The Editorial Board of European Union Politics has awarded the Sage Award for the best paper published in European Union Politics 2 to Ikko Mattila (University of Helsinki) and Jan-Erik Lane (University of Neva). Their article 'Why Unanimity in the Council? A Roll Call Analysis of Council Voting' appeared in European Union Politics 2(1). The award winners will receive a free subscription to the journal.

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**Structural Conditions and the Propensity for Regional Integration**

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**ABSTRACT**

This paper proposes a theory for regional integration based on structural conditions. By applying power transition theory, we are able to account for and anticipate not only the tendency for pairs of countries to participate in integration, but the likely intensity of such integration as well. We find that integration is most likely when there is an asymmetric distribution of power between countries and when they are jointly satisfied after a power transition has occurred. These results hold even after controlling for level of development and trade flows. We test this theory on all politically relevant dyads between 1950 and 1996 using a novel method to measure the level of regional integration. We illustrate the empirical findings through simulations that track the developments leading to Europe's Economic and Monetary Union (EMU).

**KEY WORDS**

- integration theory
- power transition
- structural conditions
- EMU
Introduction

This paper applies power transition theory to the process of regional integration. This work explains why some countries wish to develop integrated economies while others do not. This allows us to identify those regions where supranational political institutions are likely to form, as well as to suggest how likely they are to endure. Current integration research suffers from not including relative power changes and status quo satisfaction in its attempt to explain or predict the development of supranational political institutions. We hope that our work begins to correct this deficiency. Power transition theory has traditionally been applied to war decisions. However, this theoretical framework is readily applicable to the question of regional integration because it provides a structural explanation of the international system based on the interrelationship between the relative power of countries and their degree of satisfaction with each other—there is no need for this explanation to be limited to conflictual relations. In particular, we will show that a change in the relative power of countries explains the development of integration through the role of cooperative behavior in a country’s economic growth. Since the heart of integration is enduring cooperative behavior among countries, power relationships combined with the degree of satisfaction with a potential ally can facilitate these cooperative agreements. The theory presented here addresses these conditions.

Regional integration involves a non-coerced process in which economic coordination and adjustments produce a merger of economic and political institutions among countries. The non-coerced aspect of this concept separates integration from empire building. Integration also includes the ability of a merged entity ‘to maintain itself in the face of internal or external challenges’ (Etzioni, 1965: 330) and to depend upon ‘peaceful change among its population’ (Deutsch et al., 1957: 5). These attributes require that common or supranational institutions be adopted and that they, more or less, become the new centers of decision-making (Haas, 1958; see also Tsebelis, 1994; Stone Sweet and Sandholtz, 1997). To explain integration, therefore, requires an understanding of the structures that drive this process. We argue that two forces—asymmetric power relations and status quo satisfaction between two countries (referred to as dyads)—are crucial for explaining and estimating the likelihood and intensity of integration.

We begin with a brief overview of some international relations theories to assess whether they can aid in answering the broad question of this paper. In particular, we are interested in how research in the field addresses the development of supranational political institutions, given their importance to the overall integration process. We argue that the development of regional integration can be explained by examining the regional hierarchical relationship among countries. Moreover, an asymmetry in power after a change in the distribution of capabilities within a regional hierarchy (a power transition) is more likely to lead to integration than is pre-transition asymmetry. Since countries grow at varying rates, a region will tend to witness, over time, a change in relative power positions among countries (Organski, 1958, 1968). It is during these periods of change (when one country’s economic capacity begins to surpass another’s) that the relations can lead to conflict or cooperation, depending upon the level of status quo satisfaction. The empirical findings support our propositions for explaining integration in all pairs of countries from 1950 to 1996. In addition, we illustrate the model’s accounting of the development of Europe’s Economic and Monetary Union (EMU) by simulating the pair-wise relationships between Germany, France, and Britain.

The distribution of power, integration, and integration theory

Before entering into our theoretical discussion, we address one important question: how can theories that are used to explain occurrences of conflict help us to understand integration? Although such theories have been used to explain cooperation in single-function regime formation, none has taken this approach to explain cooperation as complex as integration. By assuming conflict and cooperation as part of a continuum, with war and regional integration occupying opposite endpoints, conditions that lead to conflict should illuminate the conditions that lead to cooperation. The center of the continuum contains a state of neutrality in which countries do not opt for any form of conflict or cooperation. This approach allows us to characterize all relationships between pairs of countries by their location on this scale—whether in a state of conflict, neutrality, or cooperation. Prior research supports this claim empirically. For example, Mansfield and Pevehouse (2000) found that integration is associated with a significant drop in conflict. The question of integrating two economies or engaging in war is a decision-making problem that assesses the choices facing countries within the structure of that relationship. Broadly speaking, the international system imposes structural constraints on the types of interactions leaders may credibly select, so that the propensity for regional integration rises and falls because of the power distribution and status quo satisfaction among countries in the regional system. This section begins with a review of other theories of integration that are not directly based on structural conditions, and then moves on to those that are based on such conditions.
No discussion on the causes of integration can begin without first mentioning functionalism and neo-functionalism. These theories posit that countries integrate because they face certain problems that are best solved in common by transferring certain functions from the nation-state to supranational institutions (Mitrany, 1975). In addition, integration develops through the mechanism of 'spillover,' where integrated functions will produce further integration because (1) further integration is necessary to facilitate previously integrated functions and/or (2) success in one area will increase demands for integration in another (Haas, 1958, 1961; Puchala, 1971; Schmitter, 1971; Caporaso and Keeler, 1995). However, these approaches provide ex post explanations and tend to focus on particular events or regional areas of cooperation. Therefore, they fail to provide scholars with general and predictive models of regional integration (Hoffmann, 1966; Pentland, 1973; Haas, 1975; Keohane and Nye, 1975; Taylor, 1983; Keohane and Hoffman, 1991; Moravcsik, 1993; Milward and Sorensen, 1993).

