

# WHY DO COUNTRIES ENTER INTO PREFERENTIAL AGREEMENTS ON TRADE IN SERVICES? ASSESSING THE POTENTIAL FOR NEGOTIATED REGULATORY CONVERGENCE IN ASIAN SERVICES MARKETS

*Pierre Sauv  and Anirudh Shingal*

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\*Director of External Programs and Academic Partnerships, World Trade Institute, University of Bern, Switzerland. pierre.sauve@wti.org

\*\*Corresponding author and Senior Research Fellow, World Trade Institute, University of Bern, Switzerland. Address for correspondence: World Trade Institute, Hallerstrasse 6, CH - 3012, Bern. Tel: +41-31-6313270; Fax: +41-31-6313630. anirudh.shingal@wti.org

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## **Abstract**

More than half of the World Trade Organization (WTO)-notified services trade agreements (STAs) in effect since 2008 have involved at least one (South or Southeast) Asian trading partner. Drawing on Baier and Bergstrand's (2004) determinants of preferential trade agreements and using the World Bank's database on the restrictiveness of domestic services regimes (Borchert et.al. 2012), we examine the potential for negotiated regulatory convergence in Asian services markets. Our results suggest that countries within Asia that are more remote from the rest of the world and that have similar economic sizes, greater differences in relative factor endowments compared to the rest of the world, common legal origins, high levels of pre-existing trade, and restrictive services regulations are more likely candidates for regulatory convergence. Our empirical model successfully predicts 10 of the 14 STAs negotiated during 2008–12 and 88 of the 89 dyads within Asia that lack an STA.

*Keywords:* PTAs, services, regulation, regulatory convergence, Asia

*JEL Classification:* F10, F13, F15

## 1. Introduction

One of the striking features of trade diplomacy in recent years has been the seemingly unstoppable march of preferential trade liberalization and rule-making (Kawai and Wignajara 2010). Such a trend is now extending to services, most spectacularly of late in the Asia-Pacific region (Chanda 2011, PECC and ADBI 2011, Shepherd and Pasadilla 2012). Of the 80 preferential trade agreements (PTAs) in force prior to 2000, 70 (87.5%) featured provisions dealing exclusively with trade in goods. Since then, 98 of the 166 PTAs that have entered into force also include provisions on services trade. Meanwhile, more than half of the World Trade Organization (WTO)-notified services trade agreements (STAs) in effect since 2008 have involved at least one South or Southeast Asian trading partner. The above trends signal the heightened importance of services trade in general, the growing need among countries to place such trade on a firmer institutional and rule-making footing, and the attractiveness of doing so on an expedited basis via preferential negotiating platforms (Sauvé and Shingal 2011).

Unlike trade in goods, where the removal of border barriers retains significant negotiating traction, domestic regulation is the sole currency of negotiations in services trade (Mattoo and Sauvé 2010). The importance and potentially trade- and investment-inhibiting impact of domestic regulation on service sector performance has received significant attention in policy research circles (Kox and Nordas 2007 and 2009). However, less well understood and investigated has been the question of whether certain countries are more likely candidates for negotiated regulatory convergence from a services trade perspective? Simply put: are countries that display greater ex-ante regulatory convergence more likely candidates for deeper integration agreements in services markets? What is the role of geography in trade-facilitating regulatory convergence in services? And can the presence of significant developmental or institutional capacity gaps impede integration and convergence in services markets?

This paper seeks answers to the above questions in an Asian setting.<sup>1</sup> According to the WTO's Regional Trade Agreements Information System (RTA-IS), 72 PTAs entered into effect during 2008–12. A vast majority of these (70%) include provisions on both goods and services trade. Twenty-seven of the 50 STAs involve at least one Asian trading partner, and 11 of these have been entered into with another partner from Asia. Clearly then, Asian economies have been at the forefront of the burgeoning trend toward services preferentialism, offering a potentially fertile setting for exploring this paper's core research questions.

Regulatory heterogeneity has been shown to exert a significantly negative impact on bilateral services trade via Mode 3 (commercial presence) (Kox and Nordas 2009) and commercial presence is the most dominant mode of service delivery, accounting for 55%–60% of all services trade flows.<sup>2</sup> We would thus expect trading partners in a services accord to exhibit lower levels of regulatory heterogeneity compared to those not party to such an agreement.

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<sup>1</sup> For the purpose of this paper, Asia comprises Bangladesh, Cambodia, the People's Republic of China, India, Indonesia, Japan, the Republic of Korea, Sri Lanka, Malaysia, Mongolia, Nepal, Pakistan, the Philippines, Thailand, and Viet Nam. These are the countries for which information on services regulation is available in the World Bank's Services Trade Restrictiveness Index (STRI) database (Borchert et.al. 2012).

<sup>2</sup> These are based on statistical estimates for 2005 provided by the WTO.

Interestingly, this is not found to be true for the Asian economies studied in this paper. The causal links actually run in the opposite direction.

Regulatory approximation or convergence thus appears as one of the main objectives of negotiated services agreements rather than its chief determinant: the greater the extent of regulatory heterogeneity between trading partners, the more likely are they to enter into a services agreement to promote trade- and investment-facilitating regulatory convergence. Significantly, this proposition is validated by the empirical analysis undertaken for our sample countries.

