

THE WEB OF
TRANSPORT CORRIDORS
IN SOUTH ASIA

Annexes

Contents

Annex 2A. Official Development Assistance to Support Vietnam’s National Highway No. 5 . . .	5
Annex 3A. Regression Results	7
Annex 4A. Literature Search Methodology and Results of the Meta-Regression Analysis . . .	11
Annex 4B. Results of the Meta-Regression Analysis	15
Annex 4C. The Estimated Multivariate Model.	19
Annex 4D. Detailed Description of the Tagging System	21
Annex 4E. Additional Results	25
Annex 6A. Regression Results	31
Annex 6B. Regression Results for Pakistan	39
Annex 6C. Regression Results for Bangladesh	45



Annex 2A

Official Development Assistance to Support Vietnam's National Highway No. 5

TABLE 2A.1 Japan Extended Three Phases of Official Development Assistance to Support Vietnam's National Highway No. 5

	Phase 1	Phase 2	Phase 3
Loan amount	¥8,782 million	¥5,470 Million	¥6,709 Million
Disbursed amount	¥8,168 million	¥5,281 million	¥5,273 million
Date of exchange of notes	January 28, 1994	April 18, 1995	March 29, 1996
Date of loan agreement	January 28, 1994	April 18, 1995	March 29, 1996
Terms and conditions	1.0% a year	1.8% a year	2.3% a year
• Interest rate	30 years	30 years	30 years
• Repayment period (grace period)	(10 years)	(10 years)	(10 years)
• Procurement	General, untied	General, untied	General, untied
Final disbursement date	February 7, 2000	March 14, 2003	July 26, 2004
Main contractor	Taisei Corporation, Taisei ROTEC Corporation. Fujita Corporation, NECCO, CIENCO 1. Sumitomo Const Co., Civil Engineering Co.		
Consulting services	Engineering: Katahira and Engineers International, De Leuw Cather International, Tien Phat Co. Ltd. Management: UNICO International Corporation, CH2M Hill- UNICO Environmental Services Inc., CH2M Hill International Ltd. Foreign Industrial Investment Consultants, KPMG Peat Marwick.		
Feasibility study	1993, Government of Vietnam		

Source: JICA.

Annex 3A

Regression Results

TABLE 3A.1 Summary Statistics for Variables in the Pooled Regression (60 Closed Projects)

Variables	Number of observations	Mean	SD	Minimum	Maximum
<i>Outcome variables</i>					
Rating - Expert	55	3.53	0.84	1	5
Rating - ICR	52	4.08	0.86	1	5
Human settlement (treatment = 0–20 km; control = 90–100 km)	45	0.63	1.14	–0.32	3.79
Human settlement (treatment = 0–10 km; control = 90–100 km)	45	0.82	1.35	–0.26	4.76
Nightlights (treatment = 0–20 km; control = 90–100 km)	34	0.59	0.79	–0.2	3.61
Nightlights (treatment = 0–10 km; control = 90–100 km)	29	0.76	1	–0.19	4.26
<i>Independent variables</i>					
Log land area	60	2.48	0.15	2.18	2.62
Terrain ruggedness index	60	1.65	0.86	0.15	5.04
Log GDP per capita at appraisal	60	–6.50	0.70	–8.05	–4.62
Degree of connectivity increase [1–3]	60	2.20	0.94	1	3
Degree of private sector involvement [0–3]	60	0.63	0.74	0	2
Private sector consulted before/during/ after design	60	0.42	0.50	0	1
Scope of project landlocked country(s) only	60	0.15	0.36	0	1
Investment at the border	60	0.12	0.32	0	1
Geographical scope [1–4]	60	2.55	0.85	1	4
Consultant's assessment of the theory of change, on a 1–5 scale	57	2.47	1.23	1	4
Openness at appraisal [(imports + exports)/ GDP]	60	0.58	0.29	0.22	1.45

(table continued next page)

TABLE 3A.1 Summary Statistics for Variables in the Pooled Regression (60 Closed Projects) (continued)

Variables	Number of observations	Mean	SD	Minimum	Maximum
WGI at appraisal: Government effectiveness [–2.5, +2.5]	60	–0.20	0.34	–1.09	0.63
Quality of economic analysis [0–3]	60	1.17	0.76	0	3
Any DPO in last 5 years	60	0.48	0.50	0	1
DPO HD in last 5 years	60	0.20	0.40	0	1
DPO EFI in last 5 years	60	0.43	0.50	0	1
DPO in last 5 years before appraisal: Transportation	60	0.13	0.34	0	1
DPO in last 5 years before appraisal: Agriculture	60	0.18	0.39	0	1
DPO in last 5 years before appraisal: Education	60	0.17	0.38	0	1
DPO in last 5 years before appraisal: Energy	60	0.28	0.45	0	1
DPO in last 5 years before appraisal: Financial sector	60	0.28	0.45	0	1
DPO in last 5 years before appraisal: Health	60	0.20	0.40	0	1
DPO in last 5 years before appraisal: Industry–trade–services	60	0.35	0.48	0	1
DPO in last 5 years before appraisal: ICT	60	0.10	0.30	0	1
DPO in last 5 years before appraisal: Multisector	60	0.07	0.25	0	1
DPO in last 5 years before appraisal: Social protection	60	0.25	0.44	0	1
DPO in last 5 years before appraisal: Public administration	60	0.37	0.49	0	1
DPO in last 5 years before appraisal: Water- Sanitation	60	0.03	0.18	0	1
World Bank	60	0.42	0.50	0	1
JICA (Japan International Cooperation Agency)	60	0.37	0.49	0	1

Note: DPO = Development Policy Operation; EFI = Equitable growth, finance, and institutions; ICR = Implementation Completion and Results report; ICT = information and communications technology; HD = human development; SD = standard deviation; WGI = Worldwide Governance Indicator. Standard errors are in parentheses.

Significance level: * = 10 percent; ** = 5 percent; *** = 1 percent.

TABLE 3A.2 Ordinary Least Squares Estimation Results for Economic Activity and Transport Corridor Projects in Varying Country Contexts (Institutional/Expert Ratings)

Variables	(1)	(2)
<i>Initial condition</i>		
Log land area	–	–
Terrain ruggedness (Index, 100 m.)	–	–
GDP per capita at appraisal (log; constant 2010 \$)	–	–
Landlocked country(s) only (yes = 1; no = 0)	–	–
<i>Project design and characteristics</i>		
Consultant's assessment of the theory of change (1–5 scale)	0.355*** (0.113)	0.431*** (0.105)
Degree of connectivity increase (1–3 scale): New, upgrade, rehabilitation	–	–
Investment at the border (Yes = 1, No = 0)	–0.289 (0.268)	–0.152 (0.257)
Geographical scope (1–4 scale): Local, subnational, national, international	–	–
Private sector involvement (0–3 scale): None, contractor, PPP, ownership	–0.302** (0.131)	–
Private sector consulted before/during/after design	–	–0.317* (0.176)
<i>Complementary policies and institutions</i>		
Openness at appraisal: [(imports + exports)/GDP]	–0.803** (0.323)	–0.548 (0.337)
WGI at appraisal: Government effectiveness [–2.5, +2.5]	–	–
Any_DPO_last 5 years	–	–
=1 (if any DPO 0–5 years before appraisal: Agriculture)	–	–
=1 (if any DPO 0–5 years before appraisal: Education)	–	–0.555** (0.233)
=1 (if any DPO 0–5 years before appraisal: Energy)	–	–0.271 (0.290)
=1 (if any DPO 0–5 years before appraisal: Financial sector)	–	0.670*** (0.227)
=1 (if any DPO 0–5 years before appraisal: Health)	–	–
=1 (if any DPO 0–5 years before appraisal: Industry-trade-services)	–	2.576*** (0.575)
=1 (if any DPO 0–5 years before appraisal: Multisector)	–	–0.537* (0.301)
=1 (if any DPO 0–5 years before appraisal: Public administration)	–	–2.693*** (0.703)
=1 (if any DPO 0–5 years before appraisal: Water-sanitation)	–	–
Observations	107	107
Adjusted R^2	0.280	0.411
BIC	268.4	268.4

Note: BIC = Bayesian information criterion; DPO = Development Policy Operation; PPP = public-private partnership; WGI = Worldwide Governance Indicator. Standard errors in parentheses.