Researchers organized under the label of 'supranationalist' theory have since sought to refine neo-functionalism. They tap into one of its underlying notions, namely that integration is a self-perpetuating phenomenon (Stone Sweet and Sandholtz, 1997, 1998). In analyzing specific policy areas, researchers note the strong influence of transnational actors on policy decision-making and the spillover-type mechanisms first introduced in the neo-functionalist literature (Pollack, 1997; Sandholtz, 1998; Sbragia, 1998). However, although this body of work does attempt to improve the clarity of the mechanisms involved, it still suffers from not being able to tell us precisely why spillover occurs in some instances but not in others (Tsebelis and Garrett, 2001).

However, Tsebelis and Garrett (2001) acknowledge the strength of one aspect of the supranationalist argument, as well as that of another contending theory, intergovernmentalism, when observing their inclusion of the institutional influence on the process of European integration. Intergovernmentalism (Keohane and Hoffmann, 1991; Moravcsik, 1993, 1995; McKay, 1996, 1997) states that integration occurs as a result of the intergovernmental bargaining among countries, particularly among the more powerful ones. Tsebelis and Garrett (2001), moreover, note that the common thread of these two schools is the role that EU institutions play in advancing integration. Indeed, institutionalism, in its varying forms, is currently the prevailing approach in understanding European integration (Tsebelis, 1994; Garrett and Tsebelis, 1996; Aspinwall and Schneider, 2000).

This literature is valuable in explaining European integration but falls short of explaining integration in general because of the highly developed EU supranational institutions. Because other instances of integration have very weak supranational institutions, the applicability of institutionalism to other cases of integration is limited. The focus of this study is to explain the propensity of countries to integrate, including the variation of institutional strengths, both in and out of the European context.

Intergovernmental bargaining still remains an important, if not a central, factor in the European process. The supranational institutions themselves are creations of this bargaining. This points to the need, then, to understand the role relative power has in explaining and predicting integration, not only in Europe but also in any given region, at any given time point. Intergovernmentalism, however, is a static theory because it does not include how changes in the relative power among countries would influence integration. By exclusively looking at Europe during brief time periods and assuming that Britain, France, and Germany are approximately equal in strength, the theory implies that conditions for integration include the maintenance of relative power and the approximately equal distribution of power among countries. We therefore need to examine whether or not these are reasonable conditions. To this end, we must understand the constraining role of relative power on integration.

Constraints in many international relations theories are determined by the relative power of countries (Morgenthau, 1973). The premise of balance of power theory is that the international system is in an anarchic state of organization so that stability is best achieved under an equal distribution of power, in which no single actor is predominant over the others (Waltz, 1979). In such an environment, countries need to apply a self-help strategy because the state of anarchy does not offer a guarantee to one country that another will come to its aid. Therefore, stability is maximized under a condition where no country can credibly threaten another, that is, when they are equal in strength. Alliances are formed among equally strong secondary states in order to counterbalance potential threats of dominant states.

This logic may take us to the point of neutrality, but does not carry us to the point of integration. Integration establishes institutions that involve changes in the location of sovereignty (Keohane and Hoffman, 1991) to one degree or another. Because the international order is in a state of anarchy, according to balance of power theorists, individual countries are the decision-making centers because no structure stands above them. Therefore, by definition integration cannot occur: states under anarchy would rely on one another only as part of a balancing act. The best that the theory can provide is a condition of interdependence (Waltz, 1979). Once the dominant power is defeated or a dominant power emerges from within the group, alliances are broken and new ones formed for the sake of maximizing security (Waltz, 1979). These temporary events of mutual assistance are not...
platforms for the long-term institution building that the process of integration produces.

Karl Deutsch and his associates (1957) observed empirically, however, that the cases in their study included no occurrences of integration when all the units were in balance. Instead they observed that integration tended to occur around ‘cores of strength’ (Deutsch et al., 1957: 28). Their concept is not well defined but does point to a need for a larger unit as a ‘nucleus’ for integration (1957: 38). Hegemonic stability theory (Krasner, 1976, 1983; Keohane, 1984; Gilpin, 1981) differs from balance of power primarily in terms of the organization of countries in international politics. These theorists view the international system as hierarchical, with a hegemonic power standing above secondary and smaller powers. In this system, countries are differentiated in their functions by assigning them leadership and subordinate roles. The hegemon holds the political authority over others, leaving the other countries to either acquiesce to the demands of the leading power or challenge it for supremacy. It maintains this situation through the ‘carrot and stick’ method: it rewards those that accept its preferences and punishes those that seek changes.

