What Drives Foreign Direct Investment in Asia and the Pacific ?

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Outline for the Presentation

- Introduction
- Data: Trends and Patterns of FDI
- Drivers of FDI
- Policy factor: the International Investment treaty

Introduction

Trends and Patterns of FDI in Asia and Pacific

- Asia continues to be the world's top destination for FDI
- Asia's intraregional FDI has increased over time
- Asia also an important source of outward FDI

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Background and Research Questions of the study

Background

FDI contributes to inclusive growth and development

However, impacts are different across mode of entry and investment motivation

Drivers of the type of FDI best suited to development strategy?

Research questions

- What is the role of comparative advantage, institutions, integration, and other policy factors in driving FDI inflows?
  - Adopted firm-level analysis, tracing ultimate source of investment activity
  - Focus on MNC mode of entry and motivation
- As an increasingly employed instrument of policy, the efficacy of International Investment Agreements in driving FDI?

Data: Trends and Patterns of FDI

Official Sources of Bilateral FDI data *based on BOP/IIP definition*

Database	Flows		Stock		Country coverage	Period coverage
	IN	OUT	IN	OUT		
UNCTAD	✓	✓	✓	✓	206 economies, all available partners	2001-2012
ASEAN Secretariat	✓				10 ASEAN, major partners	2001-2015
OECD	✓		✓		34 OECD, all available partners	1985-2012
Eurostat	✓	✓	✓	✓	28 EU members, all partners	2001-2014
IMF CDIS			✓	✓	90 reporter–economies	2009-2013
National sources	depends on country data source; data available for AUS, JPN, KOR, GEO, IND, TAP, PRC, HKG, US, MEX, CHL, COL					

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Data Sources for Mode of Entry

- Greenfield: *fDi Markets* database, from Financial Times
    - Sectorial coverage: 39 sectors and 272 sub-sectors using its own classification
- M&As*: Zephyr database*, from Bureau Van Dijk
    - Sectoral coverage: 2-6 digit NAICS 2012. Correct data to trace ultimate acquirer through Orbis.
- Match, merge and aggregate up to primary, manufacturing and services.
- Extensive margin i.e. number of projects and deals

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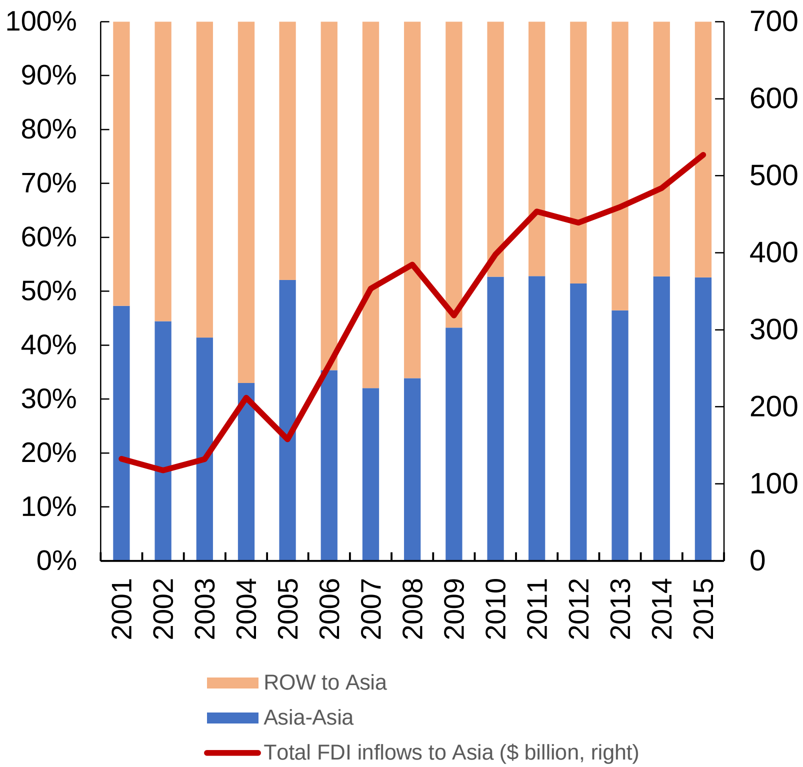
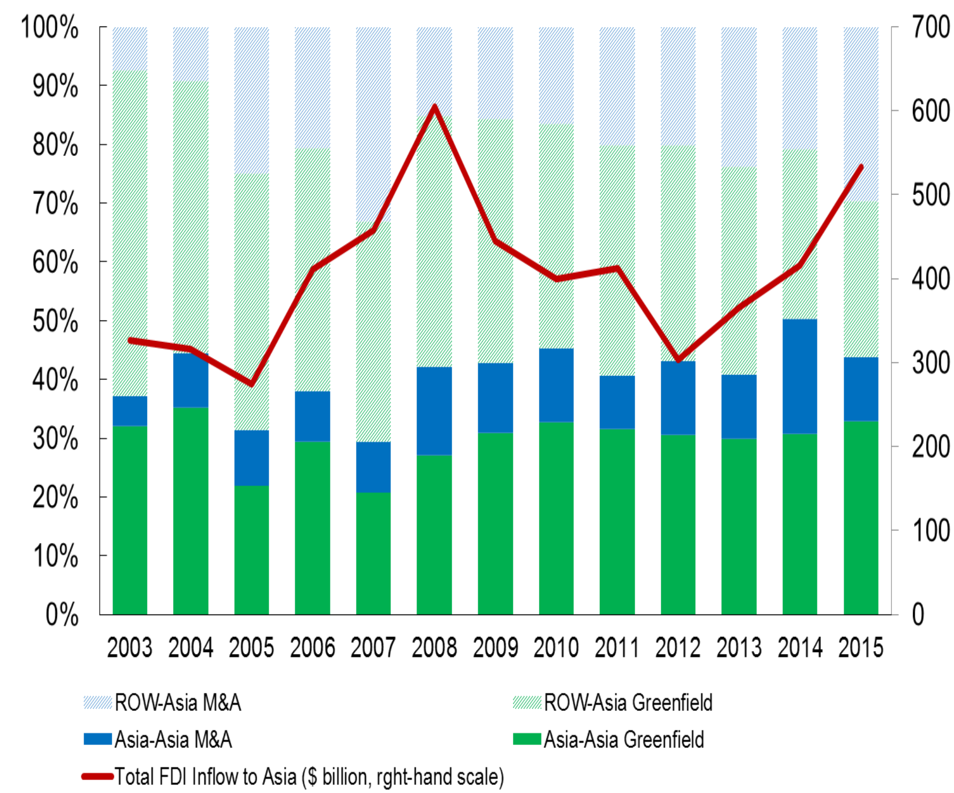
Comparison: BOP vs Firm-level Data

FDI inflows into Asia: BoP Data



FDI flows into Asia: Firm-level Data (based on $ values)



BOP = balance of payments, FDI = foreign direct investments, M&A = merger and acquisitions, ROW = rest of the world.
Source: For BOP-based bilateral FDI database, ASEAN Secretariat, Eurostat, UNCOMTRADE, and national sources. For firm-level database, fDi Markets and Zephyr Databases.

