THE DE FACTO PREFERENTIAL TRADE AGREEMENT IN EAST ASIA

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Abstract:

East Asian countries consistently apply lower tariffs on their neighbors' products than they are required to under the various trade agreements to which they belong, a concession they grant only rarely to countries outside the region. The result is a de facto preferential trade area in East Asia in which applied tariff rates significantly undercut the legally bound rates. This gap, termed binding overhang, is an under-studied aspect of international political economy, but provides information about the nature of East Asian regionalism. To wit, the regional bias in applied tariffs is driven by transnational production networks that must move components across borders, not geopolitics or state preferences for increased regional integration. This finding supports a 'bottom up' interpretation of East Asian regionalism.

Introduction

In 1990 there were no preferential trade agreements in East Asia.[2] Today there are ten in effect, three that have been finalized, and four currently under negotiation.[3] While skeptics have questioned the actual impact of these treaties on liberalization, heads of state across the region have called for and are actively studying the creation of a region-wide free trade zone that would include some three billion people.

However, in one sense, this vision of the future has been outstripped by reality. By turning attention from the web of legal agreements and regional organizations to what might be called the de facto trade regime, this article shows that a preferential trade area of sorts already exists in East Asia. Whereas the WTO and regional and bilateral PTAs establish ceilings beyond which countries may not

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[2] Here defined as the 10 ASEAN members (the Philippines, Indonesia, Malaysia, Thailand, Brunei, Singapore, Cambodia, Vietnam, Laos, and Myanmar) plus the countries of Northeast Asia (China, Korea, Japan) and Hong Kong and Taiwan.

[3] In effect: Japan-Singapore (2002), Japan-Malaysia (2006), ASEAN Free Trade Agreement (1993), ASEAN-China (2005), ASEAN-South Korea (2007), South Korea-Singapore (2006), China-Hong Kong (2004), China-Macau (2004); Japan-Philippines (2007). Finalized: Japan-Indonesia (2006), Japan-Thailand (2007), Japan-Brunei (2006). Under negotiation: Japan-Vietnam (2007), Japan-ASEAN (2005), Japan-South Korea (2003), Singapore-China (2006). Proposed: ASEAN Plus Three (China, Korea, Japan). As of 2008 (Searight). Counting the multilateral deals as sums of bilateral deals, Richard Baldwin identifies 70 PTAs in the region (Baldwin, 2007). Some might count the Asia Pacific Trade Agreement from the 1970s, brokered by the UN, as a pre-1990 PTA, but I do not consider it here because it applies mostly to South Asian countries.

raise tariffs, governments often choose unilaterally to lower tariffs below the legal maximums. The gap between 'bound' and 'applied' tariffs is called 'binding overhang,' and is common in many developing countries (Bchir, Jean et al. 2006).

Binding overhang in East Asia follows an intriguing pattern. East Asian countries consistently apply lower tariffs on products from within the region than from elsewhere. This regional preference is particularly pronounced for manufactured products. The result is a 'de facto PTA' for manufactures in East Asia, which is, to my knowledge, not previously identified in the academic or policy literature.

Why do East Asian countries favor their neighbors with lower-than-necessary applied tariffs? Answering this question, as the paper attempts to do, sheds light on larger questions of regional integration. The region's ever more complicated institutional architecture—sometimes described by scholars and policymakers as a 'noodle bowl'—has given rise to competing interpretations. The 'more the merrier' camp welcomes each new agreement, arguing that any additional step toward liberalization and integration can only enhance regional cohesion (Lincoln 2004; Kawai 2005; Fouquin 2008; Searight). Skeptical observers, in contrast, argue that the flurry of treaty-making in the region overstates Asian countries' commitment to liberalization and integration (Baldwin 2007). Noting the weaknesses of many of the regional PTAs—for example, Baldwin finds that firms in ASEAN countries use the ASEAN Free Trade Area for less than three percent of their total trade—critics contend that real integration remains shallow and disjoint.

Prima facie, the existence of a de facto free trade area seems to support an optimistic account of regionalism; countries in East Asia have liberalized vis-à-vis their neighbors above and beyond their legal requirements. But the roots of the de facto PTA suggest a more nuanced picture. As will be shown, the de facto PTA is not driven by the conscious political decisions of state leaders, but rather by the demands of transnational networks of private manufactures and states' efforts to accommodate them. That is, the impetus for de facto regionalism is more 'bottom up' than 'top down' (Pempel 2006). In one way, this finding is also optimistic, because it suggests that regionalism rests on a firm foundation of economic interests, not the shifting sands of political will. However, the finding also reinforces Baldwin's critique that the ad hoc nature of regional integration is dangerous because 'no one is in charge.' Without a leading regional organization (akin to the EU, NAFTA, or Mercosur), Asian integration is vulnerable to crises and liable to backslide, he argues.

By describing and explaining the existence of a de fact PTA in East Asia, the article highlights an under-studied aspect of international political economy. International relations scholars often focus on bound tariff rates because these are the official outcomes of international negotiations; however, it is

applied tariffs that arguably matter most to exporters and importers, and writers who impute policy outcomes from the preferences of such interest groups should be aware of this distinction. Moreover, binding overhang provides information about preferences and strategies beyond that provided by treaty-making. It allows us to ask: given the legal constraints of bilateral and multilateral treaties, what tariff policies do states choose, and what does this tell us about regional integration?

This article represents a first attempt to study binding overhang as a politically meaningful dimension of state behavior. The next section analyses tariff data from the region, demonstrating the existence of the de facto PTA. Sections three and four develop and test possible causes of this informal PTA, the former focusing on 'top down' hypotheses and the latter on 'bottom up' explanations. The fifth section concludes by connecting the findings to broader questions of regional integration and raising questions for future research. I draw on a mix of quantitative and qualitative data, some of the latter gathered during a series of interviews with trade officials at country missions to the WTO in Geneva in January 2009.

The de facto PTA for manufactured goods in East Asia

This section establishes the existence of a de facto PTA for manufactured goods in East Asia through descriptive inference of bound and applied tariffs in the region. Bound tariffs are agreed between countries and codified in international treaties at the multilateral, regional, or bilateral level. They typically set a maximum level over which tariffs cannot be raised without violating the agreement and potentially incurring retaliation. Applied tariffs, which are the actual duties levied on imports, are set through domestic political processes, typically via an interagency committee coordinated by the ministry of trade or equivalent body. The gap between applied and bound tariffs is referred to as binding overhang.

Tables one and two present an overview of East Asian countries' binding overhang from 1990 to 2006, averaged across years and product lines (HS two digit level). The data were downloaded from the WITS/TRAINS database of the WTO, and are reported by the countries themselves. The starting point is chosen as 1990 because data are not available for many of the countries of interest before that point. Table one expresses the binding overhang as a ratio (the applied rate divided by the bound rate) to give a sense of proportion, while table two expresses the same data as a difference (bound rate minus applied rate) to give a sense of the magnitude of the gap. Thus, in table one, values closer to zero

indicate more binding overhang while values closer to one indicate less; in table two, larger values indicate more binding overhang.

[TABLES ONE AND TWO ABOUT HERE]

The data are disaggregated in several ways. The first set of columns includes all bound product lines, whether the relevant binding institution is the WTO, a PTA, both, or some other arrangement. The second set of columns tracks only those product lines bound by PTAs, while the third set looks only at product lines bound under WTO (or 'most favored nation,' MFN) rules. Within each group, I distinguish between agricultural products and non-agricultural goods (services are not included), and also between total trade, trade with just other East Asian countries (i.e. the countries listed), and trade with the rest of the world.

There is a significant amount of binding overhang in the region. China, Taiwan, Hong Kong, and Singapore are all somewhat special cases. The first two joined the WTO quite late (2001) and, especially in the case of China, faced extraordinarily rigorous ascension processes that required substantial tariff cuts. Their MFN bound rates thus leave little room for binding overhang and probably come relatively close to the minimum of their preference range. Hong Kong and Singapore, for their part, have accepted very low bound rates and also have unilaterally reduced tariff rates to zero.