The conclusion of this logic accounts for the establishment of international institutions but does not explain the establishment of regional ones (owing to the theory’s emphasis on global regimes) and institutional development. The hegemon rewards and punishes others because these acts maintain it at the apex of the hierarchy. However, the hegemon has some incentive to form international institutions because they would facilitate the goals of the preponderant power and thus reduce the need for unilateral rewards and punishments. Through the establishment of global regimes, the hegemon institutionalizes its norms and values for others to follow. These organizations are not regionally based because the hegemon’s incentive is to establish global cooperation for specific preferences. Further, the hegemon’s decline signals the decline of the regime. Keohane (1984) states that some international regimes do persist after the hegemonic power declines, but also mentions that they tend not to function as efficiently as under hegemonic power (the case of monetary policy coordination since the Bretton Woods era). What is needed is a theory that includes a mechanism that allows for the establishment and development of regional institutions and accounts for the complexities of integration.

Power transition theory (Organski, 1958, 1968; Organski and Kugler, 1977, 1980) offers such mechanisms. At its core, power transition theory provides a structural explanation for the propensity to cooperate or engage in conflict. The theory has traditionally assessed the relationship between relative power and the evaluation of the dyadic status quo as it relates to conflict (Organski and Kugler, 1980; Kugler and Lemke, 1996; Lemke and Werner, 1996), but there is no reason why it cannot be extended to cooperative endeavors as well (Tammen et al., 2000).

The relationship between countries depends on their individual relative power in the international hierarchy and their satisfaction with the status quo. The opportunity to impose preferences on the world system is a function of a country’s power vis-à-vis the remaining set of powers. When one country is preponderant (i.e. stronger than another country) then the set of preferences expressed in the dyad reflects the preponderant country’s best interests and forms what is referred to as the dyadic status quo. Owing to differential growth rates over time, the preponderant country’s pre-eminence will wane, and the preferences of a new preponderant country will be asserted. A country’s transition from subordinate to preponderant power is the focus of power transition theory, because power parity between countries is a structurally imposed condition that makes cooperation less likely. Over time, as the stronger country’s pre-eminence wanes, the preferences of a subordinate power are increasingly asserted. The leading country can choose to step down from its perch of pre-eminence, or seek to prevent the rise of a nation whose interests do not correspond to its ideal vision of interstate relations. Similarly, the subordinate power can choose to alter interstate relations violently, competitively, passively, or cooperatively once it has achieved preponderance. Asymmetric relationships are therefore conditions of non-conflict. This non-conflict status can be one of either neutrality or cooperation. Under a condition of neutrality, relations between the two countries do not exist, other than mutual recognition. The subordinate power does not wish to challenge a stronger actor because such a challenge is unlikely to be effective.

Cooperation, however, cannot be explained by looking only at relative power. This is where satisfaction with the status quo becomes important. Under a condition of cooperation, mutually beneficial exchanges occur between countries. The asymmetric environment gives the subordinate power two options, both resulting from its attempt to maximize benefits and minimize costs. If it is dissatisfied with the status quo, it can opt for neutrality. Under neutrality, it can minimize the cost of participating in a relationship that will be detrimental to it. Of course the preponderant power may force the subordinate power into a relationship; however, this cannot be classified as cooperation. In contrast, if the asymmetric relationship is associated with a degree of satisfaction, then cooperation may prevail. As satisfaction increases and power remains asymmetrical, cooperation may be the better option for maximizing the attainment of goals because countries tend to be synergistic in satisfied dyads. Therefore, integration intensifies as countries become more jointly satisfied.
A model of structural conditions and regional integration

Satisfaction or dissatisfaction with the dyadic status quo is a crucial element that determines the probability of a favorable cooperative decision. The status quo is the set of policies that all states face. For the world system, the status quo is determined by the dominant state (a superpower); for local hierarchies, the status quo is determined by the dominant state in the regional hierarchy (Lemke, 1996; 2002). The status quo is the relationship between two countries, which is determined by the preponderant power. Dissatisfaction or satisfaction with the status quo is based upon the distribution of rents. The pattern of trade, access to capital, provision of security, and the ease of technological exchanges are all components of the status quo. With regard to regional integration, status quo satisfaction arises from the rents reaped as a result of transnational market liberalization (Katzenstein, 1985; Magee et al., 1989; Alesina et al., 1997; Mansfield and Milner, 1997; Milner, 1997a, 1997b; Haggard, 1997; Garrett, 1998; Eichengreen and Frieden, 2001).

Thus, satisfaction may vary independently of relative power for the subordinate power (Lemke and Reed, 1996). Countries in the subordinate position in a particular power hierarchy will be either satisfied or dissatisfied. Since countries grow at different rates, subordinate powers can overtake preponderant ones. A satisfied new preponderant power will continue to support the global or regional system that was defined by the previous preponderant power - as was the case for the United States taking over from Britain. Similarly, the German transition over France in the 1950s was under a condition of dissatisfaction with the status quo, leading to integration.

Therefore, structural conditions do not apply merely to war decisions. Tammen et al. (2000) show that a range of policy choices can be explored from this power hierarchy perspective, and that such interactions include both cooperative and non-cooperative relations, of which war is simply the most extreme example of non-cooperation and integration is the most extreme example of cooperation. Cooperation extends to the security, economic, and political realms. Thus, the argument presented in this paper focuses on the interaction between relative power and satisfaction, and the tendencies of these structural conditions to constrain or provide opportunities for countries to cooperate economically.

Jointly satisfied nations are expected to interact cooperatively within the range of power distributions. For the extreme case when the preponderant power is much stronger than the subordinate power, this cooperation becomes more permanent in the form of integration. An important example is the process of regional integration occurring within the European Union, where considerations of power relations are reflected in votes and issues are resolved by weighting the influence of actors rather than through conflict. A more detailed description of this is given below with reference to the Economic and Monetary Union (EMU). The common denominator in this example is the shared common commitment to a status quo among these nations and their ability to act jointly to defend existing relations.