## 2. Review of the Related Literature

Services preferentialism has spawned three strands of literature to date. A first strand has investigated the trade effect of services accords on aggregate and disaggregated services trade flows, using advanced estimation techniques from the rapidly evolving gravity model empirical literature (Park 2002, François and Hoekman 2009, Grunfeld and Moxnes 2003, Kimura and Lee 2004, Lennon 2009, Marchetti 2009, Shingal 2013, van der Marel and Shepherd 2011, Walsh 2006).<sup>3</sup>

A second strand has explored the impact that differing levels of (and heterogeneity in) regulation exert on bilateral services trade flows (François et al. 2007, Fink 2009, Kox and Lejour 2006, Kox and Nordas 2007 and 2009, Schwellnus 2007, van der Marel and Shepherd 2011). A third strand has resorted to theoretical and empirical techniques to estimate barriers to trade in services and foreign direct investment (FDI), and/or provide estimates of services trade costs (François et al. 2007, Miroudot et al. 2010 and 2012, van der Marel 2011).

The literature has also evolved to explain services commitments in the GATS (Roy 2011), those made reciprocally (Marchetti et al., 2012) as well as GATS+ commitments in STAs (van der Marel and Miroudot 2012).

The two papers closest to ours are Baier and Bergstrand (2004), who were the first to examine the determinants of partners' propensities to negotiate PTAs, and Cole and Guillin (2012), who explored this issue for services accords. The latter paper, however, did not consider regulatory convergence as a determinant for entering into negotiations. Studying the role of regulatory convergence is thus the main contribution of this paper. This is done through recourse to a new World Bank dataset on measures of services (regulatory) restrictiveness (Borchert et al. 2012).<sup>4</sup>

Baier and Bergstrand (2004) found the potential welfare gains and likelihood of a PTA in goods trade between a pair of countries to be higher

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<sup>3</sup> An elaboration of these techniques is beyond the scope of this paper but an excellent review is provided in Head and Mayer (2013).

<sup>4</sup> See the World Bank's STRI database at <http://iresearch.worldbank.org/servicetrade/home.htm>

- (i) the closer (in terms of distance) the two trading partners were;
- (ii) the more remote they were from the rest of the world (ROW);
- (iii) the larger and more similar they were economically, in real gross domestic product (GDP) terms, to enable exploitation of economies of scale in the presence of differentiated products;
- (iv) the greater the difference in factor endowments between the dyad emanating from Heckscher–Ohlin trade; and
- (v) the lesser the difference in factor endowment ratios of the member countries relative to those of the ROW, leading to less inter-industry trade diversion.

Baier and Bergstrand (2004) found these factors to have economically and statistically significant effects on the probability of negotiating a PTA covering trade in goods.

In comparison, Cole and Guillin (2012) examined a dyad’s propensity to negotiate a services agreement and in their baseline specification found statistically significant evidence only for the “natural trading partner hypothesis,” similarity in terms of economic size, and factor endowment differences—both those emanating from Heckscher–Ohlin trade and those leading to less inter-industry trade diversion.

### **3. Regulation in Services Trade**

Regulatory measures affect cross-border trade and investment in services by increasing both the fixed cost of entering a market and the variable cost of servicing that market. Where regulation is destination-specific, such costs can become sunk, which makes the decision to export similar to an investment decision, and involves a self-selection process studied in the “new new trade theory” literature (Melitz 2003; Helpman, Melitz, and Yeaple 2004; Bernard, Redding, and Scott 2007; Chaney 2008). Essentially, only firms with the highest productivity and/or lowest marginal costs tend to profitably overcome sunk market-entry costs, thereby self-selecting themselves into becoming exporters.

In the context of a services PTA, regulatory requirements assume significance for firms in both markets and the objective of the agreement is usually two-fold: (i) to bring down the level and incidence of restrictive regulation in both markets; and (ii) to promote convergence and approximation (including through mutual recognition), and ultimately (but less frequently) to harmonize regulatory practices between trading partners.

The measure of regulation in services markets used in this paper is the Services Trade Restrictiveness Index (STRI) recently released by the World Bank. Compiled from responses to questionnaires sent out by the World Bank to 79 developing countries on impediments to international integration, and from publicly available information for Organisation for Economic Co-operation and Development (OECD) countries, STRI is a quantitative index of restrictions on services trade encompassing 103 countries, 5 major service sectors, and 19 sub-sectors. The information is also available by modes of service delivery.

A comparison of STRI by regions and groups in Table 1 shows that the Middle East and North Africa (MENA) has the most restrictive services trade policies, followed by South Asia (SA), East Asia and the Pacific (EAP), and Sub-Saharan Africa (SSA), with the last also being the most heterogeneous cohort. As expected, OECD countries and Eastern Europe and Central Asia (ECA) not only report the lowest STRI values but also form the most homogeneous cohorts. Significantly, the Asian region is not only very restrictive but also highly heterogeneous in terms of services trade impediments, which again makes it a relevant case study for the purposes of this enquiry.

**Table 1: Comparison of STRI across Regions and Groups**

Region or Group	LAC	ECA	EAP	OECD	SSA	SA	MENA	World
Mean	21.6	18.8	39.1	19.1	32.0	43.9	45.2	28.3
Standard deviation	10.0	6.7	13.9	4.8	16.6	13.7	11.2	14.9

EAP = East Asia and the Pacific, ECA = Eastern Europe and Central Asia, LAC = Latin America and the Caribbean, MENA = Middle East and North Africa, OECD = Organisation for Economic Co-operation and Development, SA = South Asia, SSA = Sub-Saharan Africa.