Significance level: * = 10 percent; ** = 5 percent; *** = 1 percent.

TABLE 3A.3 Difference-in-Difference Estimation Results for Economic Activity and Transport Corridor Projects in Varying Country Contexts (Nightlights/Human Settlement)

Variables	(1)	(2)
Constant (standardized mean effect; % of standard deviation)	0.700*** (0.0633)	0.700*** (0.0540)
<i>Initial conditions</i>		
Log land area	-6.116*** (1.269)	-4.864*** (1.568)
Terrain ruggedness (index, 100 m.)	-0.624*** (0.139)	-1.476*** (0.219)
GDP per capita at appraisal (log; constant 2010 \$)	-0.707*** (0.161)	-1.903*** (0.235)
Landlocked country(s) only (yes = 1; no = 0)	-0.609** (0.254)	-2.537*** (0.487)
<i>Project design and characteristics</i>		
Consultant's assessment of the theory of change (1–5 scale)	-0.248*** (0.0818)	0.00761 (0.143)
Degree of connectivity increase (1–3 scale): New, upgrade, rehabilitation	-0.175* (0.101)	-0.109 (0.0948)
Investment at the border (yes = 1, no = 0)	-0.832*** (0.289)	0.391 (0.400)
Geographical scope (1–4 scale): Local, subnational, national, international	0.278** (0.110)	0.202 (0.140)
Private sector involvement (0–3 scale): None, contractor, PPP, ownership	–	-0.349** (0.170)
<i>Complementary policies and institutions</i>		
Openness at appraisal: [(imports + exports)/GDP]	1.322** (0.669)	1.953** (0.861)
WGI at appraisal: Government effectiveness [-2.5, +2.5]	3.088*** (0.387)	2.772*** (0.468)
Any DPO last 5 years	-1.497*** (0.239)	0.884 (0.631)
=1 (if any DPO 0–5 years before appraisal: Agriculture)	–	-2.575*** (0.554)
=1 (if any DPO 0–5 years before appraisal: Energy)	–	0.515 (0.343)
=1 (if any DPO 0–5 years before appraisal: Financial sector)	–	0.363 (0.238)
=1 (if any DPO 0–5 years before appraisal: Health)	–	3.092*** (0.598)
=1 (if any DPO 0–5 years before appraisal: Industry-trade-services)	–	3.915*** (0.724)
=1 (if any DPO 0–5 years before appraisal: Multisector)	–	-0.946 (0.613)
=1 (if any DPO 0–5 years before appraisal: Public administration)	–	-8.125*** (1.461)
=1 (if any DPO 0–5 years before appraisal: Water-Sanitation)	–	1.052 (0.737)
Number of observations	153	153
Adjusted R^2	0.500	0.637
BIC	411.3	405.2

Note: BIC = Bayesian information criterion; DPO = Development Policy Operation; PPP = public-private partnership; WGI = Worldwide Governance Indicator. Standard errors in parentheses.

Significance level: * = 10 percent; ** = 5 percent; *** = 1 percent.



Annex 4A

Literature Search Methodology and Results of the Meta-Regression Analysis

TABLE 4A.1 Keywords Used in GoogleScholar Searches

Transport-related	Outcomes		
	Final	Intermediate	Additional keywords
Road(s)	Income GDP	Trade	Evaluation impact
Expressway(s)	Income per capita GDP	Firm location investment	Evaluation empirical
Highway(s)	Per capita consumption	FDI	Econometrics
Rail railway(s)	Growth employment	Productivity population	Econometric analysis
Railroad(s)	Jobs gender inequality	Land value agglomeration	
Waterway(s)	Pollution	Urbanization	
Transport corridor(s)	Deforestation resilience	Structural change	
Transport corridor(s)			
Economic corridor(s)			

TABLE 4A.2 Sample Entry for the Method for Gathering Information Systematically from Papers

Publication details	Intervention features	Methodology	Results	Other
Authors: Ghani, Goswami, and Kerr	Transport mode: Road	Motivating theory? No	Significant impact (5%)? Yes	Markets: Labor
Publication year: 2016	Type of construction: Upgrade system	Type of analysis (ex ante / ex post)? Ex post	Sign of estimated impact: Beneficial	Complementary policies: None
Journal: <i>Economic Journal</i>	Connection type: Urban-urban	Methodology: Reduced-form	Look for heterogeneity? Yes	
Journal quality (impact factor): 1.488	Time period of intervention: 1994–2009	Unit of analysis: Subnational regions	Heterogeneity factor? Geographic	
		Sector: Urban	Winners and losers? Yes	
		Sample period: 1994–2009		
		Outcome variable: Income (nominal), Social inclusion (job creation)		
		Treatment variable: Continuous		
		Identification strategy: None		

TABLE 4A.3 Distribution of Papers, by Country and Region

Country	Number of studies	Country	Number of studies	Region or bordering countries	Number of studies
Australia	1	Myanmar	1	Sub-Saharan Africa	4
Bangladesh	2	Netherlands	1	Cameroon/Central	1
Brazil	6	Nigeria	2	Africa Republic/Ethiopia	1
Chile	1	Papua New Guinea	1	Mexico/Belize/	1
China	9	Peru	1	Guatemala	
Colombia	1	Spain	3	West Africa	
Congo, Dem. Rep.	1	Tanzania	1		
Egypt, Arab Rep.	1	Thailand	1		
Ethiopia	2	Turkey	1		
France	1	United Kingdom	2		
India	11	United States	13		
Indonesia	2	Uganda	1		
Iran, Islamic Rep.	1	Vietnam	1		
Mexico	3				

TABLE 4A.4 Sample Entry for the Method for Gathering Information Systematically from Papers

Publication details	Intervention features	Methodology	Results	Other
Authors: Ghani, Goswami, and Kerr	Transport mode: Road	Motivating theory? No	Significant impact (5%)? Yes	Markets: Labor
Publication year: 2016	Type of construction: Upgrade system	Type of analysis (ex ante/ex post)? Ex post	Sign of estimated impact: Beneficial	Complementary policies: None
Journal: <i>Economic Journal</i>	Connection type: Urban-urban	Methodology: Reduced-form	Look for heterogeneity? Yes	
Journal quality (impact factor): 1.488	Time period of intervention: 1994–2009	Unit of analysis: Subnational regions	Heterogeneity factor? Geographic	
		Sector: Urban	Winners and losers? Yes	
		Sample period: 1994–2009		
		Outcome variable: Income (nominal), Social inclusion (job creation)		
		Treatment variable: Continuous		
		Identification strategy: None		

Annex 4B

Results of the Meta-Regression Analysis

TABLE 4B.1 Meta-Regression Analysis (MRA)

Dependent variable = t-statistic (OLS estimation)

Constant or variable	Model 1 Outcomes only	Model 2 Outcomes + policy	Model 3 Full model	Model 4 Parsimonious model
Constant	3.547*** (0.654)	11.21*** (2.326)	4.429 (11.89)	8.074*** (1.308)
<i>Outcome (omitted = economic welfare)</i>				
Equity	2.934 (2.839)	-2.916 (2.384)	-3.138 (2.611)	-1.914 (1.708)
Social inclusion	-1.836* (0.940)	-1.579 (1.137)	-2.318 (1.638)	-2.035** (0.933)
Environmental quality	-18.57*** (2.360)	-23.81*** (2.486)	-16.29* (9.546)	-24.28*** (1.395)
<i>Type of construction (omitted = new system)</i>				
Upgrade of system		-1.004 (1.624)	-2.806 (3.122)	
New link		8.549** (3.614)	4.618 (5.728)	
Upgrade of link		0.494 (2.473)	5.560 (6.330)	
Other		6.243** (2.479)	-6.215 (8.955)	
<i>Transport mode (omitted = road)</i>				
Rail		-4.371** (1.985)	-4.944 (4.603)	-4.992*** (1.641)
Waterway		-0.125 (1.722)	1.694 (4.840)	
<i>Connection type (omitted = urban – urban)</i>				
Urban-rural		-2.415 (1.847)	-0.880 (2.888)	
Urban-gateway		-0.667 (1.861)	-2.817 (4.207)	-3.846*** (0.904)

(table continued next page)

TABLE 4B.1 Meta-Regression Analysis (MRA) (continued)