The dynamics of power

How do power transitions occur and how do the dynamics of structural change help us explain integration? The relative power component of the structure is driven by the 'S curve' of development (Organski, 1958, 1968; Organski and Kugler, 1980). In the more recent formulation, grounded in neoclassical macroeconomics, this structure is imposed by an endogenous growth path that separates countries that fall into the poverty trap from nations that develop along a sustained economic path (Tammen et al., 2000; Feng et al., 2000). These endogenous growth models identify fundamental elements of economic expansion, which have been robustly identified by a broad empirical literature in macroeconomics (Levine and Renelt, 1992; Barro, 1996).

Differential economic growth rates across countries resulting from these fundamentals drive the recurrence of power transitions. Endogenous growth theory shows that the technological revolution combined with political changes will help developed societies maintain steady growth rates, but will not allow them to remain ahead of rapidly developing countries whose growth patterns are expected to accelerate (Solow, 1987; Barro, 1996; Feng et al., 2000). The dynamics of endogenous growth suggest that the distribution of capital and labor across societies will not only force output convergence among countries, because societies with relatively low rates of per capita GDP will, if they avoid 'poverty traps,' enjoy high growth rates, but also generate a number of transitions at the international and regional levels.

Therefore, structural changes suggest that the shifts in power associated with such dynamics have serious consequences for stability. When two countries are at the same level of economic productivity, they achieve power parity, an important juncture where cooperation can be strengthened. Growth patterns may lead to increasing levels of cooperation if the rapid growth of the subordinate nation is owing to a cooperative arrangement. As this subordinate power grows and then surpasses the predominant regional power, it is unlikely that the subordinate power will wish dramatically to reorganize the cooperative arrangement because that arrangement has contributed to the subordinate’s rise. The result is a high level of satisfaction with the status quo because the link between growth and the status quo under this condition is symbiotic.
In the case of Europe, the early foundation of integration began under the leadership of France. The French predominance among the original six EU members was surrendered to Germany not only under a condition of non-conflict but also under increasing cooperation. When the two achieved parity, a situation of status quo dissatisfaction would have led the two into another war but, since Germany's rise partially resulted from integration itself, the two continued their collaborative relationship. As Germany continued its growth and was reunited with its eastern part, it entered into its current regional leadership role. The status quo would now be led by Germany. As a result, transitions among leadership contenders may produce greater cooperation where it already exists and therefore avert conflict.3

Specifying the likelihood and intensity of regional integration

Our effort here focuses on the application of the theory to the likelihood and intensity of integration.4 We specify the relationship between a country's structural constraints and opportunities and the likelihood and intensity of integration, while explicitly detailing the interrelationship between these elements as an evolving process. Decision-making models can identify the particular incentives to initiate cooperation. This paper simply focuses on the structural constraints on behavior. Each country is tracked throughout all stages of relative power until it is twice as large as its opposite in the dyad.

Table 1 displays the variable names and values used in our model. The RP term is the power relationship among a pair of states. Subordinate powers in this context are those countries that are initially smaller in terms of power, and preponderant powers are those countries that are initially larger in terms of power. Over time, the subordinate country may surpass the preponderant country in terms of power during the process of a transition. However, the history of the relationship is important, so we will continue to refer to the country as a subordinate even in the post-transition period because its behavior after the transition is conditioned in part by the pre-transition relationship. Note that the RP term is defined in terms of relative power, i.e. the subordinate's power (assumed to be equivalent to aggregate economic capacity) relative to the preponderant power:

\[ RP = \frac{\text{Power}_{\text{subordinate}}}{\text{Power}_{\text{preponderant}}} \]

The S term represents the satisfaction of the lesser state and the predominant state with the dyadic relationship, or status quo, between two states. In the econometric assessment of this study, we assume that rents derived from integration drive satisfaction and that it relates in a particular way to the probability within the continuum. We scale the satisfaction term to the range of 0 to 0.5 so that its effect on the relative power term is truncated and produces the following dynamic relationship. The case of EMU illustrates the particular status quo preferences among the more powerful EU members.

The final piece of the puzzle relates these components to the conflict-integration continuum. As the values on either end of this continuum become more extreme, the idea is that the intensity of either conflictual or cooperative relations will increase, and the likelihood of discrete events such as war on the conflictual side, and integration on the cooperative side, is likely to increase as well. In power transition theory the propensity to engage in either war or integration is driven by the relative power of the subordinate and preponderant countries. The reason that the interval around parity emerges as the most likely region for war, and that vast asymmetry between satisfied nations is most likely to produce integration, is driven by the dynamic interaction between relative power and satisfaction.

\[ CI = -RP + S(RP^3). \]

The selection of this particular functional form for the conflict-integration equation reflects the verbal arguments of other researchers; however, our interpretation will focus on the theory's ability to explain integration. When nations are not completely dissatisfied, using the cubic term shifts the highest propensity for conflict to just past the parity point and reflects the proper curvature for the conflict-integration variable with respect to relative power. In other words, the cubed RP term better expresses the notion that asymmetric power relations exponentially explain events of conflict and cooperation. A linear term would underestimate the influence of relative power because it treats each unit of increase in RP equally. By cubing the term, greater asymmetries will improve the probabilities for cooperation (assuming that the dyad
is at least somewhat jointly satisfied), especially when dyads are highly asymmetrical.