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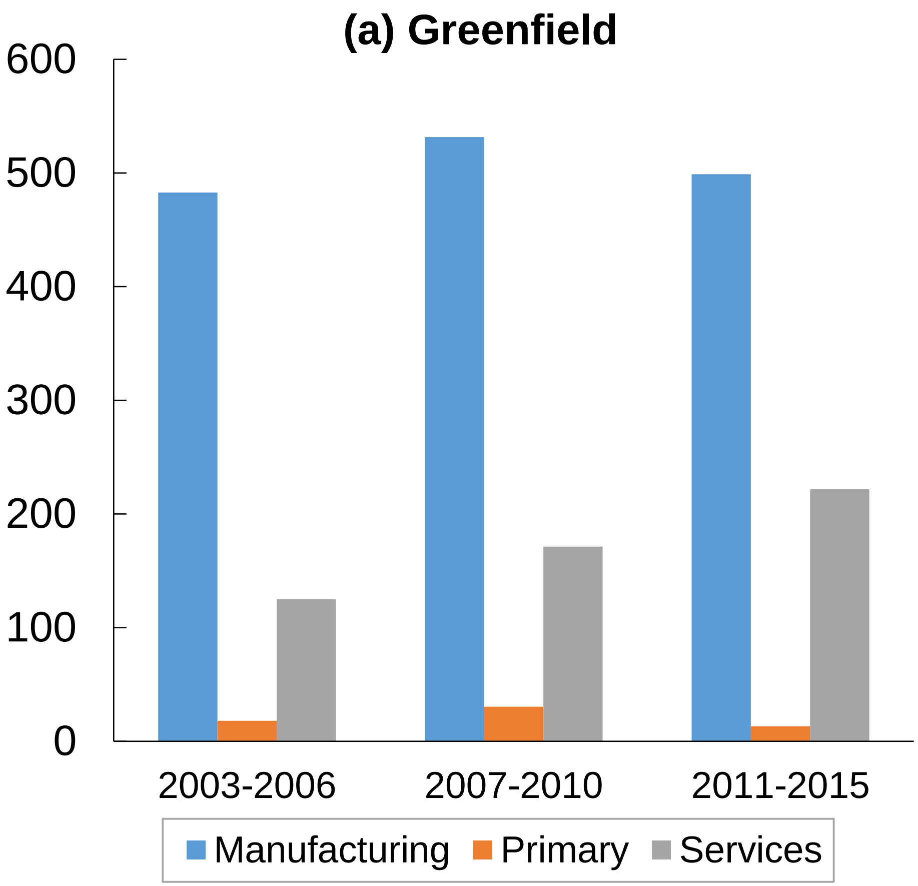
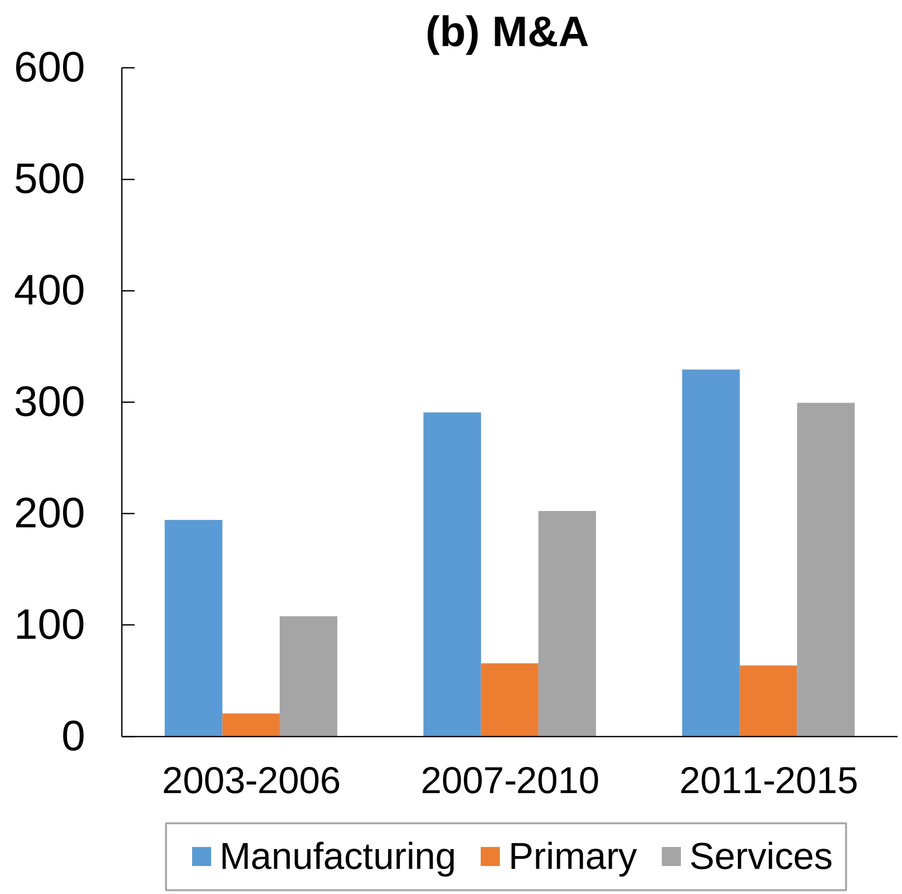
Intra-Asian FDI by sector, mode of entry

(Number of Projects)