Three interesting patterns emerge from the data. First, East Asian countries are much more likely to exhibit binding overhang with other East Asian countries than with the rest of the world. For non-agricultural goods, the binding overhang is *never* larger outside the region than within, and for agriculture products only Cambodia, Myanmar, and Malaysia grant more preferences to countries outside the region than within.

Despite this common preference for the region, the scale and scope of the preference for regional trade varies across countries. For Brunei, China, Indonesia, Korea, Myanmar, and the Philippines, the difference in ratios between intra- and extra-regional non-agricultural trade is less than ten percentage points. For Japan, Malaysia, and Thailand the difference is significantly larger, a noteworthy finding given that these three economies are deeply involved in the component trade (discussed below). For Indonesia and the Philippines the lack of difference between intra- and extra-regional trade has a direct cause—IMF conditionality agreements that imposed uniform tariff schedules in the late 1990s. Under the loan packages these countries received in the wake of the East Asian

financial crisis, both countries agreed to apply MFN rates uniformly to all trading partners, effectively eliminating their ability to vary binding overhang (Erwidodo ; Teehankee ; Bora and Neufeld 2001).

Second, East Asian countries exhibit absolutely no binding overhang under their PTAs both in and out of the region. The high number of exact '1s'—indicating that applied tariffs precisely match bound rates—is particularly striking, given that these are averages over 16 years and many different products and trading partners. Only two countries, China and Japan, set applied tariff rates that do not perfectly match the preferential bound rates, but these in fact *exceed* the legal ceiling created by the PTAs. Note, however, that these violations (perhaps attributable to anti-dumping duties or similar provisions) are smaller in the region than outside it, particularly for China.

Part of this difference between PTAs and other bound rates likely stems from the fact that PTA rates are quite low. Under the ASEAN Free Trade Agreement, for example, the vast majority of product lines are bound between zero and five percent, leaving little room for binding overhang. The lack of binding overhang under PTAs might also indicate that the preferential bound rates reflect the lowest tariffs a country is willing to accept.

Third, East Asian countries exhibit virtually no binding overhang under MFN rates outside the region, but significant binding overhang within the region. The only exception is Japan, which has applied tariffs at about 60 percent of the MFN rate outside the region for non-agricultural goods; note, however, that this is still six times larger than the within-region rate of nine percent.

TABLE 3 ABOUT HERE

The three trends presented at the aggregate level in tables one and two are also reflected in more detailed snapshots of the data. Table three compares binding overhang ratios for just two HS chapters, 7 ('Edible vegetables and certain roots and tubers') and 85 ('Electrical machinery equipment and parts thereof; sound records'), typical examples of agriculture and manufactures, respectively. Again we observe a preference for the region, particularly in Japan, Malaysia, and Thailand, as before, and also Cambodia. Similarly, there is no binding overhang under the preferential rates, and binding overhang under the MFN rates only in the region.

TABLE FOUR ABOUT HERE

Table four shows the same information for 225 products involved in the component trade, disaggregated at the HS five-digit level (as defined by (Athukorala 2003)). The component trade is a system of production in which different stages of the manufacturing process are located across various countries, wherever is most efficient. Parts are then traded back and forth before a product is completed. As is discussed below, we would expect significant binding overhang in this sector, because low applied tariffs are necessary to move parts between manufacturing centers. Indeed, we see substantial binding overhang, again with the exceptions of China and Taiwan. Unfortunately, data limitations have prevented a comparison with the rest of the world at this level of detail, but it is important to note that the general pattern of binding overhang holds.

The patterns of binding overhang in the region suggests that East Asian countries prefer a more liberalized regional trade system than is currently encoded in trade law. The lack of binding overhang under the preferential agreements suggests they have begun locking in these low preferences in PTAs, but that the process is not complete, or that certain product lines remain difficult to formalize. Moreover, the sharp difference between the region and the rest of the world, especially for the MFN rates, suggests that this preference for liberalization does not extend beyond the 15 countries listed in the tables. The result is striking. There exists a de facto free trade zone in Asia, especially for manufactured goods. The next sections attempt to explain this phenomenon.

Top-down explanations

A top-down theory of binding overhang would explain the pattern presented in the previous section as the political choices of top leaders. In this view, Asian leaders seeking to integrate the region employ binding overhang to favor imports from regional partners. Their motivation may stem from idealistic visions of Asian unity or from larger geopolitical considerations, such as the Sino-Japanese rivalry. I consider each of these 'high politics' explanations below.

Binding overhang and PTAs

If patterns of binding overhang are the product of high level political decisions, we would expect them to follow a logic similar to PTAs. Even if PTAs are themselves motivated more by the interests of economic actors than political elites, the fact that states negotiate and implement them requires at least the consent of top political leaders. Moreover, the lack of binding overhang under PTAs identified above

begs the question, is this pattern just an informal PTA, functionally equivalent to a treaty but not legalized? Instead of negotiating formal, legally-binding treaties, countries sometimes make informal agreements. Where such agreements involve mutual concessions, monitoring, and enforcement, they can become functionally equivalent to legalized arrangements (Lipson 1991). They may also offer benefits over formal agreements under certain conditions, for example, where flexibility is desired, or when national executives wish to circumvent domestic ratification procedures. If this explanation is true, we should observe diplomatic efforts, potentially behind the scenes, to form these tacit agreements and enforce them.

If binding overhang does track PTAs, then we have reasons to be optimistic about East Asia integration. If leaders are willing to use both formal and informal means to liberalize the region, then they likely have a serious interest in that goal. Indeed, it would show that they are willing to go beyond legal requirements in pursuit of integration.

Is it true? Several trade officials interviewed suggested that the sheer scale and intensity of regional diplomatic contact, especially within ASEAN, created a favorable environment for informal agreements (Erwidodo ; Konuma ; Ryu). Mr. Ryu of South Korea also noted that regional interdependence gave East Asian countries greater influence to make such deals with neighbors than with countries outside the region. However, while theoretically plausible, there is no empirical evidence to support the idea that the de facto PTA in East Asia results from a tacit agreement between states. None of the trade officials interviewed could identify any such agreement between two or more governments in the region.[4] Moreover, several noted that such an agreement would be exceedingly difficult to maintain, given that it would likely anger extra-regional trading partners left outside and possibly lead to legal challenges in the WTO (Konuma ; Wei).

There is thus no evidence of a 'secret' PTA in East Asia. But is the de facto PTA serving the same function as a PTA would? If it were, we might expect the same factors that cause PTAs to cause binding overhang, a proposition we can test empirically. Mansfield, Milner, and Pevehouse's study of veto players and PTAs presents a successful model of PTA formation (Mansfield, Milner et al. 2007). Using a global data set from 1950-1999, the authors estimate the probability that any two countries in their sample will sign a PTA in a given year. Their logit model is as follows; the variables are described in table five:

[4] However, Mr. Shiro Konuma of the Japanese Mission did identify one case of such an agreement outside the region. Japan has a very high bound rate on beef imports, but has made a special agreement with two large beef exporters, the United States and Australia, to keep a low applied rate on beef imports unless it faces extraordinary pressure to raise beef tariffs in the future.

$$PTAOnset_{ij} = \beta_0 + \beta_1 Veto\ Players_i + \beta_2 Veto\ Players_j + \beta_3 Regime\ Type_i + \beta_4 Regime\ Type_j + \beta_5 Trade_{ij} + \beta_6 GDP_i + \beta_7 GDP_j + \beta_8 \Delta GDP_i + \beta_9 \Delta GDP_j + \beta_{10} Dispute_{ij} + \beta_{11} Ally_{ij} + \beta_{12} Former\ Colony_{ij} + \beta_{13} Contiguity_{ij} + \beta_{14} Distance_{ij} + \beta_{15} Hegemony + \beta_{16} GATT_{ij} + \varepsilon$$

[TABLE FIVE ABOUT HERE]

As a (very) rough test of the idea that binding overhang is functionally equivalent to a PTA, I re-estimate the model using binding overhang, not probability of forming a PTA, as the dependent variable, and standard OLS regression. The results are given in table six. The first column successfully replicates Mansfield, Milner, and Pevehouse's substantive results (some of the exact coefficient estimates differ due to data discrepancies, but these are minor). The second column re-estimates the model using only data from East Asia in the 1990s. The third column estimates an OLS model using the same explanatory variables but with binding overhang (AHS/BND) as the dependent variable, also with only East Asian data from the 1990s. Whereas the Mansfield, Milner, and Pevehouse model seems to explain much of the variation in PTA formation globally and a good amount of recent PTA formation in East Asia, only two of their variables emerge as a statistically significant explanators of binding overhang. It would be unwise to read too much into these results. However, they do provide some evidence that the kind of variables that predict PTA formation do not seem to explain levels of binding overhang.