Most of the formal work on this problem focuses on conflict and serves as a guide for the functional form of the relationship. Organski and Kugler (1980: 59) find empirically that the dissatisfied subordinate initiates conflict after the transition. Bueno de Mesquita (1985), Kugler and Zagare (1990), and Bueno de Mesquita and Lalman (1992) provide a rationale for this argument when they suggest that the preponderant power does not pre-empt the subordinate because it is risk-averse owing to its acceptance of the status quo (after all, it dictates the terms of the dyadic status quo by virtue of its dominant position). In such a dyad, the subordinate alone is willing to take risks and, because its highest probability of success is just after the point of parity, the peak in the likelihood of conflict occurs just after the transition point.5 Using this logic, we can deduce that greater cooperation results when the transition occurs under high status quo satisfaction. When the subordinate power passes the preponderant power, it will be more likely to increase cooperation when preferences are aligned. It will accept cooperation as a low-risk behavior because it would wish to maintain and improve the economic environment that contributed to its growth. Therefore, supranational institutions will develop, but under the new preponderant power’s influence. This influence would be relative to its strength because it must incur the costs of institution building, similar to that described in hegemonic stability theory (Krasner, 1976, 1983; Gilpin, 1981; Keohane, 1984). Importantly, the precise functional form of the interactive term in our model is needed to reflect the differences in satisfied versus dissatisfied transitions, as well as in post-transition behavior. The longer past the point of power parity that the subordinate power remains satisfied, the greater the chance of cooperation—which is captured effectively by the cubic form of the RP term.

Figure 1 provides a graphical representation of the relationship specified in this equation, so that we can assess the interaction between these terms in a three-dimensional space. This specification provides a transparent assessment of the arguments proposed thus far. Because of the interactive term, the likelihood of integration improves exponentially as asymmetry increases and both countries are satisfied. The term transforms the normal plane of an additive model into a nonlinear surface, represented in the figure, with the coefficient of the interactive term estimating the amount of the curvature (Friedrich, 1982: 807).6

If the subordinate power is dissatisfied, then conflict is most likely near power parity; conflict will decline in probability as the subordinate’s new preponderance increases, assuming that it is able to impose its power to generate less dissatisfaction. If it remains completely dissatisfied, then it is more likely to use conflictual means to redress any grievances as it becomes more powerful. Integration, on the other hand, is most likely to occur at its most intense level after a power transition when two states are jointly satisfied. The model suggests that integration can occur under power asymmetry only when countries are satisfied. Thus, the specification provides a complete picture of the system as defined by moments of change. The next section describes the testing of this specification against regional integration to determine whether it has empirical merit.

**Testing the model**

We need to operationalize measures of the three continuous variables in the model: relative power, satisfaction, and the integration continuum. The domain of cases includes all dyads that are politically relevant (defined as contiguous states or those within 250 miles if separated by a body of water) for the period 1950–96, because no cases of integration occur before 1950.

Our measure of power is the standard measure used in the literature (Kugler and Arbetman, 1989). We use a ratio of the aggregate real GDP in
constant prices for each dyad-year. The data are from the Penn World Tables, Mark 5.6 (Summers and Heston, 1995), supplemented with data from Easterly and Yu (2000). The set of dyads analyzed is over the interval of relative power from 0 to 2, consistent with the argument presented previously. This constraint focuses on the transition period from subordinate to preponderant power, capturing the essence of structural change.

Previous attempts to define satisfaction with the status quo have largely relied on the work of Bruce Bueno de Mesquita (1981). His notion of satisfaction with the status quo relies on the similarity of alliance portfolios, using a tau-b measure of correlation. Dyads with more similar portfolios in this sense are regarded as satisfied with each other’s view of the international system or dyadic relationship, and those with less similar portfolios are regarded as less satisfied with each other. Signorino and Ritter (1999) argue that this measure does not accurately assess the hypothesized similarity, and instead propose an S-statistic. Tucker (1999) computes the S-statistic for all dyads in the data set. The data program, EUGene, aggregated the data into a dyadic format (see Bennett and Stam, 1999). The tests in this paper rely on the S-statistic.

For the dependent variable, we use a range to represent the intensity of integration (because we cannot measure the actual propensity to integrate, we must infer such an intensity) for 13 regional integration projects around the world. The measure captures actual events, but the concept implies the relative propensity toward each extreme, i.e. the intensity of integration and the likelihood of discrete events. The level of regional integration is measured by the integration achievement score (IAS), which was first developed by Hubbauer and Schott (1994) and then later adopted and further developed in Genna (2002) and Feng and Genna (2003). It is a coded measure that captures the degree of integration between dyads based on six Guttman-scale economic and political categories: (1) level of barrier liberalization for the trade of goods and services among the member states, (2) degree of capital mobility, (3) degree of labor mobility, (4) strength of supranational institutions, (5) degree of monetary coordination, and (6) degree of fiscal coordination. Each category is given a value between 0 and 5 (with higher values translating to higher levels of integration) and based upon information available for the 13 regional integration projects on all five continents from 1950 to 1996 inclusively. The values for each category are then summed and divided by 6, leaving the IAS range between 0 and 5. The data are further transformed so that they vary between 0 and 2.5, the larger numbers representing increasingly intense integration, and 0 representing all non-integration events.