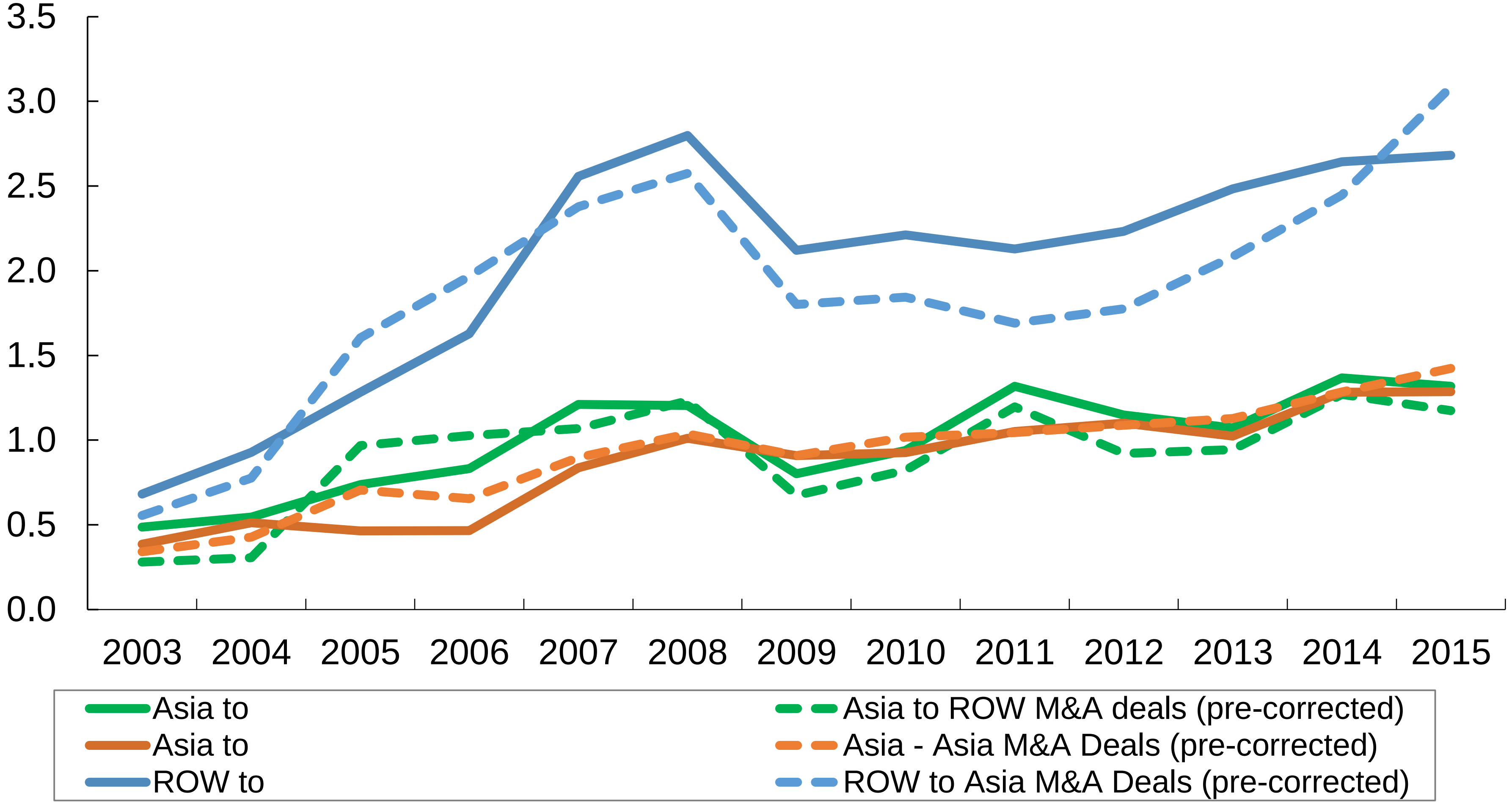


FDI = foreign direct investment, M&A = merger and acquisition.

Source: ADB calculations using M&A data from Zephyr database, and fDi Markets, Financial Times.

Number of M&A deals: pre- and post-correcting for ultimate global ownership

(count, thousand)



M&A = merger and acquisitions, ROW = rest of the world.
Source: ADB calculations using Zephyr M&A database and Orbis company database.

Data Sources for Distinguishing Motivation

- *Sample from Worldbase*, Dun & Bradstreet
  - Links the global ultimate headquarter and its affiliates located around the world at the 4 –digit Standard Industrial Classification (SIC) level
  - Records if an affiliates is engaged in international trade activity (plus data on sales and employment)
  - Indicator of GVC-FDI: Foreign-owned affiliates that both export and import
  - Country coverage: GUHs located in OECD + emerging countries; affiliates located in Asia i.e. GVC-FDI into Asia
  - Sectoral coverage: Manufacturing, Mining and Business Services