[TABLE SIX ABOUT HERE]

Sino-Japanese Rivalry

Countries may lower applied rates below legal bounds as part of larger geopolitical strategies. Patterns in binding overhang may thus represent side payments for other issues, either concessions extracted by trading partners or rewards offered to trading partners. Indeed, geopolitics is generally thought to matter for trade liberalization. Studies have shown that countries are more likely to form PTAs with their allies, and less likely to form them with countries with which they have disputes (Mansfield, Milner et al. 2007). Note, however, that the results shown for the alliance and dispute variables in columns two and three table six fail to provide evidence for this claim in East Asia (albeit in a limited sample).

However, geopolitics—specifically, Sino-Japanese rivalry—is widely thought to drive PTA formation in East Asia. Until recently, Japan has led economic integration in Asia. This rise of China as a global trading power challenges this tradition. Japan was taken aback by China's hurried negotiations of

PTAs with ASEAN countries in 2001-2002, and soon responded with its own 'economic partnerships' with the same countries (Zhai 2006). If a similar rivalry is driving patterns of binding overhang, we would be less optimistic about regional integration because binding overhang becomes simply a bargaining chip in a struggle that divides the region instead of unifying it.

If Sino-Japanese rivalry is also driving binding overhang, we should expect to observe three things. First, China and Japan should both exhibit significant levels of biding overhang vis-à-vis smaller countries in the region. This is not the case. As shown in tables one and two, Japan provides extensive concessions throughout the region while China actually *exceeds* its legal ceilings on average. If Japan is using binding overhang as a tool for regional influence, China is not responding in kind.

Second, we would expect to see China and Japan targeting the same countries for applied tariff concessions, as they have done for PTAs. Table seven ranks countries in the region by the favorability of the applied tariff rates they receive from China and Japan, and shows little common focus. In fact the lists are almost the mirror image of each other (for example, China's top three are Japan's bottom three), suggesting that China and Japan have not been engaged in an applied tariff 'bidding war' for influence, as they seem to have done with PTAs.

[TABLE SEVEN ABOUT HERE]

Third, we might think, given the results in table seven, that countries have aligned into rival Chinese and Japanese binding overhang blocs. Indeed, Andrew MacIntyre and Barry Naughton have argued that since 1994 the region has witnessed 'the emergence of competing interregional production complexes' centered around Japan and China (MacIntyre and Naughton 2005). We observe, however, that ASEAN nations give equal concessions to both Japan and China, on average. For the Japan, the ASEAN average ratio of applied tariffs to bound tariffs from 1990 to 2006 was 0.35; for China it was 0.31. Moreover, the ASEAN countries exhibit a similar average ratio of applied to bound tariffs (0.37) with Korea, which is not thought to be competing for geopolitical influence in the region. Furthermore, note that Japan has given more applied tariff concessions, both in absolute and relative terms, to both Hong Kong and Taiwan than China has, despite these two economies' deep integration with the mainland economy.

The data thus provide no evidence of Sino-Japanese competition in binding overhang. Indeed, China is a conspicuous outlier, setting applied tariff rates *at least* as high as the bound ceilings allow. As discussed above, China's failure to employ binding overhang may reflect the tariff cutting that preceded and followed its late admission into the World Trade Organization. Second, China may not need to offer special tariffs concessions to multinational firms in order to induce them to invest. China's low wages,

efficient labor system, vast internal market, political stability, and other advantages may make it so attractive that investors do not need to be offered tariff concessions on key imports.

Bottom-up explanations

A second class of explanations would cast patterns of binding overhang not as top-level political decisions but rather a reflection of transnational economic interests. I suggest two alternative but not necessarily exclusive forms these interests might take. First, binding overhang may simply reflect states' desire for flexibility over tariff rates. Because states are uncertain about the future preferences of their firms, they may wish to have a flexible applied tariff rate. Second, binding overhang may result from the micro-interactions between governments and domestic and transnational firms, where the former use tariff concessions to attract investment from the latter or to stimulate the development of certain industries.

Each explanation carries different implications for regional integration, and thus for the optimist-pessimist debate. If a state's level of binding overhang merely reflects its desire for flexibility over trade policy, then the pattern of regional bias simply means that states are more uncertain about their preferences over regional trade than extra-regional trade. If this were true, the implications would be quite negative for future integration in the region. If, instead, the regional bias in applied tariff rates is due to the micro-incentives of individual firms and governments, then integration, at least in this dimension, is best understood not as some overarching political process but rather as the cumulative effect of micro-incentives for economic integration.

Flexibility

Bagwell argues that binding overhang, or at least the option thereof, gives states a useful degree of flexibility. Because states are uncertain about their future preferences over tariff levels, setting maximum ceilings for tariff rates 'offers governments greater expected joint welfare than they can achieve with an agreement to use a strong binding [a fixed rate] or in the absence of an agreement' (Bagwell). The intuition behind this result is quite simple. Should domestic political pressures demand greater protectionism in the future, binding overhang may be reduced. Should the state instead prefer a lower tariff rate, it may be lowered without constraint. Several trade officials interviewed also emphasized this logic.

Bagwell's conclusions have a clear observable implication: binding overhang should respond to shocks that affect countries' preferences over tariffs. I test four such factors that are likely to influence these preferences: a country's current account balance, a shift to the Left in the ideological orientation of the governing party, a country's exchange rate regime, and regime type.

Current account: On average, countries prefer trade surpluses to trade deficits. One way for a state to improve its current account is to reduce imports, potentially by raising applied tariffs. We would thus expect a country's current account to be positively correlated with binding overhang; the higher the trade surplus, the more 'generous' a country can afford to be. We might expect this relation to be particularly pronounced in East Asia. Indeed, all of the countries studied here except Myanmar have explicitly adopted export-oriented development policies and seek to accumulate substantial foreign reserves from their trade surpluses (Garnaut, Grilli et al. 1995; Hamilton-Hart 2004; Kimura 2006).

Shift to the Left: Political parties representing different sectors of society have different preferences over trade (Milner and Judkins 2004). Milner and Judkins argue that in developed countries Left-leaning parties prefer lower levels of liberalization than more Right-leaning parties. Raising applied tariffs may be a way for protectionist parties to please their constituents without starting conflicts with trading partners. When more Left-leaning governments come to power in developed countries we should expect a reduction in binding overhang. What about in developing countries? While this is an interesting question, we need not answer it here. The data I analyze include only one example of a developing county shifting to the Left-- Thaksin Shinawatra's Thai Rak Thai party. Because this party won on a populist platform of support for rural farmers with active development of national industry, it makes theoretical sense to also expect a reduction in binding overhang in this case (Jarvis 2002; Mutebi 2003).