Finally, we utilize several control variables to see how well the theorized independent variables perform in the face of the standard economic explanations of integration. First, we use Total Trade as an independent variable. This variable was constructed by Barbieri (1998), and is the sum of the value of merchandise that Nation 1 in the dyad imports from Nation 2 plus the value that Nation 2 imports from Nation 1. Second, we use two dummy variables to represent whether the subordinate or preponderant country in a particular dyad is a developed nation.

An econometric assessment

We now turn to a direct assessment of our formal implications. We use six model specifications to test the robustness of the theorized variables. Since the dependent variable has large variation over the interval, we can use ordinary least squares (OLS) to assess the relationship between variables. Model 1 provides the base assessment of the model, utilizing the S-measure of satisfaction based on alliance portfolios, and using GDP as the measure of power. Model 2 adds the Total Trade variable to the hypothesized model. Model 3 uses a dummy variable to indicate whether or not Nation 1 (the subordinate) is developed. Model 4 uses a dummy variable to indicate whether or not Nation 2 (the preponderant) is developed. Table 2 reports the OLS regression results.

All model specifications have the correct sign and are significant at high levels of confidence. As suggested by the formal characterization, the relative power variable is always negative and significantly associated with the integration variable. Likewise, the interactive satisfaction-relative power term is positively and significantly associated with the integration variable in all model specifications. The adjusted $R^2$ statistic suggests that our model explains a very large proportion of the variance in integration.

Note further that the parameters for power and satisfaction are not equally weighted, suggesting that the relative power term is a more powerful constraint on behavior than is the satisfaction term. Thus, power asymmetry without satisfaction adds to the intensity of integration, but the chance is small. When both are present, the propensity for integration rises substantially. Both structural conditions are therefore strong indicators of the inclination to integrate.

The addition of control variables does not affect the theory of regional integration presented in this paper. The magnitude, significance, and direction of the coefficients are essentially unchanged with each of the control variables. There is a slightly better fit in Model 2, which includes the sum of trade between the two countries. This suggests that countries that have strong trading ties are slightly more likely to integrate. Additionally, if either of the
two nations is developed, they are also slightly more likely to integrate in the presence of the theorized relationship.

Finally, we deal with two potential problems in the estimation of theories of integration in Table 3. First, given the earlier suggestion that integration may be the result of a contagion effect, we assess whether our theorized variables perform well in the presence of an autocorrelation component. We use feasible generalized least squares (GLS) to control for the presence of autocorrelation. In Model 5 we re-estimate the base model, now with panel-specific AR(1) terms, and the coefficients retain the correct sign and are highly significant. Second, in Model 6 we re-estimate the base model, once more with FGLS, assuming a heteroscedastic error structure. We find once more that the coefficients retain the correct sign and are highly significant.

Thus, the power transition explanation for integration appears to account for a large proportion of the variance across all cases of integration since 1950. Statistical support for this explanation stayed firm in the face of alternative theories, and appears not to be the product of either serial correlation or heteroscedasticity in the error structure.

Simulating European integration

This section further tests our theory by using dyadic cases of the more powerful members of the European Union. We do not use these cases in an effort to universalize the European integration process (Haas, 1961), but instead attempt to use this accounting of EU development to illustrate the dynamics of the model by focusing on the two independent variables: dyadic power relationships in the European hierarchy and satisfaction with the status quo. Each dyadic case represents the empirically predicted integrative propensity between Britain, Germany, and France. Given that each represents the larger of the EU member states, being able to simulate their propensity to integrate over the time frame (1950-96) enables us to show how the variation in power among the largest members and their status quo positions tests the limits of the model. The more powerful members should integrate during asymmetry, given high status quo satisfaction. Similarly, declining satisfaction would lead to a lowering of this propensity. In addition, the model would suffer in its ability to predict integration if it could not calculate the actions of regional leaders. The dyadic simulations will first be described, followed by a broader interpretation.

Figure 2 simulates the propensity of integration between Britain and Germany. The model indicates that structural conditions were ripe for

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**Table 2** OLS regression results on integration continuum for politically relevant dyads, 1950-96

<table>
<thead>
<tr>
<th>Model</th>
<th>Relative power</th>
<th>Satisf*RelPow3</th>
<th>Total Trade</th>
<th>Nation 1 Developed</th>
<th>Nation 2 Developed</th>
<th>Adj. R²</th>
<th>F-statistic</th>
<th>Root MSE</th>
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Notes: Dependent variable is the integration achievement score. Coefficients reported, standard errors in parentheses; two-tailed significance tests: *p < .05, **p < .01, ***p < .001.

**Table 3** FGLS regression results on integration continuum for politically relevant dyads, 1950-96

<table>
<thead>
<tr>
<th>Model</th>
<th>Relative power</th>
<th>Satisf*RelPow3</th>
<th>Wald X²</th>
<th>Log likelihood</th>
<th>No. of dyads</th>
<th>N</th>
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</thead>
<tbody>
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<td>270.74***</td>
<td>627.1388</td>
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<td></td>
<td>10652.42***</td>
<td>-609.2417</td>
<td>680</td>
<td>680</td>
</tr>
</tbody>
</table>

Notes: Dependent variable is the integration achievement score. Coefficients reported, standard errors in parentheses; two-tailed significance tests: *p < .05, **p < .01, ***p < .001.
cooperation as early as the 1960s. Approximately from 1953, the relative power of Britain was in a decline whereas the opposite was true for Germany. Satisfaction with the status quo also dramatically increased among the pair after the establishment of the Federal Republic. Given the structural conditions between France and Britain (described below) the early days of integration did not include Britain, although the structural conditions were in place for integration with Germany. However, this did not stop the formation of the European Free Trade Area, which brought Britain into Europe but in an admittedly limited manner. Although the conditions for integration in this dyad improved steadily, the 1980s and early 1990s saw a slight decline in the structural conditions, followed by a dramatic increase and decrease before these conditions returned to a steady improvement, although the propensity to integrate did not regain the pre-1980s levels by 1995. This spike in the results reflects the changing structural conditions owing to the end of the Cold War and the reunification of Germany.