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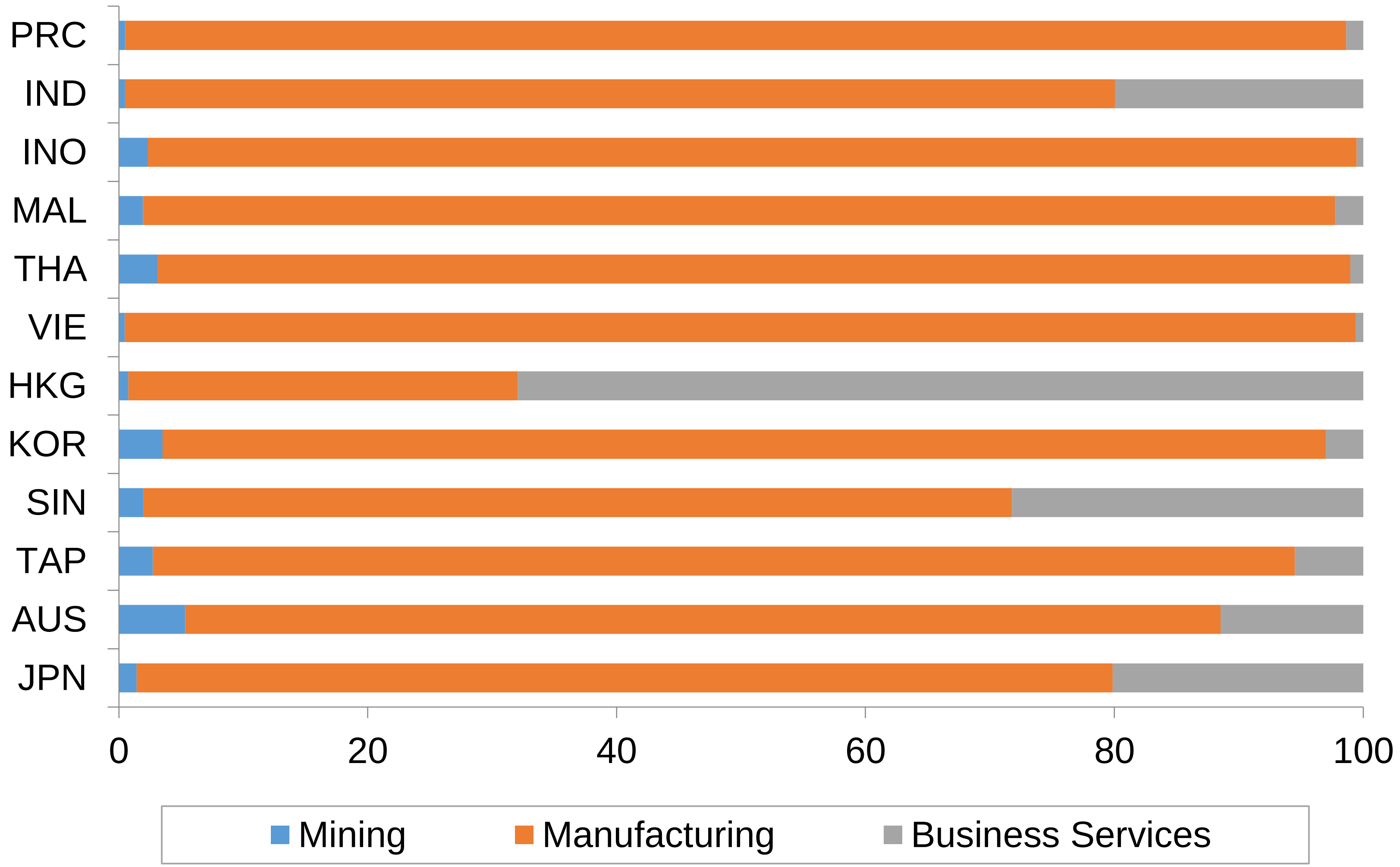
Patterns—GVC-FDI: Most common country pairs

Destination	Origin	No. of Affiliates that Import and Export	% of Affiliates that Import and Export
1. PRC	Japan	2,260	81%
2. PRC	Hong Kong, China	1,314	76%
3. PRC	United States	646	74%
4. PRC	Germany	625	76%
5. PRC	Taipei,China	401	79%
6. PRC	Korea	358	86%
7. PRC	Singapore	337	71%
8. Viet Nam	Japan	306	72%
9. Thailand	Japan	258	64%
10. Indonesia	Japan	214	53%
11. Taipei,China	Japan	212	74%
12. PRC	France	177	77%
13. Malaysia	Japan	175	78%
14. Philippines	Japan	171	69%
15. Singapore	Japan	164	54%

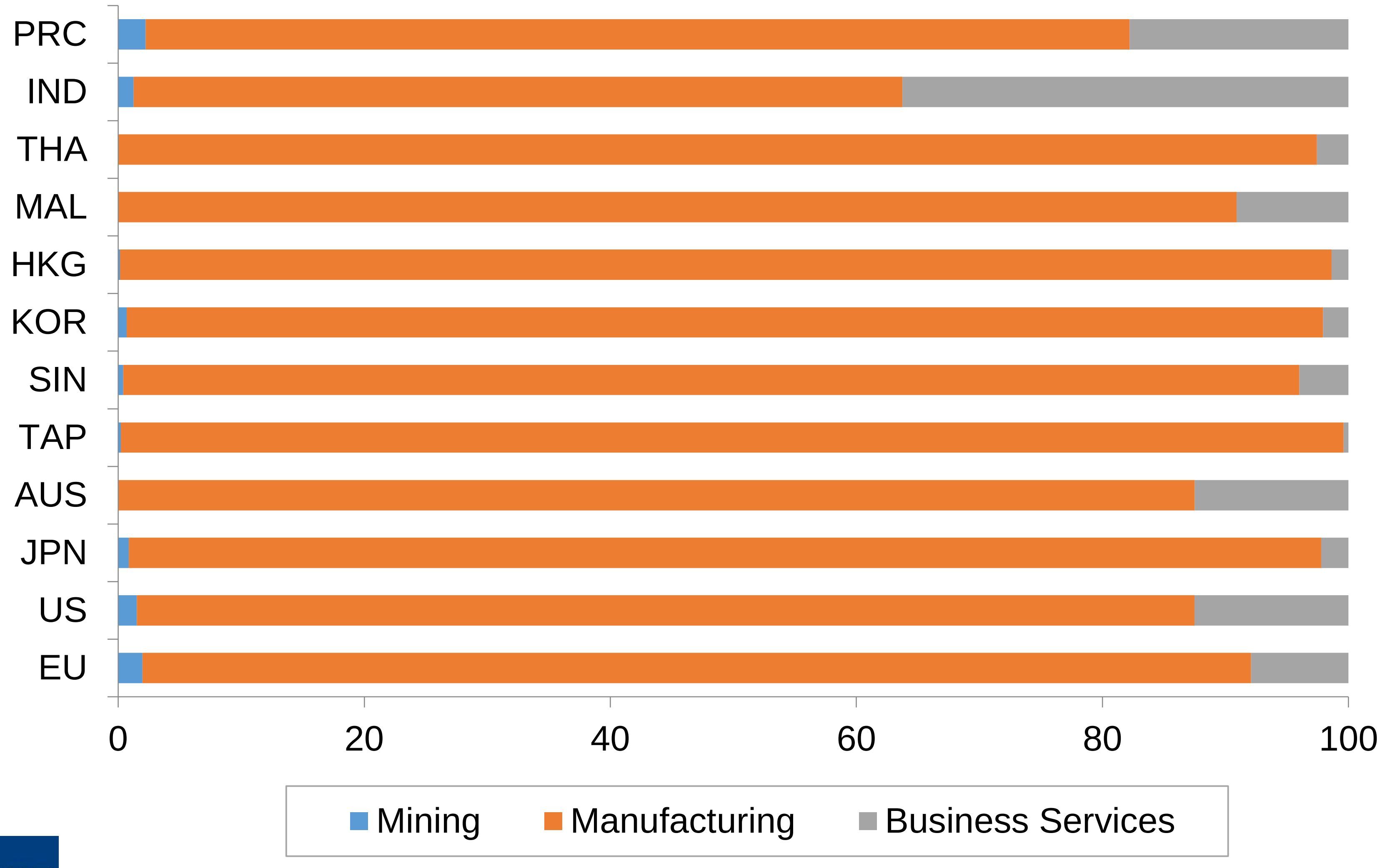
GVC-FDI into Asia: Host Economies

(% of economy total)