Exchange rate regime: Countries impose varying levels of control on their exchange rates. A more restrictive regime—for example, a currency board or a hard peg—stabilizes a country's currency and thus reduces the volatility of trade. Countries with floating currencies, in contrast, may experience sudden spikes of imports or exports as their currencies rise and fall on markets. Countries with more flexible currency regimes are thus more likely to experience sudden shifts in their preferences over tariff rates, and should thus prefer higher levels of binding overhang.

Democracy: The openness of political institutions is likely to increase a state's desire for flexibility, for at least two reasons. First, democratic countries are more likely to see a shift in preferences as parties and constituents change over time. Second, the impact of shocks on a country's preferences is likely to be moderated by domestic politics (Milner 1997). Governments must bargain

over trade policy with interest groups, legislatures, and other domestic actors. This idea enjoys support in the literature and was vividly emphasized in the interviews with trade officials. Democracy allows such groups to thrive and gives them constitutional tools to check executive authority. Thus we would expect the impact of the above shocks on binding overhang to be greater in democracies, because the preferences they affect have a higher probability of being given greater political weight.

Regional production networks

It may be the case that the pattern of binding overhang in the region is not orchestrated by states seeking flexibility, but is rather the cumulative result of domestic and transnational interactions between governments and interest groups. Many developing countries in East Asia offer incentives to potential investors, including special economic zones, tax incentives, and, importantly for the purposes of this paper, reductions on tariffs of key imports (Kimura 2006).

The regional component trade may be a particularly strong driver of such interactions. Following the decline of Japanese manufacturing competitiveness in the mid- to late-1980s, Japanese companies increasingly relocated production to lower-cost countries. Other leading Asian countries soon followed suit. The result today is a 'factory Asia,' with manufacturing disaggregated across the region (Athukorala 2003; Pempel 2005; Tachiki 2005; Baldwin 2007). It is not uncommon for components to be produced in several countries and assembled in yet another before final export to Japan, Europe, or North America. Indeed, intra-East Asia exports of machinery parts and components grew 452% from 1990 to 2003, accounting for more than half of intraregional export growth (Kimura 2006). Because this production model depends on moving parts between various production sites, low tariff rates are essential. Indeed, this argument has been made to explain Japan's regional PTAs (Manger 2005).

Several of the trade officials interviewed emphasized these types of concessions as a potential source of binding overhang in the region. Ambassador Erwidodo of Indonesia had previously served as the deputy chairman of the national tariff setting committee, responsible for determining applied tariff rates. He noted that multinational firms sometimes lobbied the tariff committee or its individual members for concessionary tariff rates. Perhaps because this practice runs against the official protocol of the committee, Ambassador Erwidodo declined to identify specific instances.[5]

[5] The Ambassador stressed that he did not entertain requests from firms personally, instead redirecting them through the relevant ministerial channels.

Ms. Harun of Malaysia also stressed the influence of multinational firms in the tariff setting process. She noted that the Ministry of Trade and Industry holds an annual consultative session with foreign firms during which any issue can be raised (Harun). While she could not think of any specific instances in which foreign firms asked for tariff concessions, she believed it occurred. She also noted that Malaysia's regional governments (Malaysian states have significant autonomy) actively lobbied on behalf of foreign firms invested in their territories.

However, in two cases, Korea and Taiwan, trade officials stressed the lack of foreign influence in the tariff setting process. Foreign firms are not consulted when setting applied tariff rates in these economies. Note that binding overhang is quite low in both of these countries (tables one and two).

Instead of lobbying host governments directly, foreign firms sometimes ask their home governments to intervene on their behalf. Foreign governments, however, are often reluctant to become involved in the domestic political processes of other states (Konuma). None of the officials interviewed could think of examples of governments lobbying each other to reduce applied tariff rates within the region.[6] Instead, governments are far more concerned with bound rates, and with non-tariff barriers such as anti-dumping measures (Harun ; Srisuworanant).

These qualitative observations provide some support for the production networks theory, but what do the aggregate data show? First, we should expect binding overhang to be particularly pronounced in the component trade if this explanation is true, because it is the trade in components that most depends on low tariff levels. Table eight shows the difference between the binging overhang ratio for all chapter 85 goods and for the 225 HS5 product lines dealing specifically with the component trade (as defined by Athukorala). Indeed, the component products tend to have high rates of binding overhang than the average, though Japan and Thailand are two notable exceptions.

[INSERT TABLE EIGHT ABOUT HERE]

A second observable implication of the regional production networks explanation would be that certain kinds of FDI should be associated with binding overhang. Japanese firms have been very active in orchestrating the regional production system, building factories across the region and trading parts between them, and so should be at the center of this process (Kimura 2006). Moreover, there is direct evidence that these firms prefer lower tariffs in other Asian countries. A 2004 survey of 867 Japanese firms conducted by the Japan External Trade Organization found that over 60 percent believed their

[6] One case was indentified outside the region, where Malaysia protested India's decision to raise applied tariff rates on Malaysia palm oil.

business would either 'expand a little' or 'expand greatly' with further regional PTAs (Kajita 2004). I therefore test the effect of Japanese FDI on binding overhang.

A third observable implication would be that binding overhang in the region should be less affected by shocks than binding overhang outside the region. To the extent regional production networks are explaining patterns in binding overhang, the impact of the variables listed under the flexibility explanation above should have less of an impact in the region than outside it.

Last, if it is manufacturing networks that are driving this result, we should expect to see more binding overhang for manufactured goods than agricultural products. Indeed, some descriptive evidence presented in tables one and two already points in this direction, as discussed above.

Analysis

I estimate the following model using standard OLS regression:

Binding overhang ratio = *bound tariff rate* + *lagged binding overhang ratio* + *agriculture* + *region*+ *current account* + *shift Left* + *exchange rate regime* + *democracy* + *Japanese FDI* + ε

The unit of analysis is a dyad product year (e.g. the tariff rate Thailand applies on chapter 70 goods from Indonesia in 1995). There is thus variation across country, time, and product. The dependent variable is the level of binding overhang measured as a ratio (applied rate divided by bound rate, the first column of table one). As in the above section, I consider tariff data from 15 East Asian countries from 1990-2006 measured at the HS two-digit level.

The independent variables pertaining to flexibility are measured as follows. *Current account* data are taken from the IMF's World Economic Outlook 2008. A shift to the left is measured using the World Bank's Database of Political Indicators, which codes political parties as Left, Right, or Center (Beck, Clarke et al.). *Shift Left* is operationalized as a dummy variable that takes a value of one if a country's chief executive switches from a Right party to a Center or Left party, or from a Center party to a Left party, and zero otherwise.[7] *Exchange rate regime* is a four point ordinal scale ranging from a hard

[7] Defined in this way, a shift to the Left occurred only three times in the data range considered: Japan 1995, Korea 1996, and Thailand 2001.

peg, taking a value of one, to a free-floating currency, taking a value of four.[8] *Democracy* is taken from the Polity IV dataset.

The production networks variables are measured as follows. *Japanese FDI* is the amount of Japanese foreign direct investment in manufacturing in a given country in a given year, measured in hundreds of millions of yen. The data were obtained from the Japanese Ministry of Finance. Dummy variables for agriculture (taking the value one if the product is agricultural, zero otherwise) and the region (taking a value of one if both countries are in the region, zero otherwise) are also included.

Several controls are also imposed on the model. I include the nominal value of the bound tariff rate because products with high bound rates allow more 'space' for binding overhang. I also include the previous year's binding overhang ratio for the product in a given dyad. We would expect applied tariff rates to exhibit significant inertia (serial correlation), and so need to account for the influence of last year's tariff rate on this year's rate.

