” While our primary interest in this paper relates to how Brazil sees itself, many of the aforementioned issues raise questions about what exactly constitutes a regional power (Flemes, 2010; Nolte, 2010; Prys, 2010).

The analysis of Brazilian foreign policy suggests several key shocks related to the economic development models that could induce major foreign policy change: the 1930s crisis of the agro-exporting model that was replaced with the import-substitution model, and the 1990s exhaustion of protected industrialization and replacement with integration into the global economy. On the other hand, there is also some discussion of an agent-moderated shock of a global/domestic realization of increased Brazilian power resulting in potentially more aggressive foreign policy under Lula beginning in 2003 (though whether he pursued a form of confrontational autonomy or consensual hegemony is disputed).

The aforementioned narrative history of Brazilian NRCs briefly summarized in Table 1 demonstrates a slowly evolving and relatively consistent Brazilian identity. While the decade-by-decade portrait of NRCs masks some variation in NRCs according to traditional breaks in Brazilian foreign policy, it does paint a picture of a generally stable and evolving Brazilian identity. NRCs related to regional leadership emerge in the 1970s, prior to the 1990s shift in development models. It is true that the language of regional leadership becomes more grandiose in the 1980s “superpower of the South” or “Third World power,” and by the 2000s the NRCs are focused on Brazil’s emergence on the global scene. This could be evidence of the 1990s structural break that while moderated during the Cardoso administration, led to a more aggressive foreign policy stance under Lula. The NRCs in the 2000s do reflect the entire gamut of regional leadership and global aspirations, from “military power” to “consensual hegemon.” It is therefore possible to interpret the changes in NRCs to a more evolutionary growth in Brazilian power with a possible structural change in the 2000s. Yet, one might easily argue that agents in the form of Cardoso and Lula significantly affected the way Brazil
represented itself on the regional and global scene despite relatively constant Brazilian power in relation to its neighbors in the 1990s and 2000s. What do these changes in foreign policy roles suggest for Brazil’s conflict behavior? Will conflict behavior match purported dramatic changes in material power or be consistent with our review of NRCs that suggests more evolutionary changes?

[Table 1 about here]

A separate literature on zones of peace also intersects with our project at this point. It is possible that the regional culture of South America has been evolving in a more peaceful direction over time. Kacowicz (1998) argues that South America went through a period of negative peace (1883-1980s), then stable peace in the Southern Cone (early 1980s-1991), then perhaps a pluralistic security community (1991-?). His argument is that satisfaction with the territorial status quo largely ensured a negative peace, alongside evolving norms of peaceful conflict resolution, as well as the presence of Brazil as a regional hegemon, among other factors. The stable peace in the Southern Cone resulted from the return to democracy among the states in the region, as well as increased economic integration in the 1980s. These and the aforementioned factors may well have resulted in the formation of a pluralistic security community by the early 1990s according to this analysis. Thies’s (2008) quantitative assessment of this argument produced mixed findings. We should remain open to the possibility that the regional culture of international relations may exercise a pacifying effect on Brazil’s conflict behavior—something we may not encounter in other regions with emerging powers. The structural breaks we observe may occur in the early 1980s and again in the early 1990s, but they would contradict H1 in the sense that despite rising Brazilian power, Brazil may be more peaceful at each break.

**Militarized Interstate Disputes and Brazilian Conflict Behavior**

We move from our qualitative analysis of Brazilian NRCs to a quantitative test of change-points in Brazilian conflict behavior. If structural theories of international relations are correct, we should observe changes in the determinants of Brazilian
militarized disputes as Brazilian power grows. If our qualitative analysis of Brazilian NRCs is on target though, we would expect little in the way of structural breaks in Russian conflict behavior. We employ an endogenous Bayesian MCMC Poisson change-point model to quantitatively test our hypotheses.\(^{11}\)

In substantive terms, the goal of the estimation is to find the optimal way to split the data into sub-periods. To do this, the estimator explores a series of possible change points, or break points, until it identifies the model with the best fit to the data. The estimator effectively splits the data into sub-samples, such that the effects of the covariates included in the model change in significance and/or direction from one subsample to the next. In other words, the model is able to identify unique time periods because it is sensitive to changes in the effect of the explanatory variables. To prevent over-fitting, several models are estimated and compared using Bayes Factor, which penalizes too much structure.\(^{12}\)