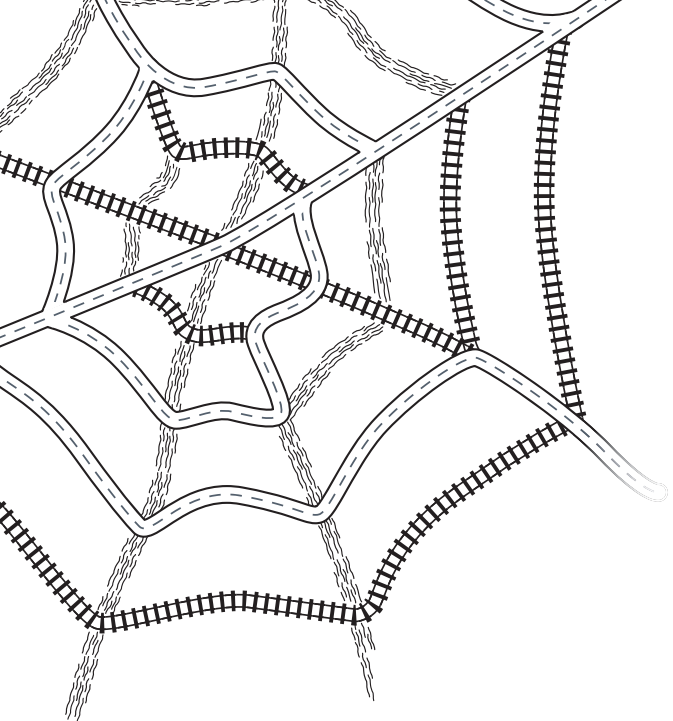
Constant or variable	Model 1 Outcomes only	Model 2 Outcomes + policy	Model 3 Full model	Model 4 Parsimonious model
<i>Heterogeneity factor (omitted = does not look for heterogeneity)</i>				
Geographic		-8.173*** (2.333)	-9.221*** (2.936)	-7.580*** (1.419)
Sectoral		-7.844** (3.212)	-7.326 (4.836)	-3.797* (1.977)
Geosectoral		-6.372*** (2.077)	-8.549* (4.323)	-5.681*** (1.249)
Land		-4.015 (2.456)	-5.265 (4.362)	-6.170** (2.373)
Labor		-5.624*** (1.802)	-3.982 (5.144)	-4.029*** (1.136)
Temporal		-4.004 (2.693)	0.374 (4.793)	
Inclusion		-4.546** (1.990)	-1.114 (6.037)	
Winners/losers		-1.132 (1.606)	0.607 (3.001)	1.964* (1.021)
<i>Methodology (omitted = reduced form)</i>				
Structural		-0.171 (1.101)	-2.744 (4.477)	
<i>Identification strategy (omitted = IV)</i>				
Difference-in-difference		-1.351 (1.525)	-0.865 (4.361)	
Matching		-4.234 (2.537)	-2.682 (4.931)	-2.343** (1.096)
Other (RE/VAR/Fuzzy)		-4.005* (2.216)	-7.368 (4.684)	-3.882*** (1.175)
None		0.154 (1.272)	2.801 (2.932)	3.808*** (0.911)
<i>Motivating theory</i>				
Yes			-1.301 (3.195)	
<i>Treatment variable (omitted = discrete)</i>				
Travel time			1.743 (6.868)	6.253*** (2.018)
Continuous			-1.414 (5.190)	
Transport cost			2.724 (4.644)	3.068** (1.484)
Size of investment			3.560 (10.70)	11.92*** (2.608)
Market access			1.852 (3.923)	
Others (road/upgrade quality)			-8.183 (4.850)	-6.161*** (1.722)
<i>Sector (omitted = aggregate)</i>				
Manufacturing			-1.448 (3.084)	
Rural			0.333 (2.825)	

(table continued next page)

TABLE 4B.1 Meta-Regression Analysis (MRA) (continued)

Constant or variable	Model 1 Outcomes only	Model 2 Outcomes + policy	Model 3 Full model	Model 4 Parsimonious model
Urban			1.244 (3.042)	
<i>Unit of analysis (omitted = subnational regions)</i>				
Households			-4.492 (4.935)	-3.532** (1.609)
Firms			6.119 (9.216)	1.739 (1.130)
Countries			16.04 (14.50)	
<i>Income class of study country (omitted = upper-middle-income countries)</i>				
Lower-middle-income countries			-3.327 (3.893)	
Lower-middle-income countries			-2.084 (4.803)	
Higher-income countries			8.227 (13.69)	
<i>Region of study country (omitted = North America)</i>				
Sub-Saharan Africa			8.513 (7.575)	4.946*** (1.557)
East Asia and the Pacific			10.44 (11.05)	
Western Europe			1.073	-5.475**
Latin America and the Caribbean			(7.991) 5.299 (7.612)	(2.060)
South Asia			11.75 (15.47)	
<i>Other controls</i>				
Journal article			-1.917 (2.956)	-1.855** (0.690)
Precision (1/SD)	-0.00370 (0.00822)	0.00530 (0.00670)	0.000834 (0.00964)	
Observations	102	88	88	88
Adjusted R^2	0.578	0.771	0.854	0.835

Note: Robust standard errors are in parentheses and clustered at study level. diff-in-diff = difference in difference; fuzzy = fuzzy modeling; IV = instrumental variables; 1/SD = 1 standard deviation; OLS = ordinary least squares; RE = random effect; VAR = vector autoregression.
 *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.



Annex 4C

The Estimated Multivariate Model

An ordinary least squares (OLS) model is used as the baseline regression model. The specification in equation 4C.1 is used to relate the reported treatment effect to both a set of “policy” variables and a set of control variables:

$$Y_{i,j} = \alpha X_{i,j} + \beta Z_{i,j} + \epsilon_{i,j} \quad (4C.1)$$

where Y is the reported t -statistic on the treatment variable, β is the set of policy variables, Z is the set of control variables, and ϵ is the error term.

The “policy variables” β include variables that can provide useful insights into policy. These include features of the infrastructure intervention (type of construction, the transport mode, connection type). They also include dummy variables for whether or not the regression underlying a given result can capture any potential heterogeneous effects; whether or not a paper presents evidence of losers as well winners; the markets that a paper highlights as important for the transmission of impacts; and whether or not the paper examines a role for complementary policies. Dummies are also included relating to modeling methodology (reduced-form, structural, and general equilibrium models) and identification strategy (most notably, the use of instrumental

variables—IV—estimation) in the set of “policy variables.” This is done because the comparison of results across different types of modeling methodology can provide insights into whether impacts tend to be confined to the immediate geographic vicinity of a transport infrastructure project or whether they extend beyond that area. In particular, if there are wider geographical impacts, then more evidence of significant effects might be expected when applying a structural model than when applying a reduced-form model. Similarly, the comparison of results from papers that use an IV with those that do not can provide insights into the placement decisions that policy makers make when selecting the locations to link with a transport corridor.

The set of control variables, Z , includes dummies for the economic sector of the final outcome (aggregate, manufacturing, urban, rural); dummies for the income classification of the study country (low-income country, lower-middle-income country, upper-middle-income country, high-income country); dummies for World Bank regions; a dummy for whether or not a paper contains an explicit theoretical motivation; and dummies for the unit of analysis (subnational regions, households, firms, countries).

Publication bias has long been a major concern for meta-analysts. Compared to studies that find small and insignificant effects, studies that find statistically significant results are more likely to be published because they are well received by researchers, reviewers, and editors. To control (and test for) publication bias, the MRA uses two approaches: First, it includes as a control a dummy for whether the paper has been published in a peer-reviewed academic journal.

Second, it employs the commonly used Egger test. This test regresses the standard normal deviate of a study effect estimate against its standard error. The null test is that there are no small-study effects. The analysis yields an estimated bias coefficient of 1.502 with a standard error of 0.612, giving a p -value of 0.015. The test thus provides evidence that studies with smaller sample sizes tend to find greater effects (that is, we find evidence of small-study bias).