Results

I estimate the model with random effects (with clustered standard errors), with product fixed effects, and with country fixed effects. The results are given in tables nine, ten and eleven, respectively (recall that, because the dependent variable is the ratio of the applied rate to the bound rate, negative coefficients indicate a positive relationship with binding overhang). The first column of each table shows the results of the model across the entire range of data. In the random effects model there is not significant support for either explanation. Binding overhang appears less in agricultural products, as the production networks hypothesis would predict, but is also positively correlated with a country's current account, as the flexibility hypothesis would predict. No other variables of interest are statistically significant.

[INSERT TABLE NINE ABOUT HERE]

The fixed effect models (tables ten and eleven) provide stronger evidence, but again support both explanations. As predicted by the flexibility hypothesis, a country's current account and the flexibility of its exchange rate regime both correlate with binding overhang. As predicted by the production networks hypothesis, the region dummy and Japanese FDI both correlate with binding

[8] Data are drawn from the IMF's *International Financial Statistics*, as is the coding scheme. More recent volumes of the report place countries along an eight-point scale. Earlier volumes use different measures. My synthesis codes the data as follows: hard peg to a single currency is coded as one; currency boards are coded as two; Managed floats are coded as three; independent floating is coded four.

overhang, while the agriculture dummy is negatively correlated. Some anomalies also appear. Democracy is positively correlated with binding overhang in the model with country fixed effects, but negatively correlated when product fixed effects are employed. Similarly, a shift to the Left is only significant in model with product fixed effects, but is, surprisingly, *positively* correlated with binding overhang.

[INSERT TABLE TEN AND TABLE ELEVEN ABOUT HERE]

Disaggregating the data by region and product, as the other columns do, allows for additional inferences:

Current account: A stronger current account tends to lead to more binding overhang across all the models and subsections of data. This finding provides strong evidence that states use binding overhang as a flexibility mechanism. However, note that the coefficient is at least an order of magnitude larger for agricultural products than non-agricultural ones. Moreover, the coefficients for trade with the rest of the world are always larger than those for the region, and, in the case of Chapter 85 products, an order of magnitude larger. While a country's current account affects binding overhang as the flexibility hypothesis predicts, this effect varies exactly as the production network hypothesis would imply.

Exchange rate regime. The exchange rate regime is generally positively correlated with binding overhang, as the flexibility hypothesis expects. The pattern is largely consistent inside and outside the region, and across products, further supporting the flexibility hypothesis.

Shift to the Left: A shift to the Left is never statistically significant in the random effects model. In the fixed effect models, a shift to the Left has, strangely, a positive impact on binding overhang in agriculture. More important for the present discussion is its impact on non-agricultural goods, where there is a sharp regional effect. When more Left-leaning governments come to power they tend to raise applied tariffs on non-agricultural goods, as expected. However, they *only* do so vis-à-vis extra-regional trading partners. Within the region, a shift to the Left is either positively correlated with binding overhang, or has no significant effect. This result strongly supports the production networks hypothesis.

Democracy: Results for democracy are mixed. The random effects and product fixed effects models suggest that democracy is *positively* correlated with binding overhang, in contradiction of the flexibility hypothesis. However, once country-specific factors are controlled for, democratic countries are more likely to see binding overhang in agriculture, though less likely to have it for non-agricultural goods.

Japanese FDI: Japanese FDI had no impact on agricultural goods in any of the models. For non-agricultural products, however, Japanese FDI it is positively correlated with binding overhang, as the

regional production networks hypothesis predicts. However, we do not observe a large difference between the region and the rest of the world, nor between Chapter 85 products and non-agricultural goods in general.

Conclusion

The results support a bottom-up interpretation of East Asia integration. Countries are not pursuing regional integration through informal means. But nor are they simply hedging their bets by giving themselves large measures of flexibility. Indeed, countries are not the active agents of integration—as measured by binding overhang—at all. Instead, the diffuse actions of firms have generally pushed applied tariff rates down across the region. This conclusion comports with Pempel's claim that 'regionalization is largely bottom-up, corporate or society-driven, informal, and predominantly independent of official governmental actions…its primary manifestations are multinational production networks, foreign direct investment, export free zones, trade, enhanced communication and transportation links, track II dialogues, and the like' (Pempel 2006). Liberalization is thus an effect of economic interdependence, not a cause.

This bottom-up explanation leads to a cautiously optimistic view of East Asia regionalism. Top-level political choices do not seem to explain patterns in binding overhang, which gives credence to pessimists who note a lack of top-level commitment to Asian integration. But while flexibility considerations matter, the de facto PTA in East Asia is primarily the result of the micro-interactions between states and domestic and transnational firms caused by production networks operating across the region. East Asian liberalization thus has a firm base in the economic interests of regional corporations, and so is likely to endure and deepen.

This paper has demonstrated that binding overhang provides political scientists with another useful realm of state behavior to explain. While the literature on PTAs has yielded useful insights on international cooperation, expanding our analysis to include binding overhang multiplies the evidence scholars can bring to bear on theories of international political economy. Indeed, a number of avenues for future research are suggested by the paper.

First, what is the effect of binding overhang on trade? While scholars have debated the effect of the GATT/WTO and PTAs on trade (Rose 2004; Tomz, Goldstein et al. 2007; Mansfield and Reinhardt 2008), to my knowledge no systematic study of the impact of unilateral liberalization on trade exists. This is a crucial gap in the literature, because it represents an important piece of the causal chain. Trade

agreements lower tariffs, and lower tariffs are thought to increase trade. But the second half of this proposition is assumed, not tested. The study of binding overhang offers a way to approach it. Second, what is the impact of binding overhang on investment? Given that my explanation relies on transnational production networks, further evidence of a causal linkage between the two is needed to confirm the findings in this paper. Third, what is the relationship between binding overhang and PTAs? Does the latter follow the former, or do they serve entirely different functions?

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Table 1: Average binding overhang ratio 1990-2006 (source: WITS/TRAINS database, 2008)

Country	AHS/BND						AHS/PRF						AHS/MFN					
	Total		In region		Rest of world		Total		In region		Rest of world		Total		In region		Rest of world	
	Ag.	Other	Ag.	Other	Ag.	Other	Ag.	Other	Ag.	Other	Ag.	Other	Ag.	Other	Ag.	Other	Ag.	Other
Brunei	0	.17	0	.13	0	.18	.	1	.	1	.	.	.	.96	.	.83	.	1
Cambodia	.41	.85	.43	.69	.39	.93	1	1	1	1	.	.	.99	.98	.97	.94	1	1
China	1.12	1.21	.95	1.18	1.17	1.21	1.64	2.15	1.08	1.02	1.97	3.86	.98	1.00	.91	.99	1.00	1.00
Hong Kong	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Indonesia	.16	.26	.15	.24	.17	.26	1	1	1	1	.	.	.97	.98	.87	.88	1	1
Japan	1.09	.56	1.04	.12	1.09	.65	1.10	1.03	1.13	1.00	1.10	1.04	.94	.51	.92	.09	.95	.60
Korea	1.02	.81	1.01	.77	1.02	.82	1	1	.	.	1	1	1.00	1.00	1.00	1.00	.99	1.00
Lao PDR[1]	.	.	.	.	.	.	1	1	1	1	.	.	.91	.96	.85	.88	1	1
Malaysia	.33	.52	.43	.37	.33	.50	1	1	1	1	.	.	.94	.96	.78	.78	1	1.00
Myanmar	.09	.27	.10	.25	.09	.32	1	1	1	1	.	.	.89	.97	.81	.91	1	1
Philippines	.45	.31	.45	.31	.45	.31	1	1	1	1	.	.	.99	.99	.96	.94	1	1
Singapore	0	0	0	0	0	0	.	.	.	.	.	.	.	.	.	.	.	.
Taiwan	1.11	1.11	1.11	1.11	.	.	1	1	1	1	.	.	1.00	1.00	1.00	1.00	.	.
Thailand	2.51	.56	1.27	.33	2.87	.60	1	1	1	1	.	.	.95	.96	.72	.72	1	1
Vietnam[2]	.	.	.	.	.	.	1	1	1	.	.	1	.92	.96	.72	.86	1	.98

Note: Data are averaged across products (measured at the HS2 level), countries, and years. The number reported is the applied rate divided by the bound rate. Numbers close to zero thus indicate higher levels of binding overhang. Numbers close to, but still below, one indicate lower levels of binding overhang. Numbers above one indicate applied tariffs in excess of the bound rate (perhaps reflecting anti-dumping duties).