Change-points can be thought of as structural breaks in the data generating process of discrete dependent variables, such as counts of conflict initiation. Change-point models have been used to empirically test hypotheses that expect changes in the underlying data generating process, such as social theories and theories that expect actor preferences to change over time (Brandt and Sandler, 2009; Nieman, 2011; Park, 2011a, 2011b). In contrast to time period dummies, a change-point model allows for the influence of explanatory variables to change in sign and significance between different time periods. Thus, change-point models offer a sharp distinction from the traditional large-\(n\) assumption “that our models will be just as appropriate for the early twenty-first century as they are for the late nineteenth century” (Bennett and Stam, 2004: 172), instead allowing the possibility that the determinants of conflict can change of time.

The Bayesian MCMC change-point model can be understood as a hidden Markov model with hidden states and restricted transition properties (Chib, 1996, 1998; Carlin

\(^{11}\) We employ non-informative, uniform priors for both the parameter estimates and the probability of when structural breaks occur. We run 30,000 MCMC chains after discarding the first 20,000 draws. All analyses were conducted using MCMCpack in R (Martin, Quinn, and Park, 2008; R Development Core Team, 2010).

\(^{12}\) We estimate ten models and employ a Bayes Factor comparison in order to determine the appropriate number of subsamples to include in the main analysis. The results suggest that a model with 1 break is the best fit for the data. See Appendix for these results.
That is, temporal periods, or time regimes, are considered to be latent variables and are treated probabilistically when estimating explanatory variables. The model is fitted so that the probability of the change-point is not constant but instead endogenous, depending on the current regime itself (Chib 1998, 223). The Bayesian MCMC change-point model offers an advantage over frequentist change-point models because the latter fail to convey the researcher’s level of confidence in a change-point’s placement (Gill 1999). Using a Bayesian approach, however, we are able to calculate a level of confidence of a change-point occurring at a specific time. This allows us to examine if structural breaks occur suddenly or gradually over time. Thus, we are able to recover the probability of a structural break occurring for each time period.

We use a Poisson change-point model because the outcome variable of interest is the number of MIDs that Brazil has initiated or joined from 1870-2001 and can be treated as count data. The number of MIDs initiated or joined accounts for only those disputes that Brazil willingly engage in, thus reflecting Brazil’s underlying foreign policy agenda. MID data are obtained from the Correlates of War (Ghosn, Palmer, and Bremer, 2004).

Figure 1 displays the number of MIDs initiated or ongoing MIDs joined by Brazil between 1870-2001. It is clear that the number of disputes that Brazil willingly engages in remains consistent throughout the period. This simple examination of the data, however, leaves it unclear regarding how many and where structural breaks occur. Thus, a change-point model is exceptionally useful for this type of analysis.

We include a number of common covariates associated with conflict initiation. We include a measure of Brazil’s power ratio compared to that of the region as whole using the Correlates of War project’s CINC variable, which measures a country’s power

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13 For a more technical discussion of the Bayesian MCMC change-point model, see Chib (1998). For a thorough description of the model with an application to US conflict initiation, see Park (2010).

14 We calculate the level of confidence of a structural break in two steps: first, we compute the probability of each time regime at time point \( t \) by taking random draws from each time regime’s posterior sampling distribution. Second, the probability of a structural break is obtained by taking the first difference of each time regime’s probability.

15 The posterior sampling distribution of a Poisson with covariates does not adhere to a known conditional distribution. Fruhwirth-Schnatter and Wagner (2006) develop a technique taking the logarithm of time between successive events to transform the Poisson regression into a linear regression with log exponential (1) error. See also Park (2010).
based upon economic and military capabilities and population size (Singer, Bremer, and Stuckey, 1972). *Power Ratio* is calculated as the CINC score of Brazil divided by the sum of Brazil and all other South American states. In addition, we include the U.S. as part of the Latin American because of its long-standing involvement in the region. This variable is bound between 0 and 1, where 1 represents perfect preponderance while 0.5 would indicate that Brazil is equal in strength to all combined South American states. As Brazil becomes more powerful relative to its neighbors, structural theories predict that it will become more assertive in regional affairs and initiate and join an increasing number of conflicts in order to pursue its interests. However, other states may become more likely to acquiesce to Brazil as it become increasing preponderant. We include a squared term of *power ratio* to account for this non-linear effect.