Source: Authors' calculations based on World Bank STRI database.

A closer look at Table 1 provides an intuitive feel for the factors likely to make countries potential candidates for negotiated regulatory convergence. For instance, high levels of per capita income, economic development, and political stability all likely contribute to the observed homogeneity in STRI among OECD countries despite significant differences in language, culture, and distances within this cohort. In the case of ECA, on the other hand, there is greater homogeneity of language, culture, and distances, though more differences in terms of per capita income and economic development. This seems to suggest that a combination of these factors could determine which countries are potential candidates for negotiated regulatory convergence.

## 4. Methodology

In their seminal work exploring the determinants of partners' propensities to negotiate bilateral trade agreements, Baier and Bergstrand (2004) documented how distance, remoteness, economic country size, and factor endowments were the main economic determinants. Their analysis led to the following testable propositions:

A dyad's propensity to negotiate an agreement is directly proportional to

- (i) the proximity between them in terms of distance,
- (ii) remoteness from the ROW,
- (iii) the size and similarity of their economic markets,
- (iv) their relative factor endowment ratio, and
- (v) the inverse of the difference of their factor endowments from the ROW.

Baier and Bergstrand (2004) also consider other institutional and political economy determinants in their robustness checks. We use the same set of determinants in our empirical analysis and test the same propositions.

Our empirical framework draws on McFadden's (1975 and 1976) qualitative choice models, where utility is modeled as a latent, unobservable variable ( $y^*$ ) that can be explained by a vector of explanatory variables ( $x$ ).

Formally,  $y^* = \beta_0 + \beta x + e$ , where  $x$  is the vector of explanatory variables;  $\beta$  is a vector of parameters; and  $e$  is the error term, assumed to be independent of  $x$  and to have a standard normal distribution.

Since  $y^*$  cannot be observed, an indicator variable  $STA$  is used, which takes the value 1 (indicating  $y^* > 0$ ) if a trading dyad has a services agreement and 0 (indicating  $y^* \leq 0$ ) otherwise.

More formally,

$$STA = 1 \text{ if } y^* > 0 \text{ and } P(STA=1) = P(y^* > 0) = G(\alpha + \beta x) \quad (1)$$

where  $P$  is the response probability associated with a trading dyad signing a services accord;  $G(\cdot)$  is the standard normal cumulative distribution function that ensures that  $P(STA=1)$  lies between 0 and 1.

Empirically, given the dichotomy of the dependent variable, equation (1) leads itself to a probit estimation.<sup>5</sup>

The main objective of services PTAs is to increase bilateral trade in services. Regulatory convergence is one of the important channels through which services accords can expand services trade volumes. Thus, the determinants of a country's choice to negotiate a services accord are likely to be indistinguishable from those that inform whether certain countries are more likely candidates for such regulatory convergence.

Thus, in a secondary estimation, we regress regulatory heterogeneity between dyads on the same set of control variables to examine if the determinants of sample countries' propensities to negotiate a services accord are similar to those that determine if these countries are also potential candidates for regulatory convergence from a services trade perspective.

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<sup>5</sup> While the statistical significance of the probit estimates can be determined, the non-linear nature of  $G(\cdot)$  implies that the coefficient estimates only reveal the signs of the partial effects of changes in  $x$  on the probability of signing an STA. Thus, the direction of the effect of variable  $x_k$  on  $E(y^*|x) = \alpha + \beta x$  is only qualitatively (not quantitatively) identical to the effect of  $x_k$  on  $E(STA|x) = G(\alpha + \beta x)$ , where  $E(\cdot)$  denotes the expectation of a variable. Our choice of the probit follows McFadden's (1975 and 1976) qualitative choice models and mirrors the methodology that Baier and Bergstrand (2004) follow with the 1,431 cross-sectional pairings in their own sample of 54 countries. Moreover, we also control for linear combinations of real GDP and factor endowment ratios on the RHS of equation (1). Since the latter are well-known proxies for per capita income (Egger and Larch 2008), we also control for levels of economic development, which further renders equation (1) fit for probit estimation.

$$\text{Formally, } \text{DREG}_{ij} = \alpha + \eta x + \varepsilon \quad (2)$$

where  $\text{DREG}_{ij}$  is the absolute value of the difference between the logs of STRI of both countries and  $\varepsilon$  is the error term.

## 5. Explanatory variables

Following Baier and Bergstrand (2004), for any dyad  $ij$ , the vector  $x$  includes two geographic variables:  $\text{Natural}_{ij}$ , which is the inverse of distance between  $i$  and  $j$ , and  $\text{Remote}_{ij}$ , which is the simple average of the mean distance between both countries and their partners.<sup>6</sup> Economic country sizes are represented by  $\text{SRGDP}_{ij}$ , which is the sum of the logs of real GDP of country  $i$  and  $j$ , and  $\text{DRGDP}_{ij}$ , which is the absolute value of the difference between the logs of real GDP of both countries.  $\text{DKL}_{ij}$  and  $\text{DROWKL}_{ij}$  determine the role of factor endowments in countries' propensities to negotiate agreements.  $\text{DKL}_{ij}$  is the absolute value of the difference between the logs of capital-labor ratios of country  $i$  and  $j$ . The variable  $\text{SQDKL}_{ij}$  is  $\text{DKL}_{ij}$  squared and is included to control for the likely quadratic relationship with the probability to negotiate a services agreement. To compare with ROW endowments,  $\text{DROWKL}_{ij}$  is included and calculated as the absolute value of the difference between the logs of capital-labor ratios of country  $i$  and  $j$  and those of the ROW.<sup>7</sup>

Institutional variables in  $x$  include common language, colonial antecedents, and legal origins. More importantly from the perspective of this paper, we also control for the level of services regulation in the dyad ( $\text{SREG}_{ij}$ , which is the sum of the logs of  $\text{STRI}_i$  and  $\text{STRI}_j$ ) and regulatory heterogeneity between partners by including the absolute value of the difference between the logs of STRI of both countries ( $\text{DREG}_{ij}$ ).