[1] Does not reported bounded rates

[2] Does not reported bounded rates

Table 2: Average binding overhang differences, 1990-2006 (source: WITS/TRAINS database, 2008)

Country	BND-AHS						PRF-AHS						MFN-AHS					
	Total		In region		Rest of world		Total		In region		Rest of world		Total		In region		Rest of world	
	Ag.	Other	Ag.	Other	Ag.	Other	Ag.	Other	Ag.	Other	Ag.	Other	Ag.	Other	Ag.	Other	Ag.	Other
Brunei	24.52	29.62	29.62	21.85	29.63	21.38	0	0	0	0	.	.	0	.23	0	.85	0	0
Cambodia	16.10	5.04	15.24	7.12	16.65	4.01	0	0	0	0	.	.	.31	.34	.70	.94	0	0
China	-1.91	-1.65	-.10	-1.58	-2.28	-1.66	-2.04	-.63	-1.26	.08	-3.21	-1.60	.24	.02	1.00	.09	.06	.01
Hong Kong	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Indonesia	41.82	26.73	46.78	27.27	40.23	26.64	0	0	0	0	.	.	.14	.17	.58	1.13	0	0
Japan	-.20	.45	-.13	1.26	-.21	.33	-.44	-.02	-.55	.00	-.42	-.02	.37	.66	.59	1.58	.34	.52
Korea	10.67	2.95	14.79	3.26	9.72	2.90	0	0	.	.	0	0	.08	.02	.01	.00	.09	.02
Lao PDR[3]	.	.	.	.	.	.	0	0	0	0	.	.	1.73	.29	2.76	.90	0	0
Malaysia	10.91	5.40	11.93	8.40	10.62	4.82	0	0	0	0	.	.	.16	.33	.76	2.05	0	.00
Myanmar	108.69	3.76	110.08	6.76	107.14	-.05	0	0	0	0	.	.	.98	.19	1.83	.60	0	0
Philippines	21.35	14.32	21.03	16.09	21.45	13.94	0	0	0	0	.	.	.12	.06	.52	.36	0	0
Singapore	9.58	6.10	9.71	6.90	9.55	5.97	0	0	0	0	.	.	0	0	0	0	0	0
Taiwan	-2.69	-.77	-2.69	-.77	.	.	0	0	0	0	.	.	.08	.01	.08	.01	.	.
Thailand	-4.81	14.41	10.75	22.11	-9.34	13.09	0	0	0	0	.	.	1.92	.58	9.72	4.11	0	0
Vietnam[4]	.	.	.	.	.	.	0	0	0	0	.	0	2.17	.73	7.70	2.02	0	.42

Note: Data are averaged across products (measured at the HS2 level), countries, and years. The number reported is the bound rate minus the applied rate. Higher numbers thus indicate higher levels of binding overhang. Negative numbers indicate applied tariffs in excess of the bound rate (perhaps reflecting anti-dumping duties).

[3] Does not reported bounded rates
[4] Does not reported bounded rates

Table 3: Average binding overhang ratio 1990-2006 for two HS chapters, 7("Edible vegetables and certain roots and tubers") v. 85 ("Electrical mchy equip parts thereof; sound record") (source: WITS/TRAINS database, 2008)

Country	AHS/BND						AHS/PRF						AHS/MFN					
	Total		In region		Rest of world		Total		In region		Rest of world		Total		In region		Rest of world	
	7	*85*	*7*	*85*	*7*	*85*	*7*	*85*	*7*	*85*	*7*	*85*	*7*	*85*	*7*	*85*	*7*	*85*
Brunei	0	.29	0	.20	0	.31	.	1	.	1	.	.	.	.93	.	.68	.	1
Cambodia	.30	1.27	.31	.70	.30	1.48	.	.	.	.	.	.	1	.98	1	.91	1	1
China	.94	1.28	.72	1.24	1.01	1.28	1.05	1.40	1	.64	1.83	3.86	.97	1.00	.89	.99	1.00	1.00
Hong Kong	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Indonesia	.14	.26	.14	.24	.15	.26	.	1	.	1	.	.	.97	.94	.90	.89	1	1
Japan	1.17	.45	1.13	.04	1.18	.52	1.05	1.54	1.08	.	1.04	1.54	.96	.46	.96	.04	.96	.53
Korea	.90	.82	.84	.82	.92	.82	1	.	.	.	1	.	1.00	1.00	1	.99	1.00	1.00
Lao PDR[5]	.	.	.	.	.	.	.	.	.	.	.	.	.95	.97	.91	.88	1	1
Malaysia	.13	.65	.06	.42	.15	.68	1	1	1	1	.	.	.92	.96	.74	.722	1	1.00
Myanmar	.08	.	.08	.	.08	.	.	.	.	.	.	.	.97	.97	.96	.88	1	1
Philippines	.35	.39	.37	.37	.34	.39	1	.	1	.	.	.	.99	.99	.94	.95	1	1
Singapore	0	0	0	0	0	0	.	.	.	.	.	.	.	.	.	.	.	.
Taiwan	1.05	1.09	1.05	1.09	.	.	.	1	.	1	.	.	1	1.00	1	1.00	.	.
Thailand	.87	.97	.68	.50	.95	1.07	1	1	1	1	.	.	.90	.97	.67	.74	1	1
Vietnam[6]	.	.	.	.	.	.	1	.	1	.	.	.	.88	.97	.71	.82	1	1

Note: Data are averaged across products (measured at the HS2 level), countries, and years. The number reported is the applied rate divided by the bound rate. Numbers close to zero thus indicate higher levels of binding overhang. Numbers close to, but still below, one indicate lower levels of binding overhang. Numbers above one indicate applied tariffs in excess of the bound rate (perhaps reflecting anti-dumping duties).

[5] Does not reported bounded rates

[6] Does not reported bounded rates

Table four: Mean levels of binding overhang for component trade within region, 1990-2006

Country	AHS/BND	AHS/PRF	AHS/MFN	BND-AHS	PRF-AHS	MFN-AHS
Brunei	.17	1	.71	25.95	0	3.31
Cambodia	.63	1	.91	8.20	0	1.71
China[7]	1.11	1.00	.98	-1.00	-.00	.18
Hong Kong	.	.	.	0	.	0
Indonesia	.14	1	.92	27.82	0	.44
Japan	.43	1.01	.29	.16	-.01	.28
Korea	.71	.99	.96	2.56	.08	.29
Lao PDR[8]	.	1	.77	.	0	1.85
Malaysia	.32	1	.83	5.79	0	1.34
Myanmar	.05	1	.98	1.09	0	.21
Philippines	.22	1.00	.94	14.63	-0.01	.19
Singapore	0	.	1	5.24	0	0
Taiwan	1.01	.	1.00	-0.14	0	.00
Thailand	0.34	1	.84	11.49	0	1.98
Vietnam[9]	.	1	0.85	.	0	2.00

Note: Data are averaged across products (measured at the HS5 level), countries, and years, and include only products associated with the component trade.