The number of neighbors involved in interstate disputes should also influence how active Brazil is militarily. Neighboring conflict provide opportunities for military intervention, either to advance Brazil’s ideological goals or to resolve a conflict that may be destabilizing to the region. *Neighbor Conflict* is obtained from Wimmer and Min (2006).

We also account for the proportion of democracies in South America. Previous research demonstrates that as the level of democracies initially increases within a system it is associated with an increase in conflict (Mitchell, Gates, and Hegre, 1999; Kadera, Crescrenzi, and Shannon, 2003). This may result from the known tendency of mixed dyads to have conflictual relations (Beck and Jackman, 1998; Raknerud and Hegre, 1997) and for democracies to initiate these conflicts (Bennett and Stam, 1998; Bueno de Mesquita et al, 1999). Thus, a democratizing South America may be expected to produce more potential threats to Brazil during autocratic periods that it seeks to resolve using militarized force. *Democratic Proportion* is the proportion of democracies among South American states. A state is considered democratic if it has a Polity2 score equal to or greater than 7 (Marshall and Jaggers, 2008).

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16 Country codes between 100 and 200 are treated as “Latin America” for the purposes of the measure. We also conducted models that included only Brazil’s primary rival of Argentina. These alternative model specifications produced no significant changes to the results.

17 We tested other thresholds for democracy using the Polity2 score with no meaningful changes in our results.
Economic factors may also influence conflict behavior. Polachek (1980) argues that the opportunity costs of war are too great for countries that are highly engaged in trade, as war interferes with trading lines. In addition, military conquest is an expensive method to gain access to resources, in terms of both blood and treasure (Rosecrance 1986). Building on these arguments, Gartzke (2007) and Gartzke and Hewitt (2010) suggest that a capitalist peace exists for developed countries as intellectual and financial capital make territorial possession less important for economic growth, developed countries increasingly have similar foreign policy objectives, and capital markets provide new outlets for state competition. Growing economies may be reluctant to divert resources from the economy to external conflicts; on the other hand, increasing economic strength may make the state more assertive in foreign policy matters, as it expects such growth to continue (Doran 1991). We include Trade and GDP Growth to capture these dynamics. Trade is Brazil’s total trade flows as a percent of gross domestic product. Trade data are obtained from the Correlates of War international trade dataset (Barbieri, Keshk, and Pollins, 2008, 2009) while gross domestic product data are obtained from Maddison (2003).

Finally, we include an indicator variable for World War II from 1942 when Brazil joined the war until 1945. The indicator variable account for instantaneous effect of the second world war on conflict initiation; however, any long-term effects will be captured by a regime shift (Park, 2010: 773; Mitchell, Gates, and Hegre, 1999). We do not include an indicator variable for World War I since Brazil was a neutral party to the conflict.

Analysis

In order to uncover the correct number of change-point within the data, we estimate five models to identify which has the best statistical fit to the data. Five MCMC Poisson change-point models were estimated, each titled “M” and given a subscript with the number of change-points assigned to the model. The model fit is assessed using a Bayes Factor comparison of the marginal likelihood of two models.\(^{18}\)

\[ BF_{ij} = \frac{m(y \mid M_i)}{m(y \mid M_j)} \]

where \(BF_{ij}\) is the Bayes Factor comparing \(M_i\) to \(M_j\), \(m(y \mid M_i)\) is the marginal likelihood under model \(M_i\), and \(m(y \mid M_j)\) is the marginal likelihood under model \(M_j\).

\(^{18}\) The Bayes Factor is used to compare models with one model operating as the baseline model.
Table 2 presents the results of logged Bayes Factor comparisons of the models where the numerator is the column (alternative model) and the denominator is the row (alternative model). Because the results are logged, negative values are evidence against the baseline and positive values are evidence in favor of the baseline (Gill, 2009: 209).

Applying Jeffrey’s (1961) scale to the values in Table 2, $M_1$ has “decisive” support as the best model fit. Figure 2, however, indicates that any change-point occurred very early in the time period, with the median posterior density of the change probability in 1877, and the 95% credible interval falling before 1900. The top portion of the figure shows the probability of each of the two time regimes identified by the model while the bottom of the figure displays the density of the change-point occurring for each time period. Park (2010, fn 14) notes that such a result indicates that a change-point may not be present in the data. In this case, there should be no statistically significant covariates in the first time regime, while the sign of any statistically significant covariates from the second time regime should be consistent with those from a model where no change-point is specified.19 We find this to be the case, and the subsequent analysis is conducted on the model with no breaks. For the sake of transparency and comparison, however, a model with one change-point is included in the appendix.