## 6. Data

Data on STAs are taken from the WTO's RTA-IS, where  $\text{STA} = 1$  for agreements notified under Article V of the General Agreement on Trade in Services (GATS) in 2008–12 and 0 otherwise. With the exception of the People's Republic of China (PRC), the STRI for all countries in our sample relates to 2008. Since regulatory convergence is an objective of services preferentialism, to minimize endogeneity in our estimation emanating from reverse causality

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<sup>6</sup> Formally,  $\text{Remote}_{ij} = \frac{\log \frac{\sum_{k=1, k \neq j}^N d_{ik} / N + 1}{2} + \log \frac{\sum_{k=1, k \neq i}^N d_{jk} / N + 1}{2}}$  where  $d$  is the bilateral distance in

kilometers and  $\text{dcont}_{ij}$  is equal to 1 if  $i$  and  $j$  are located on the same continent and 0 otherwise,

<sup>7</sup> Formally,  $\text{DROWKL}_{ij} = \frac{1}{2} \left| \log \frac{\sum_{k=1, k \neq j}^N K_k}{\sum_{k=1, k \neq i}^N K_k} - \log \frac{K_i}{L_i} \right| + \left| \log \frac{\sum_{k=1, k \neq i}^N K_k}{\sum_{k=1, k \neq j}^N K_k} - \log \frac{K_j}{L_j} \right|$

we only consider services accords that came into effect in 2008 or later.<sup>8</sup> The STRI for the PRC is for 2011. However, the PRC has only concluded one services accord to date (with Pakistan), which is unlikely to influence either its STRI considerably or this paper's overall results.

The Centre d'Etudes Prospectives et d'Informations Internationales (CEPII) gravity dataset (Head et al. 2010) provides geographic distances between capital cities that are used to compute  $Natural_{ij}$  and  $Remote_{ij}$ . Data on real GDP are taken from the Penn World Tables (PWT) and these are used to calculate  $SRGDP_{ij}$  and  $DRGDP_{ij}$ .

Factor endowment ratios are computed from estimated capital stock and the number of workers. We do this following Marchetti's methodology used in the Extended PWT and these ratios enable the calculation of  $DKL_{ij}$ ,  $SQDKL_{ij}$ , and  $DROWKL_{ij}$ .<sup>9</sup> Following Hulton and Wycoff (1981), the Perpetual Inventory Method, which is detailed in OECD (2009), is used to estimate the stock of capital.<sup>10</sup> The number of workers is calculated using the PWT.<sup>11</sup> The capital-labor ratio is thus the estimated capital stock divided by the number of workers.

The earliest STA involving at least one Asian partner (New Zealand–Singapore) entered into effect on 1 January 2001. Since trade agreements are typically phased in over multi-year transition periods and to control for potential endogeneity in our estimation, our data on the time-varying independent variables are for 1980. The choice of this early year is also likely to control for any domino effects that the earliest STAs may have exerted on the recent wave of services preferentialism involving Asian economies.

Data on common language and colonial antecedents are taken from the CEPII gravity dataset (Head et al. 2010), while those on legal origins are compiled using Shleifer (1999).<sup>12</sup> More importantly from the perspective of this paper, we also control for the level of services regulation in the dyad ( $SREG_{ij}$ , which is the sum of the logs of  $STRI_i$  and  $STRI_j$ ) and regulatory heterogeneity between partners by including the absolute value of the difference between the logs of STRI of both countries ( $DREG_{ij}$ ).

To test for the role of political stability in the choice of potential partners, we also proxied the extent of political homogeneity in the dyads by including the absolute value of the difference

<sup>8</sup> Only two services agreements were negotiated between Asian economies prior to 2008: Japan–Malaysia (2006) and Japan–Thailand (2007). Our sample size thus remains effectively the same even without these two agreements.

<sup>9</sup> <https://sites.google.com/a/newschool.edu/duncan-foley-homepage/home/EPWT>

<sup>10</sup> Formally,  $K^{stock}_t = \sum_i^T (1-d)^{T-i} I_{T-i} + I(1-d/2)$  and  $I_t = Pop_t RGDP^{pc}_t k_t^i$  where  $I_t$  corresponds to the real investment in year  $t$ , obtained from real investment share of GDP ( $k_t^i$ ), real GDP per capita in constant dollars (chain index) denoted by  $RGDP^{pc}_t$ , and population ( $Pop_t$ ) provided by the PWT. By assumption,  $i = 1, 2, 3, \dots, 14$ ; that is, the asset life is 14 years and the depreciation rate,  $d$ , is 7.5%.  $K^{stock}_t$  is the cumulated depreciated sum of past investments.

<sup>11</sup> Formally,  $N_t = \frac{Pop_t RGDP^{pc}_t}{RGDP^w_t}$  where  $N_t$  is the number of workers and  $RGDP^w_t$  is the real GDP per worker in constant dollars.