GVC-FDI from Asia: Source economies

% of economy total



Number of FDI Firms by Origin of Global Ultimate Headquarters

	Asia	Outside Asia	Selected Emerging Asia Economies	Rest of the World	PRC	India
All plants	203,132	26,998	86,094	144,036	31,297	52,008
Foreign plants (share of total)	5%	37%	1%	14%	0.7%	0.5%
Percentage that exports	73%	52%	43%	63%	35%	48%
Percentage that imports	76%	53%	37%	66%	27%	37%
Percentage that imports and exports	67%	45%	29%	58%	21%	32%

FDI = foreign direct investment, PRC = People's Republic of China.
Note: The selected emerging Asian economies in this list include the PRC, India, Indonesia, Malaysia, and Thailand.
Source: Dun & Bradstreet. D&B Worldbase.

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Top destination of PRC's and India's GVC-FDI

Source: PRC	% share
1. Viet Nam	29
2. Hong Kong, China	24
3. Singapore	16
4. Philippines	7
5. Australia	7

Source: India	% share
1. Singapore	41
2. PRC	14
3. Australia	10
4. Indonesia	9
5. Japan	5
Thailand	5
Viet Nam	5

FDI = foreign direct investment, GVC = global value chain, PRC = People's Republic of China.

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Drivers of FDI:

Institutional quality, business environment, integration, and comparative advantage

Empirical Methodology

- Gravity model

$$Y_{it} = \alpha_t \frac{M_{it} M_{jt}}{D_{ijt}}$$

Where:

Y_{ijt} = flows of transactions from origin i to destination j at time t

$$M_{jt} = \eta POLICY_{jt} + \gamma_1 lnPOP_{jt} + \gamma_2 lnPCGDP_{jt} + \gamma_3 GROWTH_{jt} + \gamma_4 INFLATION_{jt}$$

$$D_{ijt} = \beta_1 lnRTA_{ijt} + \beta_2 lnBIT_{ijt} + \Theta PAIR_{ij} + \mu_{drt}$$

- Many pairs of countries do not exert FDI flows and hence enter with zeros.

- Santos Silva and Tenreyro (2006) suggest that the gravity model be estimated in its multiplicative form and use a Poisson pseudo- maximum likelihood (PPML) estimator that is usually used for count data.

$$Y_i = \exp(x_i \beta) + \varepsilon_i$$

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Effect of Ease of Doing Business & Governance on FDI

Dependent variable: 3-year averaged number of FDI projects

Source	Greenfield investment				Cross-border M&A			
	High-income		Emerging		High-income		Emerging	
Host	High-income	Developing	High-income	Developing	High-income	Developing	High-income	Developing
Overall Ease of Doing Business Index - host	0.005	0.022***	-0.002	-0.001	0.004	0.009	-0.007	-0.014
Overall World Governance Index - host	0.026***	0.043***	0.031*	0.021***	0.042***	0.072***	0.044***	0.051***
Observations	3096	6792	1290	2830	3096	6792	1290	2830
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.641	0.841	0.610	0.543	0.696	0.798	0.636	0.527

*** significant at 1%, ** significant at 5%, * significant at 10%.
EoDB = World Bank's Ease of Doing Business Indicators, FDI = foreign direct investment, WGI = World Governance Indicators.
Note: Estimated using Poisson Pseudo-Maximum Likelihood (PPML). Control variables include dyadic variables, and host country characteristics. Also included are time-varying source country-period, host country and period fixed effects.

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Interaction effects of Ease of Doing Business and World Governance Indicators on greenfield FDI flows from high-income to developing

Dependent variable: 3 year averaged number of Greenfield FDI

EoDB	0.096***
EoDB*WGI_ave	-0.002***
WGI_ave	0.140***
Control Variables	Yes

*** significant at 1%, ** significant at 5%, * significant at 10%.
EoDB = Ease of Doing Business Indicators, FDI = foreign direct investment, WGI = World Governance Indicators.
Note: Estimated using Poisson Pseudo-Maximum Likelihood (PPML). Control Variables include dyadic variables, and host country characteristics. Also included are time-varying source country-period, host country and period fixed effects.

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Determinants of GVC–FDI: Country Characteristics

Dependent variable: D(exports>0 & imports >0)

	(1)	(2)	(3)	(4)
Log capital-labor ratio	-0.495***	-0.173*	-0.777***	-1.056***
Private credit		0.227***		
Trade restrictiveness index			-3.446***	
Export upstreamness				-0.548***
Control Variables	Yes	Yes	Yes	Yes
Observations	17,126	8,581	15,458	12,256
R-squared	0.351	0.283	0.355	0.200

*** significant at 1%, ** significant at 5%, * significant at 10%. FDI = foreign direct investment, GVC = global value chain.

Note: A linear probability model estimated using Ordinary Least Squares. GVC-FDI refers to Global Value Chain-FDI. The dependent variable is a dummy variable equal to 1 if the affiliate firms report export and import activity. The variable "private credit" refers to country-level private credit as share of GDP. The variable "export upstreamness" is derived from Antras et al. (2012). Trade restrictiveness index is from the World Bank. Other Control Variables include country characteristics such as GDP, GDP per capita, average years of schooling, measures for attachment to value chains amongst a host of others. Also included are affiliate industry fixed effects.

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GVC-FDI is strongly associated with Green-field investment in Asia

Determinants of GVC-FDI (ordinary least squares)
Dependent variable: log of GVC-FDI, bilateral sectoral level

	(1)	(2)	(3)
log (M&A to Greenfield) (counts)	-0.095** (0.026)	-0.076*** (0.025)	-0.049 (0.076)
Control Variables	Yes	Yes	Yes
Number of observations	416	266	38
R-squared	0.548	0.387	0.609
Sample	All	Manufacturing	Mining

*** = significant at 1%, ** = significant at 5%, * = significant at 10%.
FDI = foreign direct investment, GVC = global value chain, M&A = merger and acquisition.
Notes: Estimated using Ordinary Least Squares. Other Control Variables include country characteristics such as GDP, GDP per capita, average years of schooling, measures for attachment to value chains, amongst a host of others. Also included are affiliate industry fixed effects.