Annex 4D

Detailed Description of the Tagging System

A tagging system was developed to facilitate the systematic collection of data from papers selected for inclusion in the literature review. This system covers 29 variables grouped into five categories:

1. **Publication details:** Title of paper, author(s), year of publication, journal, journal quality, country, key words, key findings.
2. **Intervention features:** Transport mode, type of construction, time of intervention, sample period, type of analysis, unit of analysis, connection type.
3. **Methodology:** Motivating theory, methodology, treatment variable, identification strategy.
4. **Results:** Final outcome, significant impact at the 5 percent level, estimated impact on the outcome, sector, whether or not looked for heterogeneity, heterogeneity factor, whether there are winners and losers.
5. **Additional:** Complementary policy, markets, and any additional notes that might be relevant to the analysis.

To help ensure the consistency and comparability of the data extracted from papers, the values of many variables were restricted to a set of options, which are discussed in details next. Data were collected for each result of interest reported in a paper. Hence, if a paper presents results for two different

outcome variables that were of interest, data were collected for both results. As a consequence, the final data set that results from the application of the tagging system contains $n = \sum_{i=0}^P r_i$ observations, where r_i indexes the number of results extracted from paper i and there are P papers in total.

1. Publication details

- *Author(s):* All listed authors of the paper.
- *Year of publication:* For journal papers, the year of publication of the issue of the journal in which the paper appears. For working papers, the year of publication for the version from which information was extracted. This is typically the latest version available online, but does not rule out updated versions that may be published (forthcoming). For unpublished manuscripts that were downloaded from, for example, the personal websites of authors, the year of publication was taken from the date on the manuscript.
- *Journal quality:* RePEc simple impact factor (only recorded for papers published in peer-reviewed journals).
- *Country:* Country or countries studied in the paper. Where the paper presents

analysis for an entire region (such as Africa), the name of the region is recorded.

- *Key words*: Key words specified by the author(s). In cases in which no key words were available, the team determined them based on the study.
- *Key findings*: Summary of main findings based on the abstract of the paper.

2. Intervention features

- *Transport mode*: Describes the mode of transportation to which the intervention relates. Values of the variable were restricted to four options: *road*, *rail*, *waterway*, and *intermodal*. Intermodal refers to transport infrastructure investments that combine more than one mode as part of an integrated package. In cases where the paper evaluates the impacts of transport infrastructure that covers more than one mode but these modes are not necessarily part of an integrated system, all relevant modes were tagged.¹
- *Type of construction*: Indicates whether the infrastructure investment represents new construction or an upgrade of pre-existing infrastructure, as well as its coverage as an individual link or an entire system. Values of the variable were restricted to four options: *new construction-system*, *new construction-individual link*, *upgrade-system*, *upgrade-individual link*. One or more options could be selected.
- *Time of intervention*: Refers to the years during which the infrastructure was constructed. When it is unclear from the study, the value is recorded as missing.
- *Sample-period*: Sample period used in estimation of impacts and/or model calibration.
- *Type of analysis*: Restricted to two options: *ex ante* and *ex post*. *Ex ante* refers to the evaluation of a transport infrastructure project before it has been undertaken, while *ex post* refers to the evaluation of a project after it has been implemented based on observed outcomes.

- *Unit of analysis*: The type of data used in the empirical analysis to generate a result. Values were restricted to five options: *country*, *countries*, *subnational regions*, *micro-data-households*, *micro-data-firms*. One or more options could be selected.
- *Connection type*: The types of location that the transport infrastructure connects. Values were restricted to four options: *urban-urban*, *urban-rural*, *urban-gateway*, *rural-rural*. One or more options could be selected. *Gateway* refers to an international port, land border, or airport that provides a gateway to international markets.

3. Methodology

- *Motivating theory*: Whether the paper includes an explicit theoretical model or discussion to motivate and/or support the design of the empirical analysis. Values were restricted to two options: *yes* and *no*.
- *Methodology*: The empirical methodology employed in the estimation of the impacts of the transport infrastructure investment. Values were restricted to four options: *reduced form (RF)*, *structural model – estimation + calibration*, *structural model-system estimation*, *computable general equilibrium*. “Structural model – estimation + calibration” refers to the estimation of impacts based on a fully specified structural model, where values of the parameters of the model are assigned based on a mixture of estimation and calibration techniques.² If the methodology is none of the available options, it is marked in a variable “note.”
- *Treatment variable*: Refers to how the transport infrastructure investment is incorporated into the empirical model. For example, when the model includes a dummy variable with 1 for exposure to the transport infrastructure and 0 for otherwise, the value is recorded as discrete. When the investment is incorporated as an independent variable

using the distance to the location of the infrastructure, the value is recorded as continuous. Values were restricted to seven options: *discrete, continuous, investment size in \$, change in travel time, change in transport cost, quality upgrade, market access*. In cases where the available options did not describe how the investment was incorporated into the model, the closest option was selected.

- *Identification strategy*: Refers to the type of strategy used in the estimation to address potential issues of endogeneity (most notably, issues of endogenous placement of the transport infrastructure). Values were restricted to the following options: *difference-in-difference, double difference-in-difference, IV/2SLS, matching, placebo, heteroskedasticity-based identification, other, or none*.

4. Results

- *Outcome variable*: Records the outcome variable on which the analysis estimates the impacts of the transport infrastructure. This outcome variable can be either a *final outcome*—in which case, it refers to a wider economic benefits (WEB) variable—or an *intermediate outcome*. Values for intermediate outcomes were restricted to the following options: *trade, migration, population, land value, investment (FDI), productivity, agglomeration, market access, firm location, structural change, congestion, education*. Values for final outcomes were restricted to the following options: *welfare (assets), welfare (consumption growth), welfare (consumption), welfare (income growth), welfare (nominal income), welfare (real income), welfare (income volatility), environmental quality (deforestation), environmental quality (CO₂), environmental quality (others), equity (overall income distribution), equity (spatial distribution), poverty, social inclusion (gender), social inclusion (job), social inclusion (others), resilience (marginal loss), resilience (food security), resilience (access)*. When impacts on several outcomes are reported in a study, each outcome is given as a separate observation.
- *Sector*: Records whether, for the given unit of analysis, the estimated impact refers to an aggregate-level or sectoral-level outcome. Values were restricted to five options: *aggregate, agriculture, manufacturing, services, urban, rural*.
- *Significant impact*: Whether the estimated impact of *treatment variable* on *outcome variable* is statistically significant at the 5 percent level. Values were restricted to two options: *yes* and *no*. Where an estimate of impact is based on counterfactual simulation using either a computable general equilibrium (CGE) or structural model and statistical significance is, therefore, not reported, the variable is coded *yes* if the author(s) refer to it as being “large”/“important”/“significant,” or the like. Otherwise, it is coded as *no*.
- *Estimated impact sign*: Refers to whether the estimated impact of *treatment variable* on *outcome variable* is “beneficial” or “detrimental,” where beneficial (detrimental) indicates that the impact is positive (negative) from a broader social welfare perspective. Note that “beneficial” does not necessarily indicate that the estimated *coefficient* on the treatment variable is positive. For example, if the outcome variable is a measure of deforestation and the treatment variable is discrete, then a positive estimated coefficient would represent a detrimental impact. Values were restricted to two options: *beneficial* and *detrimental*.
- *Look for heterogeneity*: Whether the analysis tests for variations in the impact of the infrastructure across any dimension. Values were restricted to two options: *yes* (tests for heterogeneity) and *no*.
- *Heterogeneity factor*: Refers to the dimension across which the impact varies.

Values were restricted to the following options: *geographic, sector, geosector, land, labor, temporal, gender*. One or more options could be selected. When the dimension was found not to match with any of the options available, the closest option was selected. Observations for which *look for heterogeneity = no* were coded as missing.