<sup>12</sup> [http://www.economics.harvard.edu/faculty/shleifer/files/qgov\\_web.xls](http://www.economics.harvard.edu/faculty/shleifer/files/qgov_web.xls)

between the logs of the State Fragility Index<sup>13</sup> (SFI), compiled by the Center for Systemic Peace, of both countries ( $DSFI_{ij}$ ) for 1995.<sup>14</sup> However, the inclusion of this variable created problems of multicollinearity and rendered the coefficients of all other variables statistically insignificant across estimations. In the absence of a strong theoretical justification for its inclusion we therefore decided to drop the variable.

In line with the endogenous protection literature (Trefler 1993), we also control for import penetration by using data on these countries' average bilateral trade. Since data on bilateral services trade were not available either for all countries in our sample or for the period before 1999, we used bilateral trade in goods data from UN Comtrade ( $TRADE_{ij}$ ). To the extent possible, we used averages over 1978–1980. However, in some cases, the earliest available years were 1984–86 (PRC), 1998–2000 (Mongolia and Viet Nam), and 2000–02 (Cambodia).

Finally, to control for the politics of preferentialism à la Grossman and Helpman (1995), we included the absolute value of the difference in the logarithms of a dyad's average global trade flows (DTRADE) as described above.

A priori, with the exception of  $DRGDP_{ij}$ ,  $DROWKL_{ij}$ ,  $TRADE_{ij}$ , and DTRADE, we expect the coefficients of all the other variables to be positive. Neighboring countries are more likely to sign a trade agreement, especially if both are remote from the ROW; this is likely to be true of services accords as well. Similar and larger economically-sized countries are also likely to gain more due to the exploitation of economies of scale and the presence of greater varieties flowing from deeper integration. The greater the difference in relative factor endowments between countries, and the larger the intercontinental trade costs, the greater trade creation is likely to be. On the other hand, the greater the difference in relative factor endowments between potential partners and the ROW, the more likely trade diversion becomes. Protection tends to be higher in sectors with greater import penetration. This means that more trade is likely to be associated with less inclination to negotiate a trade accord. Political pressure to prevent an agreement is reduced the more balanced potential trade is between partner countries (which would be reflected in smaller values of DTRADE). Finally, dyads with common institutions and homogeneity in regulation are more likely to enter into agreements, as are partners with high initial barriers to services trade. All data are summarized in Annex Table A1.

## 7. Results

The results from the probit estimation are reported in Table 2. The first three specifications control for economic, institutional, and political economy determinants separately; these are

<sup>13</sup> More information on the SFI is available at <http://www.systemicpeace.org/inscr/SFIv2011a.xls>. The index ranges from 0 (no fragility) to 25 (extreme fragility). According to the Center for Systemic Peace, “[a] country’s fragility is closely associated with its state capacity to manage conflict, make and implement public policy, and deliver essential services; and its systemic resilience in maintaining system coherence, cohesion, and quality of life; responding effectively to challenges and crises; and sustaining progressive development.”

<sup>14</sup> This is the earliest year for which the SFI has been formulated.

then introduced in combination in specifications IV–VI, with the final specification controlling for all determinants together.

The results reported in columns I–III suggest that economic determinants exert a greater influence than both institutional and political economy factors, though the model has the lowest explanatory power with only institutional determinants (pseudo-R-squared = 11%). Moreover, most of the variables within these three sets of determinants—with the exception of NAT (weakly), SRGDP, DROWKL, and TRADE—are individually statistically insignificant.

The negative coefficient of NAT (across specifications in general) suggests that distance seems to have a positive, counter-intuitive relationship with the propensity to negotiate services agreements in Asia. Alternatively, our findings offer no support to the natural trading partner hypothesis within Asia, at least with respect to services preferentialism. This finding is also consistent with the negative sign on the constant term across most specifications. That trading partners may be willing to negotiate services agreements despite the effect of distance becomes more readily understandable when one considers that almost a fourth of all services trade is delivered by Mode 1 (cross-border supply), where the effect of distance is far more benign, if not completely absent.

In the case of TRADE too, the positive sign of the coefficient is not as expected—the more traded goods sectors seem to be more likely to negotiate a services accord, a finding that contradicts the endogenous protection literature as well as the results found in Baier and Bergstrand (2004). On the other hand, the positive sign of this coefficient could also suggest greater goods trade leading to a successful erosion of vested protectionist interests in services leading in turn to juggernaut and domino forces, as described in Baldwin (2006), which may facilitate the conclusion of services accords. Moreover, the positive coefficient can also be explained by the rising salience of trade in intermediate products—both goods and services—made pervasive by the growth of regional value chains, especially in the context of East Asia and the Pacific.

The coefficients of SRGDP and DROWKL both have the expected signs and suggest that similarity in the economic size of partners and smaller differences in their factor endowment ratios compared to the ROW lead to a higher likelihood of negotiating a services accord.