That no change-point is present, or at best only one change-point is present prior to 1900, provides evidence against H1, that several structural breaks occur congruent

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19 We are unable to directly compare a model with one change-point to a model with zero change-points, as the marginal likelihood of the model without a change-point cannot be calculated with a uninformative, uniform prior distribution. If a diffuse prior is used, MCMCpack calculates the marginal likelihood of the zero change-point model using a method known as Laplace approximation, which is different from the method (Chib’s 1995 calculation) which it uses to calculate the marginal likelihood for a model with a change-point. Unfortunately, our sample size does not allow for a reliable calculation using the Laplace approximation, as Laplace approximation requires a substantially larger number of observations—5000 per covariate (Gill 2009). The rule of thumb of comparing the covariates of a model with an early change-point to a model without any change-points, however, should provide a reasonably comparison.
with changes in Brazil’s power and conventional views of Brazil’s foreign policy. Instead, it appears that Brazil’s foreign policy agenda, at least as it pertains to conflict, has experienced no major changes over the time period 1870-2001. These results offer strong evidence against H1 and in favor of H2, consistent with the qualitative analyses of Brazilian NRCs.

Beyond simply knowing how many and when structural breaks occur, we may be interested in examining how variables are able to explain conflict. Posterior estimates of each parameter are presented in Table 3.

Table 3 presents two models, one where only Latin American states are included in regional power capabilities calculations, and one with the U.S. included in the regional power capabilities calculations. In model 1, which excludes the U.S. from the power calculations, only Democratic Proportion and the indicator variable for World War II are statistically significant at traditional levels. Both of these variables are positively associated with conflict. Each of the remaining variables, with the exception of the intercept, are significant at 0.1 in a one-tailed test. Power Ratio is positive while Power Ratio Squared is negative, suggesting an inverted-U relationship between power and conflict. Neighborhood Conflict is also positively related to conflict at this lower threshold. Lastly, both Trade and GDP Growth are negatively related to conflict.

Model 2 displays the results when the power calculations include the U.S. In this model, only World War II and the intercept term are statistically significant. World War II is again positively associated with conflict. None of the remaining variables, including either of the power measures, are statistically significant at any traditional level.

Conclusion
Our analysis finds change in Brazil’s identity and conflict behavior more consistent with foreign policy approaches than structural theories. Brazil’s role sets have

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20 Including the U.S. in the regional power calculations does not alter the logged Bayes Factor results presented in Table 2, nor the posterior probabilities reported in Figure 2, in any meaningful way.
varied over time, but the core has evolved to a form of regional leadership based on consensus. While Brazil has continued to invest in its military power, it may be the case that this particular regional power evolved in a region that has become increasingly pacified over time. Scholars and policy analysts have never been as suspicious of Brazil’s intentions as they are of other emerging powers, such as China, but structural theories to suggest that at some point the growth in power should lead to increasingly aggressive foreign policy and conflict behavior. There have not been any recent structural breaks in Brazil’s conflict behavior, with the only identified break occurring prior to 1900. Even this break, however, seems unlikely. It is more plausible that the factors contributing to Brazil’s propensity to engage in militarized disputes have remained remarkably consistent. There is little evidence to suggest that power disparity in the Latin American subsystem, with or without including the U.S., has any affect on Brazilian conflict behavior. If anything, Brazil views itself as a partner in a mature relationship with the United States. It also sees itself as contributing to a group of emerging powers that balance hegemony through multilateralism. Structural theories tend to ignore the relations of authority present in the hierarchical international order, whether designed by the U.S. or by emerging powers themselves.