The British–German simulation correctly explains the events that occurred during the time frame. The British preference during the 1980s was to change the focus of European Council meetings from the development of EMU to renegotiating the UK’s contribution to the EU budget and the associated reform of the Common Agricultural Policy (Urwin, 1991; Dinan, 1999).

Britain did not turn a serious eye to EMU until it was being surpassed in relative power by Germany in 1989. As a result, during the period of parity, it lost the battle for its version of monetary integration and opted out of EMU. The British position on monetary integration had been intergovernmentalist: a symmetrical system leaving monetary policy in the hands of the member states (Dinan, 1999). The German government’s position under Chancellor Kohl was in favor of maintaining a trajectory that pointed towards asymmetry, with Deutsche mark dominance and supranational institutions (Holland, 1994). Being in parity and without status quo satisfaction, Britain did not participate in monetary integration.

The French–German dyad (Figure 3) shows some similar dynamics. One difference, however, is the shallow decline in the propensity to integrate after the dramatic increase for a few years in the post-war settlement and before the reunification of Germany. This simulation reflects the lack of a significant development towards monetary integration during the period owing to French and German parity (1969–76), even though we witness a high level of associated satisfaction among these actors. In this period we see the introduction and shelving of the ‘Snake,’ which attempted to tie the currencies under a joint float of ±2.5%.

The period began with the two members having differing positions on the establishment of the Snake. President Pompidou preferred a fixed
exchange rate system and without relying on a particular currency as an anchor, whereas Chancellor Brandt advocated tying the currency under a joint float system with the Deutsche mark as an anchor (Dinan, 1999). Another point of contention was capital controls, with France advocating them and Germany being against them (Tsoukalis, 1991). Germany also advocated the use of a steering committee to coordinate economic policies among the members (Tsoukalis, 1997). These issues coalesced into the two approaches discussed above: an intergovernmental (French) position and a supranational (German) position. However, both agreed on one very important set of points, namely that the United States was mismanaging the Bretton Woods system and that some sort of coordination of monetary policy at the European level would be necessary (Urwin, 1991). Negotiations among the finance ministers did not produce an acceptable regime until 1972, when the Snake was established under a compromise package between the two contending powers.

Although a satisfactory status quo was installed, integration was not successful. Most scholars point to the continuing international monetary crisis and recession during the 1970s making it difficult for the members to maintain the 2.5% band established under the monetary Snake (Ludlow, 1982; Tsoukalis, 1991; Urwin, 1991; De Grauwe, 1997; Ungerer, 1997). The economic hardships lowered the capacity of each member of the Snake to maintain a position in the joint float system. In order for the system to maintain its integrity, external aid would have been necessary from a preponderant power. Since France excluded itself from the Snake in 1974, it could not take up this position. Germany, too, could not provide assistance by way of reserve funds to other members in order to maintain them in the Snake band (Tsoukalis, 1991). Also, because no one nation could coordinate or organize the others in the system, each solved its monetary problems individually without regard to integrative interest (Ungerer, 1997). In sum, the Snake failed to bring Europe closer to the idea of EMU because the parity power relationship among the major powers made cooperation difficult, even though each member was satisfied with the established arrangements.

The British–French dyad (Figure 4) illustrates a different dynamic: the lack of structural conditions led to low levels of the propensity for integration and France's role in not including Britain in European integration. Although the simulation shows a slow but steady increase in this propensity, we do not witness a large propensity to integrate until the early 1970s. France rebuffed British entry twice during this time frame, first in 1963 and then again in 1967. In this period, the French economy was gaining strength against the British. The structural condition was an approximate parity situation, although both governments shared an anti-federalist view on integration (Dinan, 1999). However, President de Gaulle's stance on British membership was tied to the strong Anglo-American alliance, which threatened his view of a 'European Europe.' Our model predicts that parity and dissatisfaction are not the conditions for integration. By having Britain join the European Economic Community, President de Gaulle felt that France would lose its leadership role. Because Britain and France were in a parity position and Germany was recovering quickly in the post-war era, France viewed British inclusion as a potential threat to the status quo it was attempting to cultivate.

Next, we address the power preponderance of Germany over France with status quo satisfaction and its preponderance over Britain without this satisfaction. The German and French governments went into partnership to sell the ideas behind the Treaty on European Union, including EMU, to their respective constituencies. In addition, Germany performed its dominant role in establishing the status quo for the creation of the single currency. However, fears over reunification sparked a short-lived satisfaction decline between Germany–Britain and Germany–France. This decline in the structural conditions for integration is simulated in both Figures 2 and 3.