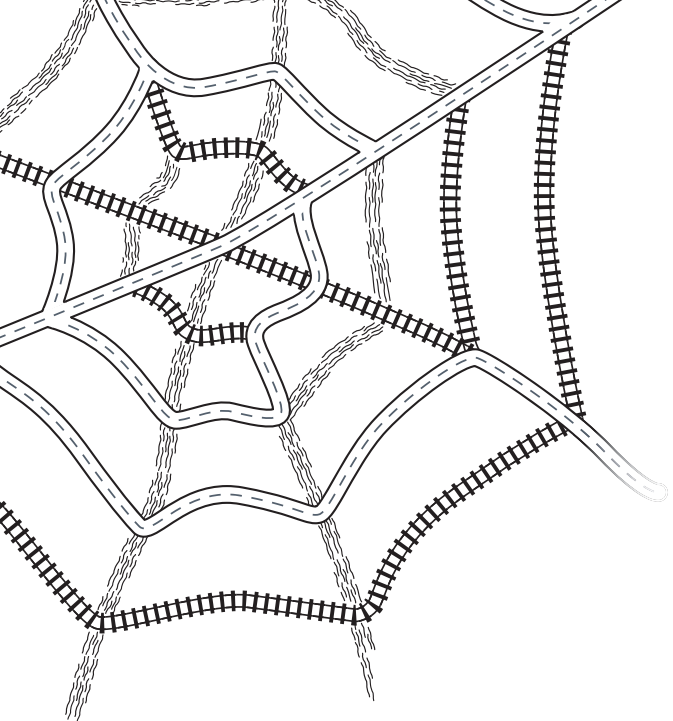
- *Winners & losers*: Whether the infrastructure is estimated to result in *absolute* losses for certain geographic regions or groups of economic actors alongside the presence of winners. Values were restricted to two options: *yes* (evidence of losers is presented) and *no*.

5. Additional

- *Complementary policy*: Records whether or not the paper contains any

explicit analysis of the role of complementary policies in influencing the impact of the *treatment variable* on the *outcome variable*. Values were restricted to two options: *yes* and *no*.

- *Markets*: Records whether or not the paper discusses imperfections or features of the operation of particular market(s) as potentially influencing the estimated impacts obtained. If the paper does contain such a discussion, the market is recorded. Values were restricted to the following options: *land, labor, capital, finance, goods and services, none, or not discussed*. Selection of more than one market was allowed.
- *Note*: This indicates any additional information that might be relevant to the quantitative analysis performed for the literature review.



Annex 4E

Additional Results

TABLE 4E.1 Meta-Regression Analysis (MRA): Results of the OLS t -Stat and the Ordered-Probit Estimations

Variables	Model: outcomes + policy variables		Marginal effects from the ordered-probit model		
	OLS t -stat	Ordered-probit	Beneficial significance	Detrimental significance	Insignificant
<i>Outcome (omitted = economic welfare)</i>					
Equity	-2.916 (2.384)	-0.71 (0.826)	-0.129 (0.146)	0.0678 (0.0807)	0.0608 (0.0665)
Social inclusion	-1.579 (1.137)	-0.845 (0.616)	-0.153 (0.106)	0.0806 (0.0603)	0.0723 (0.0484)
Environmental quality	-23.81*** (2.486)	-16.02*** (1.533)	-2.901*** (0.263)	1.530*** (0.269)	1.372*** (0.272)
<i>Type of construction (omitted = new system)</i>					
Upgrade of system	-1.004 (1.624)	-0.360 (0.557)	-0.0651 (0.100)	0.0343 (0.0538)	0.0308 (0.0468)
New link	8.549** (3.614)	7.601*** (1.464)	1.377*** (0.280)	-0.726*** (0.171)	-0.651*** (0.187)
Upgrade of link	0.494 (2.473)	0.93 (0.905)	0.168 (0.161)	-0.0888 (0.0820)	-0.0796 (0.0813)
Other	6.243** (2.479)	6.467*** (1.029)	1.171*** (0.188)	-0.617*** (0.136)	-0.554*** (0.132)
<i>Transport mode (omitted = road)</i>					
Rail	4.371** (1.985)	-0.506 (0.398)	-0.0917 (0.0685)	0.0484 (0.0354)	0.0434 (0.0347)
Waterway	-0.125 (1.722)	-0.957* (0.501)	-0.173** (0.0849)	0.0914** (0.0461)	0.0819* (0.0434)

(table continued next page)

TABLE 4E.1 Meta-Regression Analysis (MRA): Results of the OLS *t*-Stat and the Ordered-Probit Estimations (continued)

Variables	Model: outcomes + policy variables		Marginal effects from the ordered-probit model		
	OLS <i>t</i> -stat	Ordered-probit	Beneficial significance	Detrimental significance	Insignificant
<i>Connection type (omitted = urban – urban)</i>					
Urban-rural	2.415 (1.847)	-0.281 (0.477)	-0.0509 (0.0847)	0.0268 (0.0460)	0.0241 (0.0390)
Urban-gateway	1.748 (1.430)	0.705 (0.559)	0.128 (0.102)	-0.0674 (0.0529)	-0.0604 (0.0510)
<i>Heterogeneity factor (omitted = does not look for heterogeneity)</i>					
Geographic	-8.173*** (2.333)	-1.033* (0.627)	-0.187* (0.107)	0.0986 (0.0642)	0.0884* (0.0464)
Sectoral	-7.844** (3.212)	-0.836 (1.127)	-0.151 (0.203)	0.0798 (0.109)	0.0716 (0.0955)
Geosectoral	-6.372*** (2.077)	-1.245** (0.595)	-0.226** (0.104)	0.119* (0.0653)	0.107** (0.0435)
Land	-4.015 (2.456)	4.980*** (0.853)	0.902*** (0.192)	-0.476*** (0.0983)	-0.426*** (0.138)
Labor	-5.624*** (1.802)	0.291 (0.852)	0.0527 (0.154)	-0.0278 (0.0815)	-0.0249 (0.0730)
Temporal	-4.004 (2.693)	1.690* (0.907)	0.306* (0.161)	-0.161* (0.0862)	-0.145* (0.0827)
Inclusion	-4.546** (1.990)	0.815 (0.847)	0.148 (0.153)	-0.0778 (0.0804)	-0.0698 (0.0744)
Winners/losers	-1.132 (1.606)	-1.915*** (0.525)	-0.347*** (0.0820)	0.183*** (0.0498)	0.164*** (0.0497)
<i>Methodology (omitted = reduced form)</i>					
Structural	-0.171 (1.101)	0.256 (0.526)	0.0464 (0.0956)	-0.0245 (0.0502)	-0.0219 (0.0457)
<i>Identification strategy (omitted = IV)</i>					
Difference-in-difference	-1.351 (1.525)	-0.882 (0.635)	-0.160 (0.114)	0.0843 (0.0649)	0.0756 (0.0518)
Matching	-4.234 (2.537)	-0.988* (0.509)	-0.179** (0.0899)	0.0943* (0.0486)	0.0846* (0.0459)
Other (RE/VAR/Fuzzy)	-4.005* (2.216)	-2.455** (0.954)	-0.445*** (0.164)	0.234** (0.0946)	0.210** (0.0844)
None	0.154 (1.272)	1.554** (0.625)	0.282** (0.110)	-0.148** (0.0619)	-0.133** (0.0575)
Observations	88	120	120	120	120
Adjusted <i>R</i> ²	0.771	0.4923			

Note: Fuzzy = fuzzy models; IV = instrumental variable; OLS = ordinary least squares; RE = random effect; sign. = significance; VAR = vector autoregression.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

FIGURE 4E.1 Economic Welfare: Estimated Kernel Density of the Estimated Coefficients and t -Statistics