**Table 2: Estimating the Likelihood of Negotiating a Services Agreement in Asia**

Probit estimation: Dependent variable STA

Variables	I	II	III	IV	V	VI	VII
REM (+)	2.45 (4.17)			8.59 (5.45)	-2.61 (4.89)		1.73 (7.41)
NAT (+)	-1.06# 0.56			-0.98 (0.62)	1.92* (0.78)		-1.83# (1.02)
SRGDP (+)	0.24* (0.1)			0.29* (0.12)	-0.23 (0.22)		-0.11 (0.32)
DRGDP (-)	-0.21 (0.18)			-0.3 (0.2)	0.09 (0.29)		0.24 (0.33)
DKL (+)	0.48 (0.58)			0.19 (0.63)	0.32 (0.7)		0.17 (0.76)
SQDKL (+)	0.03 (0.13)			0.2 (0.14)	0.1 (0.16)		0.04 (0.18)
DROWKL (-)	-1.22* (0.54)			-0.39 (0.63)	-1.06# (0.62)		-0.4 (0.78)
SREG (+)		-0.02 (0.38)		-0.94 (0.7)		-1.19* (0.6)	-1.05 (1.01)
DREG (+)		0.76 (0.5)		0.88 (0.73)		1.73* (0.77)	2.03# (1.1)
Com_lang (+)		0.19 (0.54)		0.11 (0.72)		-0.13 (0.67)	-0.19 (0.85)
Com_col (+)		4.72 (315.36)		6.23 (383.82)		6.34 (361.66)	4.73 (337.4)
Com_law (+)		-4.53 (315.36)		-4.49 (383.81)		-6.06 (361.66)	-3.89 (337.4)
Trade (-)			0.33*** (0.1)		0.54* (0.24)	0.42*** (0.11)	0.52 (0.33)
DTRADE (-)			-0.22 (0.17)		-0.70* (0.3)	-0.56* (0.27)	-0.96* (0.41)
Constant	-43.21 (39.38)		-6.41*** (1.73)	-95.4# (50.32)	10.8 (46.27)	0.23 (4.28)	-27.78 (69.32)
<b>N</b>	103	103	97	103	97	97	97
<b>df_m</b>	7	5	2	12	9	7	14
<b>Pseudo-r2</b>	0.37	0.11	0.27	0.46	0.52	0.48	0.61

Notes: Levels of significance at the 10%, 5%, 1%, and 0.1% levels are denoted by #, \*, \*\*, and \*\*\*, respectively. Standard errors reported in brackets. The signs against the variables denote the expected signs of the coefficients.

These results hold in specifications V and VI, though the explanatory power of the model is considerably improved when economic and political economy factors are combined. On the other hand, none of the coefficients, except that on SRGDP, is found to be individually statistically significant when economic and institutional determinants are used together in specification IV.

In specifications V and VI, the coefficients of DREG and DTRADE also have the expected signs and show statistical significance. SREG, on the other hand, seems to be inversely related to the propensity to negotiate a services accord. The latter finding runs contrary to expectations and would appear to suggest that Asian trading partners may be negotiating services agreements more for purposes of promoting regulatory convergence than to bring down levels of restrictive services regulation. However, such a finding could also emanate from the negative correlation between SREG and DREG in our sample (value of correlation coefficient 0.44), suggesting that dyads with more restrictive services regulation are also more homogeneous partners.

Finally, when all factors are controlled for in specification VII, only NAT (weakly), DREG (weakly), and DTRADE are statistically significant, but the latter specification exhibits the most robust explanatory power (pseudo R-squared = 61%). While TRADE loses its earlier statistical significance, the coefficient of DTRADE increases in absolute value. Significantly, the coefficient of DREG continues to report the expected sign and also becomes stronger in terms of effect, but weakens in terms of statistical significance.

A comparison of our model's predictions for STA when fully specified in column VII with the actual value of STA reveals that the propensity to negotiate (or not) an STA is correctly predicted for 95% of the 103 dyads in our sample.<sup>15</sup> Of the total, 14 dyads actually negotiated an STA and 10 of these were correctly predicted by our model. The remaining 89 dyads did not have a services accord and our model correctly predicted 88 (99%) of these.

We also found evidence of insufficient services preferentialism in our sample for the PRC–Japan ( $STA^{pred} = 0.92$ ) wherein our model suggested the existence of a services accord that does not exist at the moment. At the same time, the Republic of Korea seems to exhibit excessive services preferentialism in its agreements with members of the Association of Southeast Asian Nations (ASEAN): Cambodia ( $STA^{pred} = 0.32$ ), the Philippines ( $STA^{pred} = 0.45$ ), and Viet Nam ( $STA^{pred} = 0.38$ ). The same is true for the PRC–Pakistan ( $STA^{pred} = 0.02$ ). In all cases, both sets of trading partners have a services agreement, though our model suggests a very low probability for this.

## 7.1 Secondary Results

Table 3 reports the results from the ordinary least squares (OLS) estimation of the secondary specification. As before, columns I–III report the results from estimations that control for economic, institutional, and political economy determinants separately; columns IV–VII report results from estimations that include these variables in different combinations.

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<sup>15</sup> To enable this comparison, we used the decision-rule from Baier and Bergstrand (2004). If  $STA^{pred} > 0.5$ , then we take this value to be 1. If  $STA^{pred} \leq 0$ , then we take this value to be 0.

At the outset, the explanatory power of the secondary estimation is low; even the fully-specified model in column VII has an adjusted R-squared of 31%. This said, a few of the explanatory variables report the expected signs of coefficients. Thus, dyads more remote from the ROW tend to be more homogeneous in services regulation—the coefficient of REM is negative and statistically significant across specifications. Commonality in institutions is likely to result in demand for (and greater supply of) regulatory convergence; yet, we see evidence of this only in the coefficient of common legal origins.