What does our analysis suggest for the future? We contend that Brazil’s identity, comprised of an evolving role set, is largely one of a regional leader that prefers to work in concert with its neighbors and with other emerging powers on the global scene. This does not preclude conflict in the future if Brazil does attain great power status, as great powers engage in a significant percentage of all conflict. It would be unusual for a great power not to manage the affairs of its home region, including through the use of periodic militarized conflict. Latin America is somewhat peculiar in that it may be moving toward zones of negative and stable peace in the Southern Cone alongside some persistent zones of conflict in the Northern tier of South America and in Central America. In general, our analysis suggests that Brazil will continue to view its identity as a regional leader that engages in infrequent militarized disputes in its home region, but a dramatic shift in foreign policy orientation or conflict behavior is unlikely.
References


<table>
<thead>
<tr>
<th>Decade</th>
<th>Role Sets</th>
</tr>
</thead>
<tbody>
<tr>
<td>1930s</td>
<td>internal developer</td>
</tr>
<tr>
<td>1940s</td>
<td>regional-subsystem collaborator, U.S. ally, Argentine rival</td>
</tr>
<tr>
<td>1950s</td>
<td>regional-subsystem collaborator, U.S. ally, Argentine rival</td>
</tr>
<tr>
<td>1960s</td>
<td>internal developer, active independent, Third World champion, Argentine rival, U.S. ally</td>
</tr>
<tr>
<td>1970s</td>
<td>regional leader, U.S. ally, anti-communist agent, developer, middle power, emerging power, internal developer, Argentine rival</td>
</tr>
<tr>
<td>1980s</td>
<td>superpower of the South, Third World power, internal developer, global trader, regional integrator, military power, liberalizing autocracy</td>
</tr>
<tr>
<td>1990s</td>
<td>regional integrator, regional leader, developer</td>
</tr>
<tr>
<td>2000s</td>
<td>intermediate global power, middle power, regional leader, trilateral leader, military power, consensual hegemon, U.S. ally?, U.S. rival?</td>
</tr>
</tbody>
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Table 2. Comparison of Poisson Change-point Models of Brazilian Foreign Policy.

<table>
<thead>
<tr>
<th></th>
<th>$M_1$</th>
<th>$M_2$</th>
<th>$M_3$</th>
<th>$M_4$</th>
<th>$M_5$</th>
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<tr>
<td>$M_1$</td>
<td>0.00</td>
<td>13.41</td>
<td>23.24</td>
<td>24.81</td>
<td>26.87</td>
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<td>$M_2$</td>
<td>-13.41</td>
<td>0.00</td>
<td>9.82</td>
<td>11.40</td>
<td>13.46</td>
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<td>$M_3$</td>
<td>-23.24</td>
<td>-9.82</td>
<td>0.00</td>
<td>1.58</td>
<td>3.63</td>
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<tr>
<td>$M_4$</td>
<td>-24.81</td>
<td>-11.40</td>
<td>-1.58</td>
<td>0.00</td>
<td>2.05</td>
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<tr>
<td>$M_5$</td>
<td>-26.87</td>
<td>-13.63</td>
<td>-3.63</td>
<td>-2.05</td>
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</table>

Note: $\ln (BF_{ij} = \frac{m(y|M_i)}{m(y|M_j)})$ where $BF_{ij}$ is the Bayes Factor comparing model $M_i$ to a baseline model $M_j$, $m(y|M_i)$ is the marginal likelihood under model $M_i$, $(y|M_j)$ is the marginal likelihood under model $M_j$. Columns are $M_i$ and rows are $M_j$. MCMC chains are run 20,000 times after discarding 10,000 burnin draws.
<table>
<thead>
<tr>
<th></th>
<th>Mean/S.D.</th>
<th>Mean/S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Ratio</td>
<td>4.997</td>
<td>1.873</td>
</tr>
<tr>
<td></td>
<td>(3.371)</td>
<td>(1.823)</td>
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<tr>
<td>Power Ratio Squared</td>
<td>-0.118</td>
<td>-0.178</td>
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<tr>
<td></td>
<td>(0.080)</td>
<td>(0.253)</td>
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<td>Democratic Proportion</td>
<td>0.057</td>
<td>0.015</td>
</tr>
<tr>
<td></td>
<td>(0.033)</td>
<td>(0.039)</td>
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<tr>
<td>Neighbor Conflict</td>
<td>0.717</td>
<td>0.624</td>
</tr>
<tr>
<td></td>
<td>(0.507)</td>
<td>(0.490)</td>
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<td>Trade/GDP</td>
<td>-0.415</td>
<td>-0.372</td>
</tr>
<tr>
<td></td>
<td>(0.313)</td>
<td>(0.408)</td>
</tr>
<tr>
<td>GDP Growth</td>
<td>-0.084</td>
<td>-0.051</td>
</tr>
<tr>
<td></td>
<td>(0.055)</td>
<td>(0.051)</td>
</tr>
<tr>
<td>WWII</td>
<td>3.933</td>
<td>4.901</td>
</tr>
<tr>
<td></td>
<td>(0.753)</td>
<td>(1.401)</td>
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<tr>
<td>Intercept</td>
<td>-55.162</td>
<td>-6.390</td>
</tr>
<tr>
<td></td>
<td>(35.571)</td>
<td>(3.424)</td>
</tr>
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Includes U.S. in region? No Yes