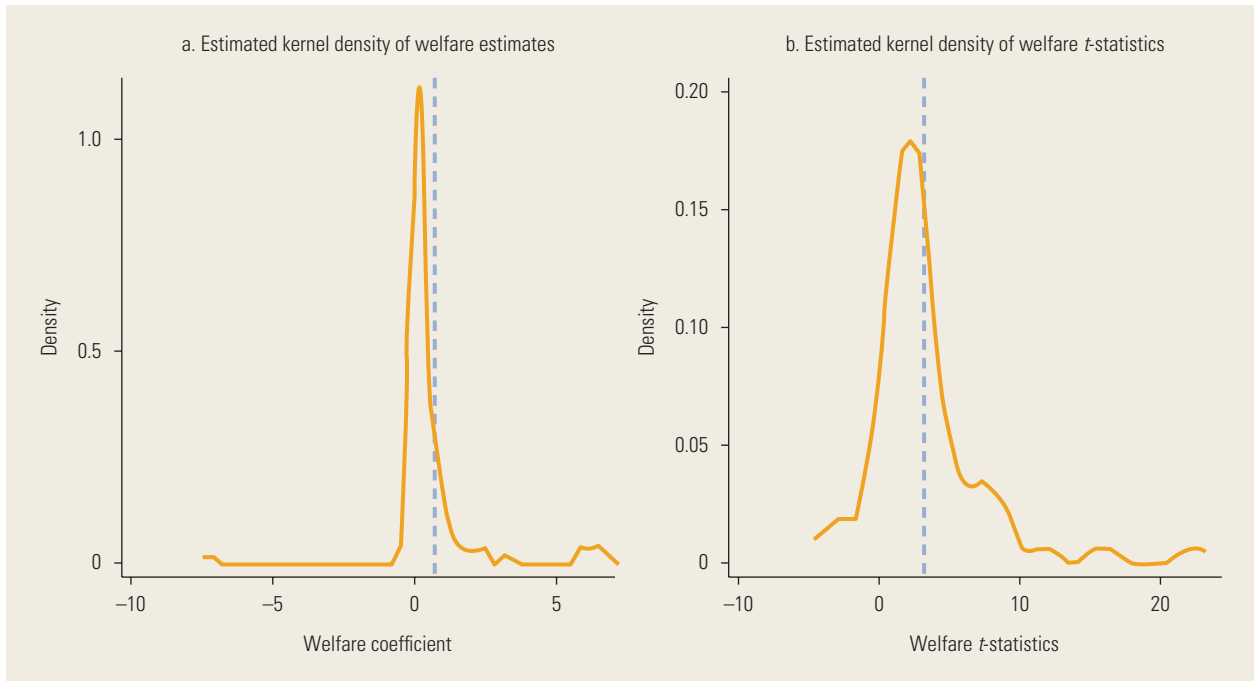


FIGURE 4E.2 Equity: Estimated Kernel Density of Estimated Coefficients and t -Statistics

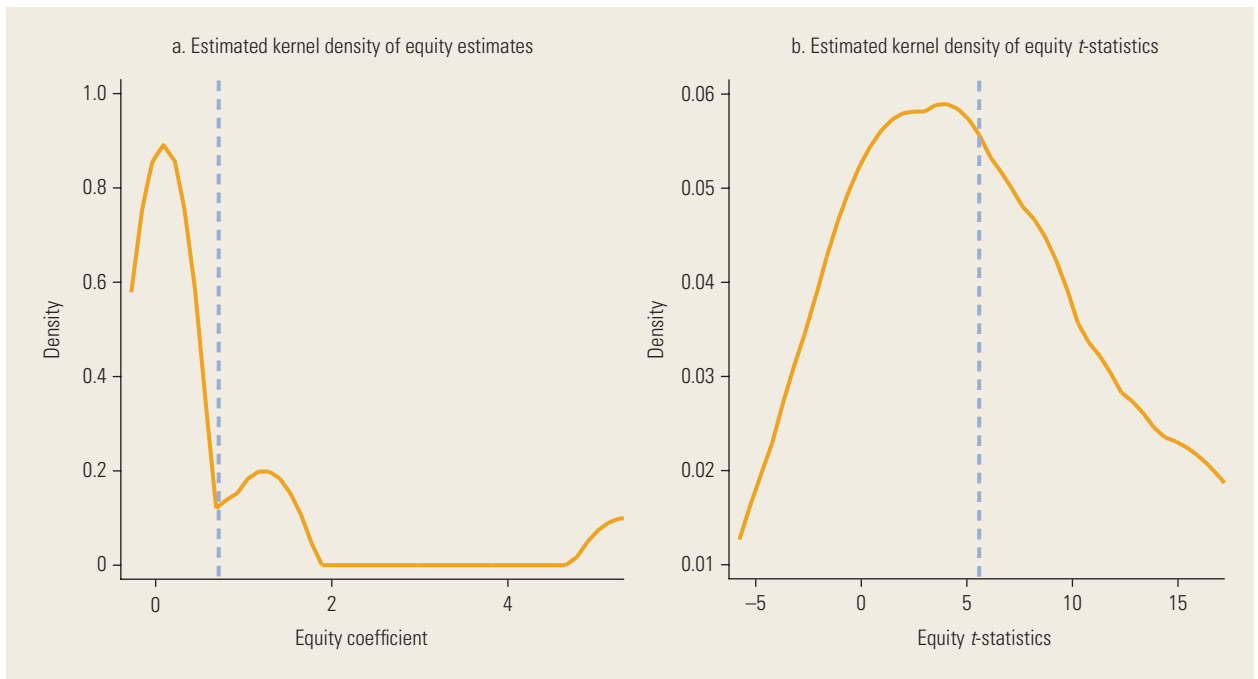
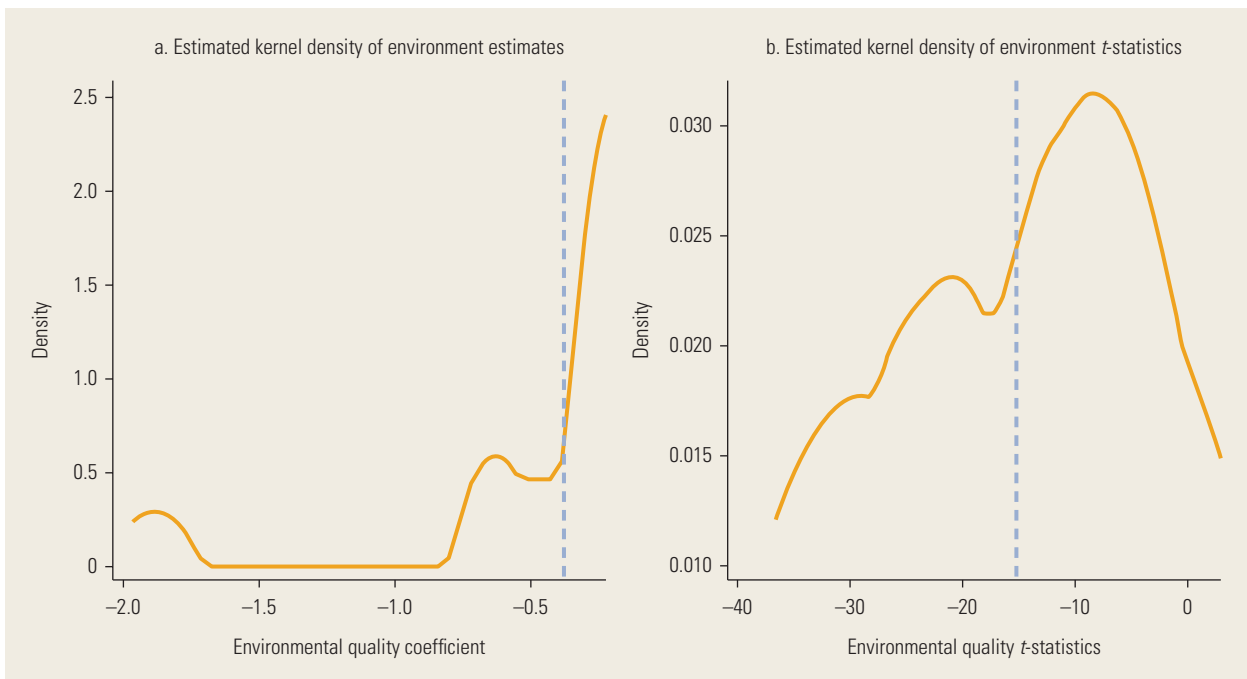


FIGURE 4E.3 Social Inclusion: Estimated Kernel Density of Estimated Coefficients and t -Statistics



FIGURE 4E.4 Environmental Quality: Estimated Kernel Density of Estimated Coefficients and t -Statistics



NOTES

1. This is the case, for example, for papers that consider the impacts of a general measure of the stock of transportation infrastructure (such as Cantos et al. 2005) or that consider the impacts of proximity to corridors that have historically been the target of multiple types of transport infrastructure investment (such as Banerjee, Dufo, and Qian 2012).
2. Roberts, Deichmann, and Kerr (2012) is an example of a paper that was tagged as “structural model – estimation + calibration.”