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Key Findings

- Greenfield FDI is the most common in manufacturing while M&A in services
- Determinants of FDI are diverse across different mode of entry, motivation, sectors, and source economies
- Governance is the most important factor for both greenfield FDI and M&A, more so for M&A. Governance also matters most for North-South FDI.
- Improving business environment could supplement low governance in developing countries; it is vital in fostering productive private investment both domestic and foreign
- Export downstreamness, labor abundance, low trade barriers and access to credit foster GVC FDI in the context of Asia; labor abundance can be leveraged by developing economies to attract multinationals
- Relatively speaking GVC-FDI is undertaken more through green-field investments, while market-seeking FDI takes the M&A mode of entry

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The Role of International Investment Treaty

Proliferated BITs and Heterogeneous Nature of BITs

Backgrounds

- The number of BITs and other treaties with investment provisions has risen rapidly in recent years.
  - UNCTAD lists 2,954 BITs and 362 other treaties with investment provisions, of which 2,319 BITs and 294 treaties with investment provisions are currently in force.
- While BITs and other international investment agreements are increasingly important, empirical evidence on the impact of BITs is mixed and inconclusive.

Research questions

- How heterogeneous are the BITs and RTIAs in Asia?
- What is the impact of BITs and/or RTIAs on FDI?
- How does the heterogeneous nature of BITs and RTIAs impact their effects on FDI? Which provisions in these BITs and/or RTIAs are most important in boosting FDIs?

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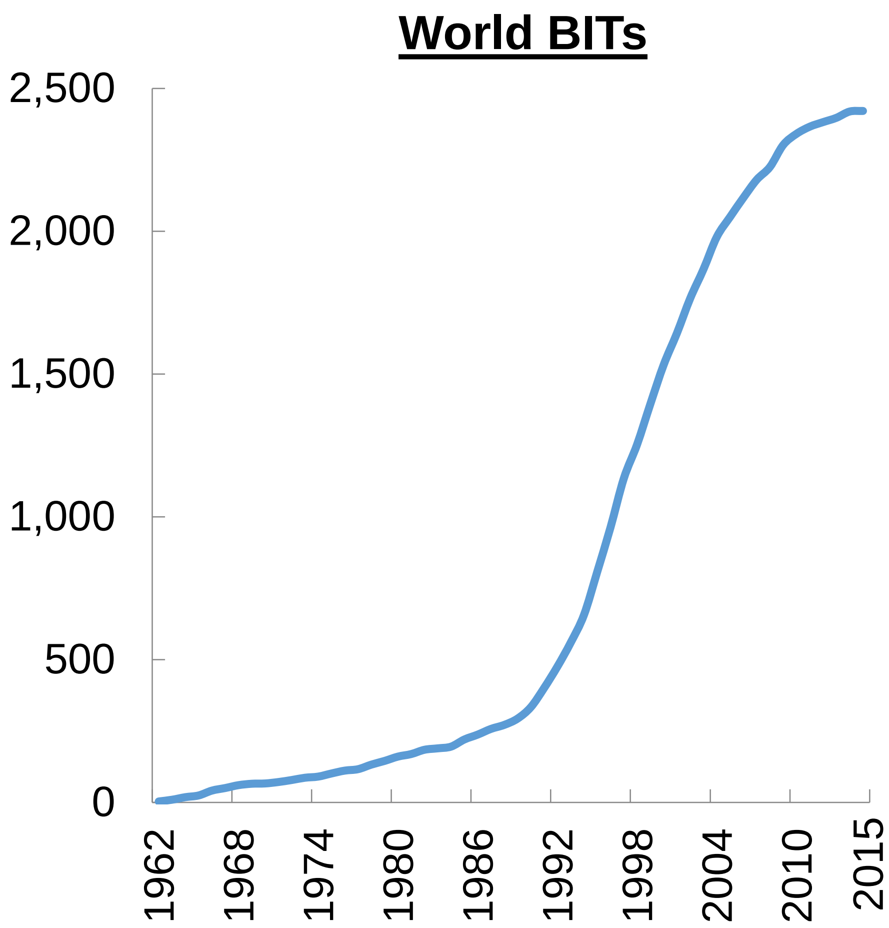
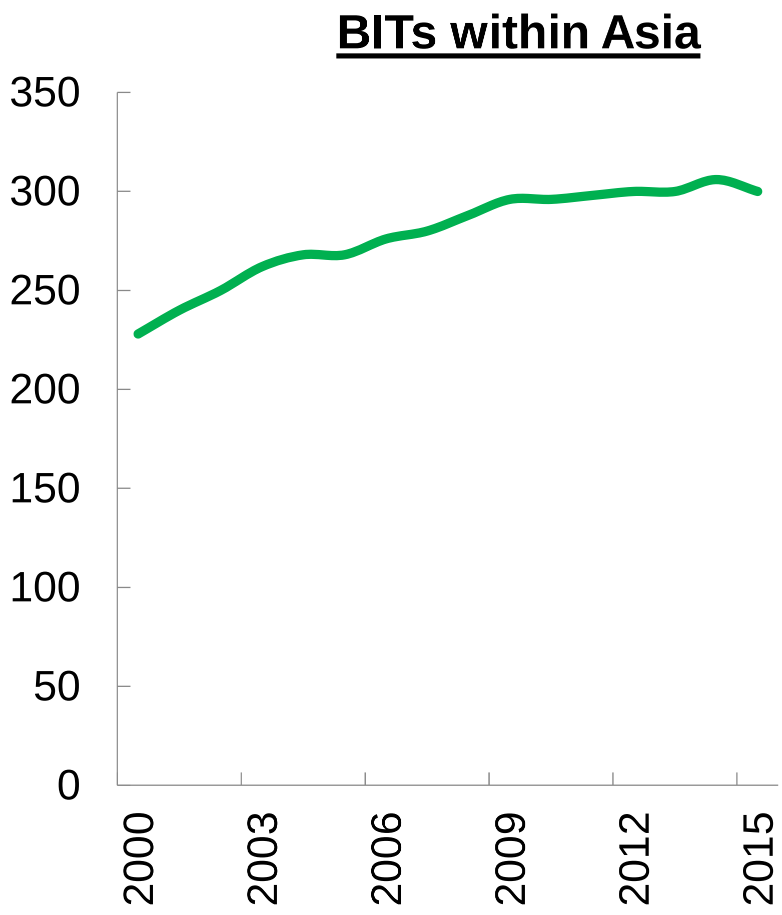
BIT = Bilateral investment treaty, RTIA = regional trade and investment agreement.