Note: Mean (standard deviation in parentheses) of posterior distribution. MCMC chains are run 20,000 times after discarding 10,000 burnin draws.
Figure 1

Brazilian Initiated MIDs and Interventions, 1870-2001
Figure 2

Posterior Regime Probability

Posterior Density of Regime Change Probabilities
Appendix

In Model A1 of Table A presents two sets of results when US is not included in Brazil’s region: estimates for pre-1877 and post-1877. 1877 reflects the estimated change-point for the model. Model A2 presents two sets of results when US is included in Brazil’s region: here, the estimates are for pre- and post-1878, as in this case 1878 is identified as the most likely change-point. Recall that in each of the models, both pre- and post-estimates account for the underlying probability of being within either period, i.e. they are the average estimate for the entire sample space.

Model 1A finds that none of the variables are statistically significant at any level in the pre-1877 period, while Trade/GDP and WWII are significant at traditional levels. Trade/GDP is found to have a negative relationship with conflict initiation and WWII is found to have a positive relationship with conflict initiation. In Model 2A, none of the pre-1878 estimates are found to be significant predictors of conflict. In the post-1878 period, Trade/GDP and WWII are again found to be statistically significant at traditional levels, and are in the same direction as the previous model. In addition, both Power Ratio and Power Ratio Squared are significant at the .1-level of a one-tailed test, with the former being positive and the latter having a negative relationship with conflict initiation. This suggests a non-linear relationship between Brazilian power and its propensity to initiate militarized disputes.

The difference between the naive and change-point model with one break highlights that much of what is often reported as statistically significant may actually be capturing variation in the “hyper-conditional” relationships among explanatory variables in different temporal sub-periods when predicting discrete variables (i.e. marginal effects of variables are conditional on their location on the cumulative density function, and this location is affected by the coefficients of other variables). See Barry, DeMeritt, and Esarey (2010) and Williams (2014) for a discussion of problems of inference associated with hyper-conditionality.
Table A. Posterior Parameter Estimates of Poisson Regression of Brazilian Conflict

<table>
<thead>
<tr>
<th></th>
<th>Model A1 Pre-1877 Mean/S.D.</th>
<th>Model A1 Post-1877 Mean/S.D.</th>
<th>Model A2 Post-1878 Mean/S.D.</th>
<th>Model A2 Post-1877 Mean/S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Ratio</td>
<td>-0.070</td>
<td>-0.087</td>
<td>-0.164</td>
<td>-0.841</td>
</tr>
<tr>
<td></td>
<td>(0.697)</td>
<td>(0.237)</td>
<td>(0.979)</td>
<td>(0.551)</td>
</tr>
<tr>
<td>Power Ratio Squared</td>
<td>-0.003</td>
<td>-0.001</td>
<td>-0.156</td>
<td>0.164</td>
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<td></td>
<td>(0.027)</td>
<td>(0.014)</td>
<td>(0.399)</td>
<td>(0.113)</td>
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<tr>
<td>Democratic Proportion</td>
<td>0.068</td>
<td>0.038</td>
<td>0.017</td>
<td>0.022</td>
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<td></td>
<td>(0.657)</td>
<td>(0.081)</td>
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<td>Neighbor Conflict</td>
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<td>0.425</td>
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<td>(0.934)</td>
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<td>WWII</td>
<td>0.135</td>
<td>2.340</td>
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<td>(1.134)</td>
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<td>(1.003)</td>
<td>(0.798)</td>
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Includes U.S. in region? | No | Yes

Note: Mean (standard deviation in parentheses) of posterior distribution. MCMC chains are run 20,000 times after discarding 10,000 burnin draws. The median posterior probability of a break in model A2 was in 1877. Estimates of the posterior for the pre-1877 and post-1877 average over the full state space, accounting for the precision (or imprecision) of the estimated change-point; hence, a parameter for WWII is included in each time period, as there is a small probability that the change-point occurred after 1945 (see Figure 2).