Annex 6A

Regression Results

TABLE 6A.1 Summary of Outcome Variables

Outcome variable	Source code	Outcome type	Number of observations	25th percentile	Median value	75th percentile	Mean value	SD
Aerosol Radius	B	Environment	854	8.12	15.55	25.60	18.96	15.88
Aerosol Optical Thickness	B	Environment	854	0.28	0.36	0.52	0.39	0.15
Nitrogen Dioxide	B	Environment	854	137.25	16.01	207.00	175.63	58.90
Rural HH Poverty Rate	C	Inequality	1,661	0.41	0.60	0.78	0.59	0.23
Rural + Urban HH Poverty Rate	C	Inequality	1,661	0.43	0.59	0.74	0.59	0.20
Urban HH Poverty Rate	C	Inequality	1,626	0.43	0.58	0.75	0.59	0.20
Percent Regular Wage Employed (total)	C	Inclusion	1,626	0.07	0.12	0.19	0.14	0.10
Percent Females Regular Wage Employed (total)	C	Inclusion	1,626	0.03	0.06	0.13	0.10	0.11
Female Farm Employed (%)	D	Structure	854	53.11	73.85	84.10	66.17	22.98
Total Farm Employed (percent)	D	Structure	854	49.00	64.55	73.79	59.13	19.85
Female Nonfarm Employed	D	Structure	854	15.90	26.15	46.84	33.70	22.83
Total Nonfarm Employed	D	Structure	854	26.21	35.42	50.90	40.79	19.84
Log GDP per capita	E	Welfare	854	4.56	5.43	5.84	6.21	7.15
Light Intensity (area)	F	Welfare	854	-1.56	0.96	1.81	2.39	5.43
Light Intensity per 1,000 people	F	Welfare	854	-0.28	1.93	2.77	3.35	4.18

Source: See table 6A.4 for data sources.

Note: HH = household; SD = standard deviation.

TABLE 6A.2 Summary of Market Condition Variables

Market variable	Source code	Market type	Number of observations	25th percentile	Median value	75th percentile	Mean value	SD
HH Access to Banking Services	G	Capital market	1,708	24.26	32.6	44.05	34.86	14.09
Private Nonfarm Enterprise Finance	H	Capital market	1,708	1.50	2.75	4.50	3.61	3.21
7+ Literacy Rate ^a	D	Labor market	1,708	55.70	63.6	72.30	63.50	12.66
Secondary Education Complete (% of population)	I	Labor market	1,708	17.00	22.8	28.95	23.20	8.46
Cropland (% of area)	A	Land market	1,708	29.05	60.1	88.30	56.79	32.25
Nonfarm Diversification index	H	Product market	1,708	3.60	4.7	5.87	4.83	1.50
Private Nonfarm Enterprise (% of establishments)	H	Product market	1,708	90.70	93.6	95.80	92.5	4.79
Formal Manufacturing, Food/Beverage/Tobacco (% of formal manufacturing)	J	Product market	1,708	13.20	20.8	32.25	25.31	17.34

Source: See table 6A.4 for data sources.

Note: SD = standard deviation.

a. 7+ Literacy Rate is the size of the literate population as a share of the population ages 7 years and older.

TABLE 6A.3 Governance Measures

State	GPI score, 2001	State	GPI score, 2001
Gujarat	0.66	West Bengal	0.44
Tamil Nadu	0.60	Assam	0.43
Punjab	0.60	Madhya Pradesh	0.38
Kerala	0.57	Uttarakhand	0.36
Haryana	0.55	Odisha	0.35
Andhra Pradesh	0.53	Rajasthan	0.34
Karnataka	0.51	Jharkhand	0.27
Himachal Pradesh	0.50	Uttar Pradesh	0.19
Chattisgarh	0.48	Bihar	0.16

Source: Mundle, Chowdhury, and Sikdar 2016.

Note: GPI = Government Performance Index.

TABLE 6A.4 Data Source List

Source code	Variables under Source Code	Source
A	Cropland (% of area)	MODIS Land Cover Type I product (MODIS). Information and images obtained from National Aeronautics and Space Administration (NASA) Land Processes Distributed Active Archive Center (LP DAAC), USGS/ Earth Resources Observation and Science (EROS) Center, Sioux Falls, South Dakota, https://lpdaac.usgs.gov/data_access .
B	Aerosol Radius Aerosol Optical Thickness Nitrogen Dioxide	National Aeronautics and Space Administration (NASA) Earth Observations (NEO-ND), http://neo.sci.gsfc.nasa.gov/view.php?datasetId=AURA_NO2_M .
C	Poverty Rate Percent Regular Wage Employed (Total/Female)	National Sample Survey (NSS) Labour Force Survey
D	Farm Employed (Total/Female) Nonfarm Employed (Total/Female)	Census of India–Primary Census Abstract (PHC–PCA), Office of the Registrar General and Census Commissioner, India, http://censusindia.gov.in .
E	Log GDP per capita	State-wise Gross District Domestic Product (DDP), Directorate of Economics and Statistics, Planning Commission, Government of India, http://planningcommission.nic.in/plans/stateplan/index.php?state=ssphbody.htm .
F	Light Intensity (area per 1,000 people)	DSMP-OLS Radiance Calibrated Nighttime Lights (RCNTL), National Oceanic and Atmospheric Administration's (NOAA's) National Geophysical Data Center (NGDC), http://ngdc.noaa.gov/eog/dmsp/download_radcal.html .
G	HH Access to Banking Services	Census of India–Houselisting and Housing Census (PHC–HH), Office of the Registrar General and Census Commissioner, India, http://censusindia.gov.in .
H	Nonfarm Diversification Index Private Nonfarm Enterprise	Economic Census (EC) of 2005, Central Statistical Office, Ministry of Statistics & Programme Implementation of India, http://164.100.34.62/index.php/catalog/21/ .
I	Secondary Education Completion Rate	The Household Consumption Expenditure Survey of National Sample Survey (NSS–HCE), National Sample Survey Office (NSSO), the Ministry of Statistics and Programme Implementation, Government of India, http://mospi.nic.in/Mospi_New/site/inner.aspx?status=2&menu_id=71 .
J	Formal Manufacturing, Food/Beverage/Tobacco (% of formal manufacturing)	Annual Survey of Industries (ASI), Central Statistical Office (Industrial Statistics Wing), the Ministry of Statistics and Programme Implementation, Government of India, http://mospi.nic.in/Mospi_New/site/inner.aspx?status=2&menu_id=92 .

TABLE 6A.5 Distribution of Districts, by Distance Bands*Number of districts*

GQ	NSEW			
	Nodal	0–40 km	40–100 km	> 100 km
Nodal	4			4
0–40 km	1	2	10	60
40–100 km		6	10	60
>100 km	1	32	43	194

Note: GQ = Golden Quadrilateral; NSEW = North-South-East-West.

TABLE A.6 Average Impacts of Highways*a. Average impacts on welfare outcomes*

Impact of highway	Log of mean household consumption (total)	Log of GDP per capita (current US\$, millions)
GQ * Post	4.0000E-04	0.0402***
NSEW * Post	-0.0127	0.0042
Number of observations	1,661	854
Adjusted R^2	0.3	0.8

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. GQ = Golden Quadrilateral; NSEW = North-South-East-West.

b. Average impacts on inclusion and labor market structure outcomes

Impact of highway	Number of total regular wage employed / Total employed	Number of total females regular wage employed / Number of female employed	Number of total females regular wage employed / Number of female employed			
			Female farm employed	Total farm employed	Female non-farm employed	Total nonfarm employed
GQ * Post	-0.0017	-0.0075	-2.4541***	-1.4324**	2.4003***	1.5783**
NSEW * Post	0.0128	-0.0063	-2.4263**	-2.414***	2.5425**	2.4476***
Number of observations	1,626	1,626	854	854	854	854
Adjusted R^2	-0.1	-0.2	0.2	-0.1	0.2	-0.1

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. GQ = Golden Quadrilateral; NSEW = North-South-East-West.

c. Average impacts on equity outcomes

Impact of highway	Reduction in poverty rate (rural)	Reduction in poverty rate (total)	Reduction in poverty rate (urban)
GQ * Post	-0.0048	-0.0027	0.0151
NSEW * Post	0.0088	0.0064	0.0366
Number of observations	1,661	1,661	1,626
Adjusted R^2	0.4	0.3	-0.1

Note: GQ = Golden Quadrilateral; NSEW = North-South-East-West.

d. Average impacts on environmental outcomes

Impact of highway	Aerosol particle radius (% of small particles) in logs	Aerosol optical thickness (thickness scale, 0–1)	Nitrogen dioxide levels (billion molecules/mm ²) in logs
GQ * Post	-0.7238	0.0259***	1.0056
NSEW * Post	-0.4047	0.0095	-1.5397
Number of observations	854	854	854
Adjusted R^2	0.5	0.6	0.6

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. GQ = Golden Quadrilateral; NSEW = North-South-East-West.