Rising Number of BITs





BIT = Bilateral investment treaty.
Source: UNCTAD.

BITs involving Asian economies

Regional Pair	UNCTAD Database		BIT Selection Index (BITSel) Database	
	Number	% of total	Number	% of total
Asia-Asia	306	28.5	142	29.3
Asia-PRC	27	2.5	8	1.6
Asia-Japan	13	1.2	8	1.6
Asia-KOR	21	2.0	11	2.3
Asia-US	8	0.7	7	1.4
Asia-EU	367	34.1	177	36.5
Asia-ROW	333	31.0	132	27.2
Total	1,075	100.0	485	100.0

BIT = bilateral investment treaty, EU = European Union, KOR = Republic of Korea, PRC = People's Republic of China, ROW =rest of the world, US = United States, UNCTAD = United Nations Conference on Trade and Development.
Source: ADB calculations using data from UNCTAD and BITSel Database from Chaisse and Bellak (2015).

Five broad categories of BIT/ RTIA provisions

entry	*treat*	*scope*	*protec*	*isdm*
•**entry rules** (admission vs establishment) •**non-economic standards** (yes vs no) •**free transfer of investment related funds** (no vs yes)	• **national treatment** (no vs yes) • **most favored nation** (no vs yes)	• **definition of investment** (narrow vs broad) • **umbrella clause** (no vs yes) • **temporal scope of application** (short vs long)	• **fair and equitable treatment** (no vs yes) • **direct and indirect expropriation covered** (no vs yes)	• **investor-related dispute mechanism** (no vs yes)

BIT = Bilateral investment treaty, RTIA = regional trade and investment agreement.

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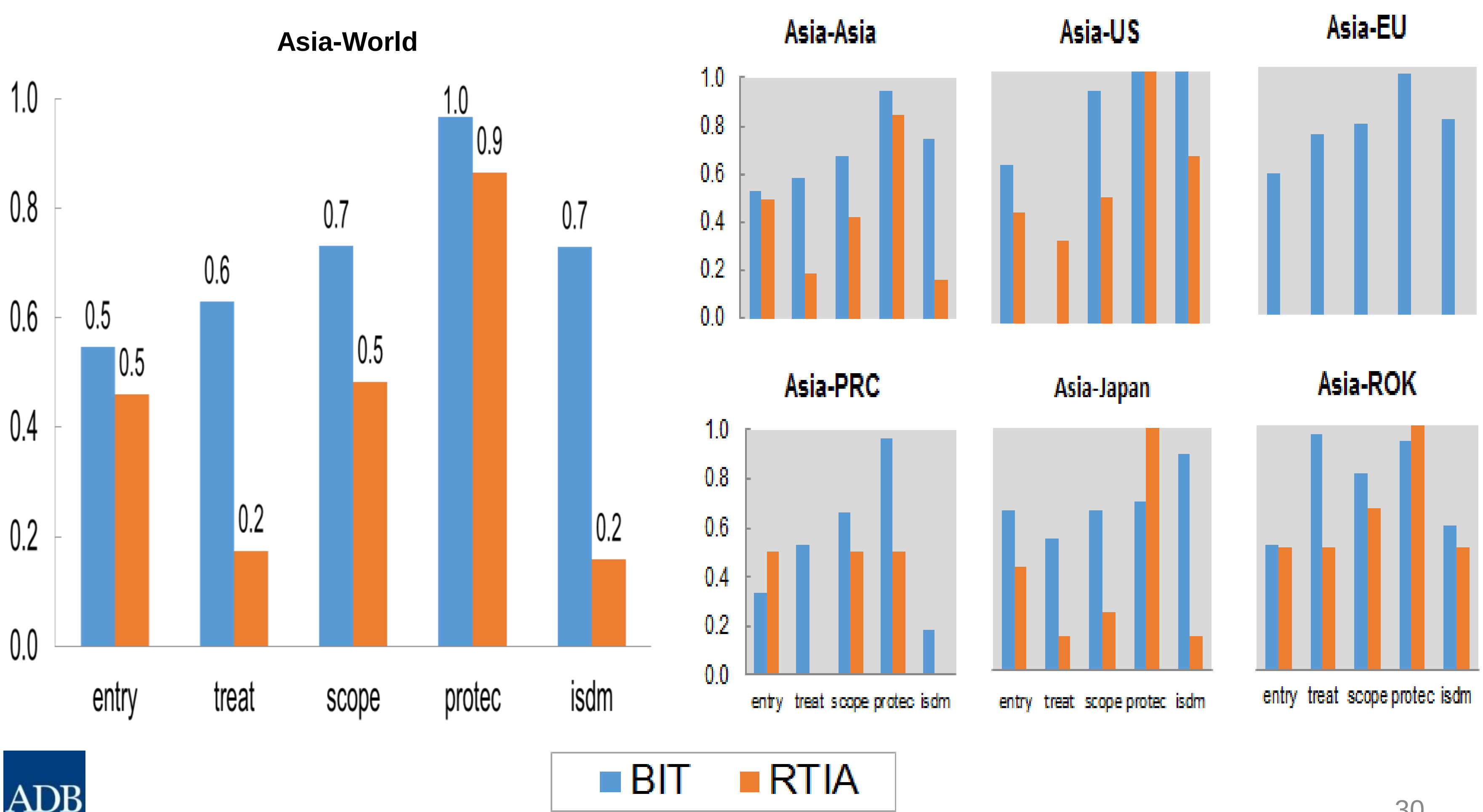
BITs grant foreign investors more substantive rights than RTIAs