Table five: Definition of variables used in Mansfield, Milner, and Pevehouse "Vetoing Cooperation"

Variable	Definition	Comments
PTAOnset	Coded 1 if a PTA is formed between countries i and j in the given year, and 0 otherwise	The authors draw their survey of PTAs from the WTO with their own additions
Veto Players	A measure of the "extent of constitutionally mandated institutions that can exercise veto power over decisions in states i and j as well as the alignment of actors' preferences between those institutions within each state" taking values in the range [0, 1].	Drawn from Witold Henisz (see bibliography)
Regime Type	The Polity IV score for the country, [-10, 10]	
Trade	Log of total value of trade in year t	Source: IMF
GDP and change in GDP	As reported by the IMF	Source: IMF
Dispute	Coded 1 if a MID occurred between the countries in a given year, 0 otherwise	Source: Correlates of War
Ally	Coded 1 the countries are members of the same military alliance, 0 otherwise	Source: Correlates of War
Former Colony	Coded 1 if a previous colonial relationship existed between the two countries, 0 otherwise	Source: Correlates of War

[7] China and Hong Kong only report one tariff rate (applied, bounded, PRF, and MFN) for each line…
[8] Does not reported bounded rates
[9] Does not reported bounded rates

Contiguity	Coded 1 if the two countries are contiguous, 0 otherwise
Distance	Log of the capital-to-capital distance between i and j
Hegemony	The proportion of global GDP produced by the state with the largest GDP (US) in year *t*.
GATT	Coded 1 if both i and j are in the GATT/WTO in year t, 0 otherwise

Table six: Success of Mansfield, Milner, and Pevehouse model at explaining probability of PTA formation compared to binding overhang

	Probability of PTA formation, world 1950-1999 (logit)	**Probability of PTA formation, East Asia 1990-1999 (logit)**	**Binding overhang ratio East Asia 1990-1999 (OLS)**
Trade	-0.00642	0.0723	-0.0300
	(0.00802)	(0.0965)	(0.0301)
Regime Type$_i$	0.0492***	-0.0859	0.0341
	(0.00599)	(0.118)	(0.0482)
Regime Type$_j$	0.0405***	0.0363	0.000580
	(0.00589)	(0.0813)	(0.00888)
Veto Players$_i$	-1.608***	0.191	-0.234
	(0.244)	(2.234)	(1.178)
Veto Players$_j$	-1.698***	-1.412***	0.701
	(0.244)	(4.529)	(0.373)
ΔGDP$_i$	-0.208***	-0.577**	0.0125
	(0.0197)	(0.287)	(0.0775)
ΔGDP$_j$	-0.183***	-0.590***	0.0234
	(0.0195)	(0.219)	(0.0526)
GDP$_i$	6.94e-10	-9.37e-09*	-1.92e-09*
	(1.14e-09)	(5.63e-09)	(8.29e-10)
GDP$_j$	3.64e-10	-1.31e-08**	-7.21e-10
	(1.01e-09)	(6.12e-09)	(5.07e-10)
Hegemon	-18.03***	217.9	-68.90**
	(1.989)	(197.1)	(22.61)
Distance	-0.910***	-1.951**	0.0511
	(0.0498)	(0.816)	(0.142)

Ally	1.269***	.	-0.534
	(0.0835)	.	(0.303)
Dispute	-0.484*	2.828**	0.966
	(0.274)	(1.212)	(1.056)
GATT/WTO	0.326***	0.326	-0.575
	(0.0566)	(1.926)	(0.618)
Former colony	-0.813	.	.
	(0.717)	.	.
Contiguity	-0.179	-2.215**	0.298
	(0.119)	(1.053)	(0.258)
Constant	11.40***	-15.93	14.07*
	(0.842)	(40.53)	(6.166)
Observations	339910	4470	866
R^2	.16 (pseudo)	0.500	0.046

Table seven: Comparative rankings of average Chinese and Japanese binding overhang concessions by country (AHS/BND), 1990-2006

China's rankings (Japan's)		**Average binding overhang ratio**	**Japan's rankings (China's)**		**Average binding overhang ratio**
1	Cambodia (12)	0.85	1	Singapore (8)	0.44
2	Myanmar (13)	1.00	2	Philippines (9)	0.48
3	Brunei (14)	1.01	3	Thailand (4)	0.49
4	Thailand (3)	1.03	4	Malaysia (7)	0.49
5	Vietnam (7)	1.05	5	Indonesia (6)	0.51
6	Indonesia (5)	1.06	6	Hong Kong (10)	0.56
7	Malaysia (4)	1.06	7	Vietnam (5)	0.58
8	Singapore (1)	1.06	8	China (Japan=11)	0.58
9	Philippines (2)	1.14	9	Taiwan (12)	0.70
10	Hong Kong (6)	1.16	10	Korea (13)	0.71
11	Japan (China =8)	1.16	11	Lao PDR (14)	0.75
12	Taiwan (9)	1.16	12	Cambodia (1)	0.82
13	Korea (10)	1.24	13	Myanmar (2)	0.89
14	Lao PDR (11)	1.25	14	Brunei (3)	1.06

Table eight: Comparison of binding overhang for component products versus HS85

Country	BO for HS85 – BO for component products	Country	BO for HS85 – BO for component products
Cambodia	.06	**Malaysia**	.05
China	.06	**Myanmar**	.32
Hong Kong	0	**Philippines**	.09
Indonesia	.10	**Singapore**	0
Japan	-.31	**Taiwan**	.10
Korea	.06	**Thailand**	-.01

Table nine: Impact of changes in preferences over tariff rates on binding overhang (AHS/BND) using random effects and clustered standard errors (country)

	Pooled	**Agriculture**			**Other**			**Chapter 85**		
		Total	Region	RoW			Total	Region	RoW	
Agriculture	0.152*	.	.	.	.	.	.	.	.	.
	(0.0699)	.	.	.	.	.	.	.	.	.
Region	-0.0286	.	.	.	.	.	.	.	.	.
	(0.0642)	.	.	.	.	.	.	.	.	.
Bound rate (average)	-0.00945**	-0.00933**	-0.00245	-0.0127**	-0.00414***	-0.00292***	-0.00436***	-0.00930**	-0.00271**	-0.0106***
	(0.00351)	(0.00384)	(0.00271)	(0.00369)	(0.000510)	(0.000572)	(0.000518)	(0.00282)	(0.000999)	(0.00294)
Lagged AHS/BND	0.252	0.130	0.392*	0.0873	0.787***	0.775***	0.788***	0.632***	0.741***	0.618***
	(0.191)	(0.115)	(0.208)	(0.0960)	(0.0302)	(0.0130)	(0.0318)	(0.0863)	(0.0358)	(0.0908)
Current account	-0.0234**	-0.0339***	-0.0180*	-0.0428***	-0.00553***	-0.00494**	-0.00513**	-0.0122**	-0.00521**	-0.0122**
	(0.00886)	(0.00875)	(0.00846)	(0.00878)	(0.00145)	(0.00161)	(0.00166)	(0.00407)	(0.00197)	(0.00491)
Ex. rate regime	-0.195*	-0.141	-0.198**	0.00289	-0.0535***	-0.0685***	-0.0658***	-0.103**	-0.0675**	-0.154**
	(0.0934)	(0.104)	(0.0662)	(0.153)	(0.0146)	(0.0188)	(0.0171)	(0.0413)	(0.0275)	(0.0474)
Shift Left	-0.0980	-0.139	-0.508	0.0744	0.0424	-0.0601	0.0472	0.232	0.0202	0.218
	(0.159)	(0.356)	(0.422)	(0.343)	(0.0362)	(0.0807)	(0.0567)	(0.151)	(0.0860)	(0.184)