In the case of economic determinants, DRGDP, DROWKL, and SRGDP (in one specification) show statistical significance, with the coefficients of DRGDP (positive) and DROWKL (negative) showing the expected signs throughout the specifications.

The result of the sum of economic size of trading partners is harder to interpret as our data suggest a very low inverse relationship between market size and services regulation (correlation coefficient =  $-0.1$ ). The impact of combined market size on differences in regulation is thus uncertain and perhaps this is what is reflected in the near-zero coefficient of SRGDP across specifications in Table 3.

A more interesting result from the secondary estimation emanates from the coefficient of SREG, corroborating the negative partial correlation coefficient between the two variables. This suggests that a more regulated dyad is also more homogeneous in services regulation, and the result is found to be statistically significant across specifications.

Moreover, dyads in a services agreement seem more divergent in terms of services regulation. This is a somewhat curious result suggesting that the causality runs in reverse. Thus, the greater the extent of regulatory heterogeneity between trading partners, the more likely they are to enter into a services agreement to promote regulatory convergence. Of course, since the data on STRI pertain to 2008 and we only include services agreements negotiated in 2008–12 in our sample, our results are impervious to this reverse causality.

Finally, the coefficient of TRADE is negative as expected. Sectors characterized by greater trade intensity are also more likely to see a convergence in regulation facilitating such trade. This result too is statistically significant across specifications. Moreover, more balanced trade between partners is likely to be associated with similarities in the regulatory frameworks of trading partners. Thus, if DTRADE is low, DREG is also likely to be low. However, the sign on DTRADE fluctuates through specifications and also lacks statistical significance.

Table 3: Determinants of Regulatory Differences in Services within Asia

OLS estimation: Dependent variable DREG							
Variables	I	II	III	IV	V	VI	VII
REM (-)	-1.09# (0.55)			-1.38* (0.58)	-1.22* (0.55)		-1.39* (0.59)
NAT (-)	-0.08 (0.06)			0.01 (0.06)	-0.02 (0.07)		0.06 (0.07)
SRGDP (+/-)	-0.03# (0.01)			-0.02 (0.01)	-0.01 (0.02)		0.01 (0.02)
DRGDP (+)	0.07** (0.02)			0.05* (0.02)	0.09** (0.03)		0.06* (0.03)
DKL (+)	0.02 0.09			0.03 (0.08)	-0.02 (0.09)		-0.01 (0.09)
SQDKL (+)	0 (0.02)			-0.01 (0.02)	0.01 (0.02)		0 (0.02)
DROWKL (-)	-0.18*** (0.05)			-0.13* (0.05)	-0.16** (0.05)		-0.14** (0.05)
STA (-)		0.15 (0.09)	0.34** (0.1)	0.23* (0.1)	0.30** (0.1)	0.23* (0.1)	0.25* (0.1)
SDREG (-)		-0.29*** (0.06)		-0.16* (0.07)		-0.25*** (0.07)	-0.19* 0.07
Com_lang (-)		0.09 (0.11)		0.04 (0.11)		0.11 (0.11)	0 0.11
Com_col (-)		0.1 (0.12)		0.04 (0.12)		0.12 (0.12)	0.07 (0.12)
Com_law (-)		-0.13 (0.08)		-0.18* (0.09)		-0.14# (0.08)	-0.19* (0.09)
Trade (-)			-0.03** (0.01)		-0.03# (0.01)	-0.02* (0.01)	-0.03# (0.01)
DTRADE (+)			0.03 (0.02)		-0.03 (0.03)	0.01 (0.02)	-0.02 (0.03)
Constant	11.11* (5.06)	2.56*** (0.41)	0.83*** (0.17)	15.49** (5.33)	12.41* (5.08)	2.57*** (0.48)	15.19** (5.54)
<b>N</b>	103	103	97	103	97	97	97
<b>df_m</b>	7	5	3	12	10	7	14
<b>r2</b>	0.25	0.24	0.14	0.39	0.32	0.3	0.41
<b>r2-a</b>	0.2	0.23	0.11	0.31	0.24	0.24	0.31

Notes: Levels of significance at the 10%, 5%, 1%, and 0.1% levels are denoted by #, \*, \*\*, and \*\*\*, respectively. Standard errors reported in brackets. The signs against the variables denote the expected signs of the coefficients.

## 8. Concluding Remarks

This paper explored the question of whether certain countries within Asia are more likely candidates for negotiated regulatory convergence and harmonization in the context of services agreements. The two papers closest to the analysis on offer in this paper are Baier and Bergstrand (2004), who were the first to ask this question from the perspective of agreements focusing on goods trade, and Cole and Guillin (2012), who first explored the issue for services accords without, however, considering the influence of regulation in services trade.

While our results may be Asia-specific, the goodness-of-fit of our empirical model, demonstrated by the probabilities predicted successfully, is in line with the results found in Baier and Bergstrand (2004) and improve on those found in Cole and Guillin (2012).

Our results suggest that large Asian economies, in terms of real GDP, with fewer differences in relative factor endowments compared to the ROW, near balanced trade, and divergent regulatory frameworks are more likely to negotiate services agreements with each other. Contrary to expectations, we also found that more distant economies with lower levels of restrictive regulation in the dyad and higher levels of pre-existing trade are more likely candidates for services preferentialism in the region. India and Japan are a case in point.