The Mitterrand government's position on EMU was in line with that of the Kohl government, although the French initially believed the franc would play a larger role. Both leaders envisioned a supranational EU with the
establishment of EMU as a major cornerstone (McKay, 1996). Therefore, the Delors proposal for an autonomous European System of Central Banks (ESCB) and European Central Bank was in line with their thinking. Also, whereas the Thatcher government was apprehensive about the unification of Germany, the Mitterrand government mitigated similar French fears by the belief that a united Germany in the EU would lock it into a cooperative mode (Holland, 1994). Mitterrand’s early idea of the franc’s role in EMU was for it to operate as a dual anchor with the mark. However, France’s economic problems in the early 1990s and subsequent coordination between the French and German central banks to prop up the franc put aside this notion (McKay, 1996). As a result, the French viewed ‘importing’ German stability as more beneficial than the unilateral cost of the franc serving as an anchor for the system.

McNamara (1998) accurately describes the conversion and/or the convergence of several members (e.g. France, Italy, and Luxembourg) from previously Keynesian policy orientations to monetary orthodoxy. She states that it was the shift to monetary orthodoxy (a move to the German preference) that led to the creation of the European single currency. However, this does not explain why Britain did not join. Britain, under Thatcher, also shifted away from Keynesian policy and toward orthodoxy. It needs to be noted that the ideational changes that occurred also included the acceptance of changes in sovereignty, which allowed monetary policy to be decided at the European level – a shift toward supranationalism. Therefore, the status quo package includes satisfaction with both the type of policy (monetary) and where the decision was to be made (ESCB). The British preferred only the former. By looking at the power relationship between Britain and Germany, one can see that they were in parity and dissatisfied, a condition not conducive to integration.

Conclusions

Our application of a structural model to the problem of integration produces a representation of the dynamic relation between relative power, satisfaction, and the propensity for and intensity of integration. The characterization reflects the verbal arguments suggested by power transition theory and incorporates recent notions regarding economic integration into a single framework. By precisely specifying the theory, we are able to generate a more precise hypothesis to test the relationship between power, evaluations of the status quo, and regional integration.

The evidence supports our specification of the theory as applied to integration for all politically relevant dyads from 1950 to 1996. In addition, we assess the relationship for both developed and developing countries, demonstrating the theory’s applicability across regions. The use of the development control confirms this explanatory power. We simulate the empirical results of the model for European integration to illustrate the strength of having both satisfaction with the status quo and power preponderance. The establishment of the ‘Snake’ showed that successful negotiations are not enough to generate integration. Having a dominant power to stabilize any crisis that eventually arises is also an important structural component. To avert system breakdown, it is essential to understand how a favorable evaluation of the status quo can be reinforced; the alternative is to prevent economic convergence – generating immense dissatisfaction and a high probability of non-cooperation.

Notes

The authors thank the following individuals for their helpful comments: Scott B. Cooper, Yi Feng, Hein Goemans, Taeko Hiroi, Jacek Kugler, Gerald Schneider, Paul Zak, and two anonymous reviewers. We, of course, assume the usual responsibilities for any errors herein.

1 In fact, the institutionalist researchers claim that they produce arguments that exclusively explain European integration. However, in making this statement we are arguing that the European Union is sui generis, but that it is a more developed example of regional integration (Caporaso et al., 1997).

2 Much of the research looks at specific events of European integration (the Single European Act, the Treaty on European Union, and so on) and therefore focuses on the years just prior to the adoption of these treaties.

3 The logic of the bilateral process does not differ fundamentally from the multilateral process that often occurs in regional integration. Dyads simply reduce the complexities to manageable units. Indeed, many empirical tests and theories are at the dyadic level although events include more than two actors. These include peace maintenance (Werner, 1999), trade issues (Mansfield, 1992), or conflict. In each, an actor evaluates the prevailing conditions and possible modes of behavior. Individual pairs will evaluate conditions vis-à-vis each other and then decide to integrate, but they will choose not to integrate when an unfavorable condition arises.

4 There are two formal efforts to represent power transition theory in terms of a structural model, both of which involve only a conflict focus. In addition, Alsharabati (1997), Alsharabati et al. (1999), and Powell (1996) use game theory to characterize the process of a power transition.

5 This argument is consistent with the game-theoretic derivations of Alsharabati (1997) and Alsharabati et al. (1999) in terms of the propensity for conflict, as well as Schweller’s (1992) arguments on the lack of motivation for democracies to fight preventive wars. Geller (1996) reaches a similar conclusion based on the probability of war outcomes.
6 Efird et al. (2001) assess the more complete interaction between deciding upon war or integration and the structural factors that we focus on here. The intent in this paper is to assess the merits of this approach to the question of regional integration.

7 The 13 regional integration projects are: the Association of Southeast Asian Nations Free Trade Agreement, the Andean Common Market, the Australia–New Zealand Closer Economic Relations Trade Agreement, the Forum for Asia-Pacific Economic Cooperation, the Central American Common Market, the Caribbean Community, the East Asian Economic Caucus, the European Free Trade Association, the European Union, the Gulf Cooperation Council, the North American Free Trade Agreement, the Southern Cone Common Market, and the Central African Customs and Economic Union. Although this list does not exhaust the possible number of regional projects, it does represent the more significant projects to date as determined by the World Trade Organization (see www.wto.org). In addition, the selection is not biased towards any one region, nor does it favor groupings of developed countries over developing ones.

8 We are aware that Beck and Katz (1995) provide a different correction for temporal dependence in panel data but, since the panels in this study are highly unbalanced, the disturbance covariance matrix needed for their approach cannot be computed. Rather, we use feasible GLS, which remains the best check for autocorrelation in the presence of unbalanced panels.

References


Hoffmann, Stanley (1966) ‘Obstinate or Obsolete: The Fate of the Nation-state and the Case of Western Europe’, Daedalus 95(3): 862–915.


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