Average scores of provisions in BITs and RTIAs



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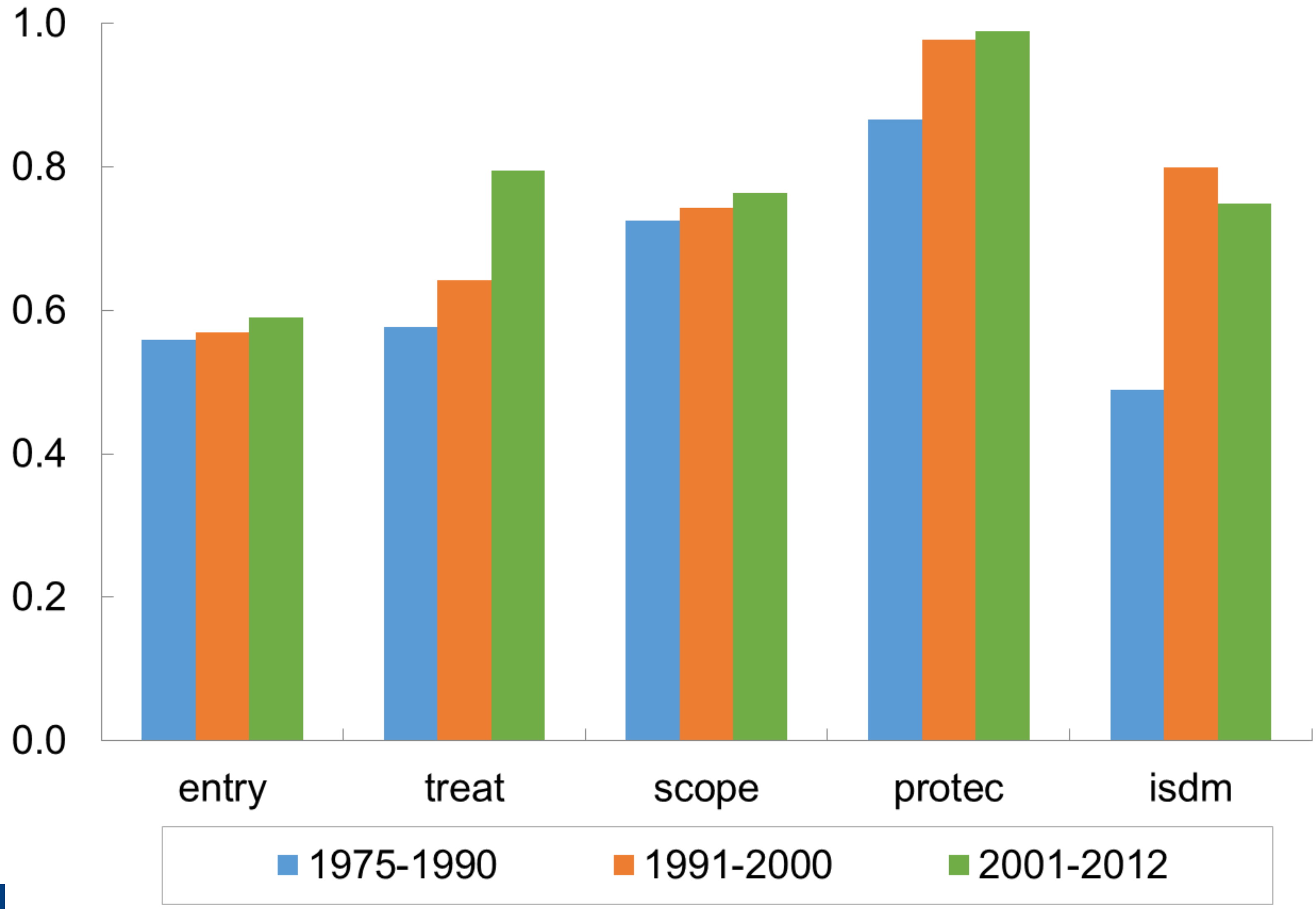
BIT Provisions over Time: Asian Region



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Empirical Methodology

BITs: $FDIij = exp(\delta 1 BITij + CONTij\ \beta + \theta FDI03ij + \alpha i + \alpha j)\epsilon ij$

Where:

$FDIij$ = the cumulated number of FDI projects of firms headquartered in source country i in destination country j,

$BITij$ = existence, for at least two years, of an enforced BIT or of various BIT-related investment provisions,

$CONTij$ = vector of dyadic control variables,

$FDI03ij$ = the (log +1) value of the number of bilateral projects in 2003,

αi are country fixed effects, and

ϵij is a multiplicative error term.

RTIAs: $FDIij = exp(\delta 1 BIT\ ij + \delta 2 RTIAij + CONT\ ij\ \beta + \theta FDI03ij + \alpha i + \alpha j)\epsilon ij$

where $RTIAij$ indicates the existence, for at least two years, of a RTIA or of various RTIA-related investment provisions

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ISDM is the most important BIT provision

Dependent variable: cumulated number of FDI projects

	(1)	(2)	(3)	(4)	(5)	(6)
ISDM	0.282*	0.287**	0.297**	0.308***	0.327**	0.265*
BIT		0.016				
Entry	-0.019		0.009			
Treat	-0.024			-0.012		
Scope	-0.129				-0.035	
Protec	0.159					0.042
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Obs	26,093	26,093	26,093	26,093	26,093	26,093

*** *p*-value<0.01 ** *p*-value<0.05 * *p*-value<0.10.
Estimated using Poisson Pseudo-Maximum Likelihood (PPML). Cluster-robust standard errors in parentheses. Country fixed effects, the dyadic control variables, double taxation treaty, and regional trade agreement are included in all columns.

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TREAT is the most important RTIA provision

Dependent variable: cumulated number of FDI projects

	(1)	(2)	(3)	(4)	(5)	(6)
Treat	0.679**	0.460***	0.390*	0.436***	0.349	0.722**
RTIA		0.007				
Entry	0.033		0.119			
Scope	0.256			0.287*		
Protec	0.128				0.119	
ISDM	-0.432					-0.294
BIT	0.240***	0.247***	0.253***	0.244***	0.234***	0.252***
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Obs	22,585	22,585	22,585	22,585	22,585	22,585

*** *p*-value<0.01 ** *p*-value<0.05 * *p*-value<0.10.
Estimated using Poisson Pseudo-Maximum Likelihood (PPML). Cluster-robust standard errors in parentheses. Country fixed effects, the dyadic control variables described in section 2, and DTT are included in all columns.

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Key Findings

- Asian BITs grant foreign investors more substantive rights than regional trade and investment agreements
- Asian BIT provisions strengthened over time, and, in particular, ISDM, TREAT, and PROTEC have featured more prominently.
- Investor-State Dispute Mechanism (ISDM) in BITs is the most important factor in inducing FDI
- National Treatment (NT) and Most Favored Nation (MFN) in RTIAs is the most important factor in inducing FDI

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Thank You!