Our results also suggest that Asian countries more remote from the ROW and with similar economic sizes, greater differences in relative factor endowments compared to the ROW, common legal origins, high levels of pre-existing trade, and restrictive services regulation are also more likely candidates for regulatory convergence. Indonesia and the Philippines would appear to meet such criteria.

Finally, our empirical results argue in favor of a future PRC–Japan services accord (abstracting from the various political considerations weighing on the bilateral relationship). They also suggest that the PRC–Pakistan services PTA and the services agreements that the Republic of Korea has entered into with Cambodia, the Philippines, and Viet Nam via the ASEAN–Republic of Korea accord are illustrative of “excessive” services preferentialism in the region.

A number of policy implications can be derived from the above results. For starters, far from inhibiting the quest for deeper market integration, ex ante divergences in regulatory regimes and enforcement capacities may well prove a significant spur to negotiated convergence, allowing parties to import best trade- and investment-facilitating standards from partners with greater overall regulatory efficiency. Where regulatory divergences are so marked as to inhibit market integration, the supply of adequate doses of variable geometry in meeting otherwise common policy objectives may represent a useful means to promote convergence. A case in point is ASEAN where, despite far-reaching income and development gaps within the regional grouping, significant regulatory convergence has been achieved through formulas that internalize the need for differentiated implementation modalities across members.<sup>16</sup>

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<sup>16</sup> At year-end 2012, the per capita income level of Singapore, ASEAN’s wealthiest member, was 45.1 times higher in purchasing power parity (PPP) terms to that of Myanmar, the regional grouping’s poorest member, making ASEAN arguably the most heterogeneous regional grouping to have embarked (quite successfully to date) on the path of deep and sustained regulatory convergence and integration.

Moreover, the statistical insignificance of geographic proximity as a determining influence in the choice of STA partners within Asia must be understood in light of two key characteristics of services trade that allow remote partners to engage in deep forms of integration. First, the unfolding revolution in information and communications technologies increasingly favors the supply of ever-increasing doses of services delivered across borders in manners that are increasingly insensitive to considerations of time and space (and hence distance). Meanwhile, the continued predominance of services supplied through a commercial presence in the territory of the consumer, a dimension of services trade for which no equivalent exists in the goods trade, in effect reduces distance to zero and allows larger (and likely capital-exporting) countries to aspire to high degrees of market integration with smaller and/or distant partners. Efforts directed at the progressive dismantling of obstacles to trade and investment in services through Mode 1 (cross-border supply) and Mode 3 (commercial presence) may thus be important means of neutralizing the impact of distance on market integration in services.

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## Annex

Table A1: Summary Statistics

Variables	Obs	Mean	Std. Dev.	Min	Max
<b>Geography</b>					
Distance (km)	103	3214.4	1433.5	536.0	6861.3
NAT	103	-8.0	0.5	-8.8	-6.3
REM	103	9.1	0.1	9.0	9.3
<b>Economic</b>					
rgdp p (USD bn)	103	177.0	427.0	3.7	2190.0
rgdp r (USD bn)	103	376.0	580.0	3.7	2190.0
SRGDP	103	50.0	2.4	44.1	55.7
DRGDP	103	2.2	1.5	0.0	6.4
l_p (mn)	103	29.1	63.4	0.6	504.0
k_p (USD bn)	103	414.0	1150.0	3.1	5950.0
l_r (mn)	103	110.0	167.0	0.6	504.0
k_r (USD bn)	103	901.0	1580.0	3.1	5950.0
kl_p (USD/worker)	103	14333.4	20330.4	939.7	105607.2
kl_r (USD/worker)	103	16016.4	27512.3	939.7	105607.2
kl_row (USD/worker)	103	23803.1	2303.0	20506.2	32659.0
DKL	103	1.6	1.1	0.0	4.7
SQDKL	103	3.8	4.6	0.0	22.3
DROWKL	103	1.5	0.7	0.0	3.1
<b>Institutional</b>					
stri_r	103	38.8	14.3	13.7	65.7
stri_p	103	38.5	12.7	13.7	65.7
DREG	103	0.5	0.4	0.0	1.6
SREG	103	7.2	0.3	5.8	8.2
Com_lang	103	0.1	0.6	0.0	1.0
Com_col	103	0.1	0.3	0.0	1.0
Com_law	103	0.3	0.5	0.0	1.0
STA	103	0.1	0.3	0.0	1.0
<b>Political economy</b>					
trade_r (USD bn)	103	17.3	28.8	0.1	110.0
Trade_p (USD bn)	103	10.3	20.9	0.1	110.0
TRADE	97	15.8	3.4	6.9	22.9
DTRADE	103	2.0	1.4	0.0	6.8

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## **Why do Countries enter into Preferential Agreements on Trade in Services?**

Assessing the Potential for Negotiated Regulatory Convergence in Asian Services Markets

Given the surge of services preferentialism in Asia and the importance of domestic regulation for services trade, this paper examines the potential for negotiated regulatory convergence in Asian services markets. Our results suggest that Asian economies more remote from the rest of the world, with similar economic sizes, greater differences in relative factor endowments, common legal origins, high levels of pre-existing trade and restrictive services regimes are more likely candidates for negotiated regulatory convergence.

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ADB's vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries reduce poverty and improve the quality of life of their people. Despite the region's many successes, it remains home to approximately two-thirds of the world's poor: 1.6 billion people who live on less than \$2 a day, with 733 million struggling on less than \$1.25 a day. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

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