Democracy	0.0232	0.0329	0.0344**	0.000314	0.00674***	0.00875**	0.00959**	0.00744	0.00553	0.0180
	(0.0157)	(0.0206)	(0.0139)	(0.0263)	(0.00200)	(0.00358)	(0.00395)	(0.00537)	(0.00580)	(0.0101)
Japanese FDI	-0.000166	-7.13e-05	8.98e-05	-0.000340	-0.000130**	-7.77e-05	-7.74e-05	-0.000247**	-8.26e-05	-0.000309
	(0.000110)	(8.11e-05)	(8.52e-05)	(0.000189)	(5.00e-05)	(4.44e-05)	(6.54e-05)	(0.000106)	(5.30e-05)	(0.000191)
Constant	1.125**	1.176**	0.872**	1.041*	0.312***	0.303***	0.340***	0.635**	0.310**	0.773***
	(0.417)	(0.392)	(0.288)	(0.501)	(0.0660)	(0.0846)	(0.0588)	(0.194)	(0.121)	(0.196)
Observations	18278	6801	1451	5350	11477	2375	9102	2671	444	2227
R-squared	0.396	0.286	0.228	0.369	0.807	0.902	0.783	0.645	0.878	0.617
***** p<0.01, ** p<0.05, * p<0.1**										

Table ten: Impact of changes in preferences over tariff rates on binding overhang (AHS/BND) using product fixed effects

	Pooled	**Agriculture**			**Other**			**Chapter 85**		
		Total	Region	RoW			Total	Region	RoW	
Agriculture	.	.	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.	.	.
Region	-0.0324***	.	.	.	.	.	.	.	.	.
	(0.00974)	.	.	.	.	.	.	.	.	.
Bound rate (average)	-0.0102***	-0.00909***	-0.00251***	-0.0123***	-0.00464***	-0.00358***	-0.00485***	-0.00930***	-0.00271***	-0.0106***
	(0.000227)	(0.000400)	(0.000905)	(0.000431)	(0.000187)	(0.000325)	(0.000219)	(0.000671)	(0.00103)	(0.000763)
Lagged AHS/BND	0.242***	0.128***	0.396***	0.0857***	0.774***	0.765***	0.775***	0.632***	0.741***	0.618***
	(0.00465)	(0.00799)	(0.0325)	(0.00735)	(0.00538)	(0.0107)	(0.00622)	(0.0163)	(0.0285)	(0.0183)
Current account	-0.0240***	-0.0338***	-0.0176***	-0.0426***	-0.00609***	-0.00553***	-0.00570***	-0.0122***	-0.00521***	-0.0122***
	(0.000603)	(0.00136)	(0.00388)	(0.00138)	(0.000375)	(0.000675)	(0.000441)	(0.00112)	(0.00168)	(0.00129)
Ex.rate regime	-0.196***	-0.141***	-0.206***	0.00262	-0.0543***	-0.0688***	-0.0680***	-0.103***	-0.0675***	-0.154***
	(0.00606)	(0.0132)	(0.0291)	(0.0187)	(0.00356)	(0.00631)	(0.00526)	(0.0112)	(0.0172)	(0.0159)
Shift Left	-0.0867***	-0.146***	-0.501***	0.0666	0.0428***	-0.0548***	0.0457***	0.232***	0.0202	0.218***
	(0.0166)	(0.0492)	(0.135)	(0.0490)	(0.00873)	(0.0164)	(0.0103)	(0.0264)	(0.0398)	(0.0310)

Democracy	0.0237***	0.0327***	0.0342***	0.000348	0.00700***	0.00862***	0.0102***	0.00744***	0.00553**	0.0180***
	(0.00130)	(0.00294)	(0.00676)	(0.00399)	(0.000696)	(0.00100)	(0.00109)	(0.00217)	(0.00269)	(0.00327)
Japanese FDO	-0.000172***	-6.34e-05	8.33e-05	-0.000333**	-0.000136***	-8.34e-05***	-8.91e-05*	-0.000247***	-8.26e-05***	-0.000309*
	(2.37e-05)	(4.39e-05)	(7.42e-05)	(0.000147)	(1.28e-05)	(1.21e-05)	(5.06e-05)	(4.55e-05)	(3.09e-05)	(0.000179)
Constant	1.205***	1.173***	0.894***	1.036***	0.330***	0.324***	0.361***	0.635***	0.310***	0.773***
	(0.0193)	(0.0422)	(0.111)	(0.0487)	(0.0135)	(0.0259)	(0.0168)	(0.0425)	(0.0690)	(0.0515)
Observations	18278	6801	1451	5350	11477	2375	9102	2671	444	2227
R-squared	0.381	0.270	0.223	0.349	0.802	0.900	0.776	0.645	0.878	0.617
***** p<0.01, ** p<0.05, * p<0.1**										

Table eleven: Impact of changes in preferences over tariff rates on binding overhang (AHS/BND) using country fixed effects

	Pooled	**Agriculture**			**Other**			**Chapter 85**		
		Total	Region	RoW			Total	Region	RoW	
Agriculture	0.0726***	.	.	.	.	.	.	.	.	.
	(0.00688)	.	.	.	.	.	.	.	.	.
Region	-0.0898***	.	.	.	.	.	.	.	.	.
	(0.00983)	.	.	.	.	.	.	.	.	.
Bound rate (average)	-0.00113***	-0.00132***	0.000560	-0.00205***	-0.00416***	-0.000484	-0.00466***	-0.0160***	-0.000466	-0.0167***
	(0.000282)	(0.000450)	(0.000995)	(0.000500)	(0.000321)	(0.000531)	(0.000373)	(0.00142)	(0.00283)	(0.00155)
Lagged AHS/BND	0.191***	0.128***	0.389***	0.0852***	0.744***	0.675***	0.735***	0.547***	0.580***	0.505***
	(0.00455)	(0.00923)	(0.0368)	(0.00876)	(0.00610)	(0.0126)	(0.00709)	(0.0183)	(0.0391)	(0.0206)
Current account	-0.00863***	-0.0203***	-0.0289***	-0.0180***	-0.00221***	-0.00159	-0.00202***	-0.00569***	-0.00263	-0.00649***
	(0.00103)	(0.00240)	(0.00729)	(0.00225)	(0.000633)	(0.00109)	(0.000731)	(0.00188)	(0.00270)	(0.00213)
Ex. rate regime	-0.0367**	-0.0177	-0.0534	-0.0174	-0.0468***	-0.0635***	-0.0406***	-0.0403	-0.0203	-0.0399
	(0.0164)	(0.0395)	(0.113)	(0.0377)	(0.0100)	(0.0176)	(0.0115)	(0.0306)	(0.0455)	(0.0343)
Shift Left	-0.0200	-0.483***	-0.773***	-0.369***	0.0419*	-0.0946**	0.0698***	0.390***	0.109	0.430***
	(0.0380)	(0.109)	(0.291)	(0.107)	(0.0223)	(0.0398)	(0.0257)	(0.0658)	(0.105)	(0.0737)

Democracy	-0.0120***	-0.0150**	-0.00880	-0.0149**	0.00452**	-0.000922	0.00524**	-0.00517	-0.0117	-0.00350
	(0.00295)	(0.00742)	(0.0195)	(0.00734)	(0.00177)	(0.00289)	(0.00207)	(0.00562)	(0.00786)	(0.00638)
Japanese FDI	-7.01e-05***	4.90e-06	-3.61e-05	2.14e-05	-0.000125***	-4.70e-05***	-5.52e-05	-0.000245***	-5.36e-05*	-0.000304*
	(2.24e-05)	(4.00e-05)	(7.72e-05)	(0.000129)	(1.28e-05)	(1.21e-05)	(5.02e-05)	(4.41e-05)	(3.01e-05)	(0.000172)
Constant	0.691***	0.868***	0.753**	0.907***	0.308***	0.355***	0.298***	0.582***	0.355***	0.608***
	(0.0528)	(0.134)	(0.337)	(0.133)	(0.0316)	(0.0509)	(0.0370)	(0.0953)	(0.135)	(0.108)
Observations	18278	6801	1451	5350	11477	2375	9102	2671	444	2227
R-squared	0.129	0.050	0.089	0.044	0.588	0.566	0.559	0.333	0.393	0.296
***** p<0.01, ** p<0.05, * p<0.1**										