TABLE 6A.7 Conditional Impacts of Highways*a. Conditional impacts for welfare outcomes*

Market variable	Interacted treatment	Log of Mean Household Consumption (total)	Log of GDP per capita (current US\$)
HH Access to Banking Services	GQ	-0.0031*	
Private Nonfarm Enterprise Finance	GQ		
7+ Literacy Rate	GQ		
Secondary Education Complete (% of population)	GQ		
Cropland (% of area)	GQ	-0.0017**	
Nonfarm Diversification index	GQ	0.0015	-0.0012
Private Nonfarm Enterprise (% of establishments)	GQ		
Formal Manufacturing, Food/Beverage/Tobacco (percent)	GQ	0.0128**	-0.0051
HH Access to Banking Services	NSEW		-0.0028
Private Nonfarm Enterprise Finance	NSEW	-0.0275*	
7+ Literacy Rate	NSEW	0.0032	0.0054**
Secondary Education Complete (% of population)	NSEW		
Cropland (% of area)	NSEW	-0.0015	0.0022**
Nonfarm Diversification Index	NSEW		
Private Nonfarm Enterprise (% of establishments)	NSEW		
Formal Manufacturing, Food/Beverage/Tobacco (%)	NSEW		
Number of observations		1,661	854
Adjusted R^2		0.3	0.8

Note: HH = household. GQ = Golden Quadrilateral; NSEW = North-South-East-West.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

b. Conditional impacts for equity outcomes

Market variable	Interacted treatment	Reduction in Poverty Rate (rural)	Reduction in Poverty Rate (total)	Reduction in Poverty Rate (urban)
HH Access to Banking Services	GQ	-0.0041**	-0.0032*	
Private Nonfarm Enterprise Finance	GQ	0.0116	0.0096	
7+ Literacy Rate	GQ			
Secondary Education Complete (% of population)	GQ			
Cropland (% of area)	GQ		-7.00E-04	-0.001
Nonfarm Diversification index	GQ	0.0026**	0.0024**	0.0018
Private Nonfarm Enterprise (% of establishments)	GQ			
Formal Manufacturing, Food/Beverage/Tobacco (%)	GQ	0.0072	0.007	
HH Access to Banking Services	NSEW			
Private Nonfarm Enterprise Finance	NSEW	-0.0126	-0.0195	-0.0225
7+ Literacy Rate	NSEW			0.0037
Secondary Education Complete (% of population)	NSEW			
Cropland (% of area)	NSEW			
Nonfarm Diversification Index	NSEW			0.002
Private Nonfarm Enterprise (% of establishments)	NSEW			
Formal Manufacturing, Food/Beverage/Tobacco (%)	NSEW			
Number of observations		1,661	1,661	1,626
Adjusted R^2		0.4	0.3	0

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. GQ = Golden Quadrilateral; NSEW = North-South-East-West.

(table continued next page)

TABLE 6A.7 Conditional Impacts of Highways (continued)*c. Conditional impacts on labor market inclusion and structural change outcomes*

Market variable	Interacted treatment	Total % regular wage employed / total employed	Female % regular wage employed / N fem. empl.	Female % regular wage employed / female employed	Total % farm employed	Female % nonfarm employed	Total % nonfarm employed
HH Access to Banking Services Private Nonfarm	GQ		-0.0019*				
Enterprise Finance	GQ			0.436		-0.427	
7+ Literacy Rate	GQ	-0.0011			0.1379**		-0.1712**
Secondary Education Complete (% of population)	GQ			-0.3819***	-0.3385***	0.3781***	0.3463***
Cropland (% of area)	GQ	-8e-04***		0.058*		-0.0602**	
Nonfarm Diversification index	GQ	-5.000E-04		-0.0748		0.0567	
Private Nonfarm Enterprise (% of establishments)	GQ		-0.0083				
Formal Manufacturing, Food/Beverage/Tobacco (%)	GQ		-0.005	1.2225***	0.6972***	-1.2085***	-0.6264***
HH Access to Banking Services Private Nonfarm Enterprise Finance	NSEW	-0.0018					
Finance	NSEW		-0.0197**	-1.3426**		1.2659**	
7+ Literacy Rate	NSEW	0.0037***	0.0042**				
Secondary Education Complete (% of population)	NSEW			-0.2408*		0.245*	
Cropland (% of area)	NSEW						
Nonfarm Diversification index	NSEW	-9.0000E-04	-0.001		0.0588		
Private Nonfarm Enterprise (% of establishments)	NSEW	-0.0124					0.8233
Formal Manufacturing, Food/Beverage/Tobacco (%)	NSEW			-0.5972	-0.32	0.7291*	0.56*
Number of observations		1,626	1,626	854	854	854	854
Adjusted R ²		0	-0.2	0.3	0	0.3	0

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. GQ = Golden Quadrilateral; NSEW = North-South-East-West.

d. Conditional impact on environmental outcomes

Market variable	Interacted treatment	Aerosol particle radius (% of small particles) in logs	Aerosol optical thickness (thickness scale 0-1)	Nitrogen dioxide levels (billion molecules / mm ²) in logs
HH Access to Banking Services Private Nonfarm Enterprise Finance	GQ	-0.1558**		
7+ Literacy Rate	GQ		0.0034	
Secondary Education Complete (percentage of population)	GQ		-0.0015**	
Cropland (percentage of area)	GQ		3.0000E-04	
Nonfarm Diversification Index	GQ			
Private Nonfarm Enterprise (percentage of establishments)	GQ	1.086**	-0.0076*	1.9606
Formal Manufacturing, Food/Beverage/Tobacco (percent)	GQ			
HH Access to Banking Services Private Nonfarm Enterprise Finance	NSEW		-0.0012	
7+ Literacy Rate	NSEW		0.0066	1.363
	NSEW		0.001	-0.5962**

(table continued next page)

TABLE 6A.7 Conditional Impacts of Highways (continued)*d. Conditional impact on environmental outcomes*

Market variable	Interacted treatment	Aerosol particle radius (% of small particles) in logs	Aerosol optical thickness (thickness scale 0–1)	Nitrogen dioxide levels (billion molecules / mm ²) in logs
Secondary Education Complete (percent of pop.)	NSEW			
Cropland (percent of area)	NSEW	–0.1641***	8e-04**	
Nonfarm Diversification Index	NSEW	–0.1569***		
Private Nonfarm Enterprise (percent of establishments)	NSEW			
Formal Manufacturing, Food/Beverage/ Tobacco (percent)	NSEW		–0.0048	1.2378
Number of observations		854	854	854
Adjusted R ²		0.6	0.6	0.6

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. GQ = Golden Quadrilateral; NSEW = North-South-East-West.

e. Conditional impacts on labor market inclusion and structural change outcomes with governance interactions included

Market variable	Interacted treatment	Total % regular wage employed/ total employed	Female % regular wage employed / female employed	Female % farm employed	Total % farm employed	Female % nonfarm employed	Total % nonfarm employed
HH Access to Banking Services	GQ		–0.0027***				
Private Nonfarm Enterprise Finance	GQ			0.6323**		–0.6441**	
7+ Literacy Rate (% of age group)	GQ	–0.0014			0.1707**		–0.1952**
Secondary Education Complete (% of population)	GQ			–0.4516***	–0.3131***	0.4507***	0.3254***
Cropland (percent of area)	GQ	–0.0004		0.0292		–0.0301	
Nonfarm Diversification index	GQ		–0.0244***				
Private Nonfarm Enterprise (% of establishments)	GQ		–0.0062	1.2805***	0.5971***	–1.2697***	–0.5135**
Formal Manufacturing, Food/ Beverage/Tobacco (%)	GQ	–0.0002		–0.0484		0.0288	
Governance Index	GQ	0.1351**	0.2282***	6.311	–1.3668	–6.6951	0.3746
HH Access to Banking Services	NSEW	–0.0007					
Private Nonfarm Enterprise Finance	NSEW		–0.0169**	–1.1709**		1.0624*	
7+ Literacy Rate	NSEW	0.0033**	0.0042**				
Secondary Education Complete (% of population)	NSEW			–0.157		0.1408	
Cropland (% of area)	NSEW						
Nonfarm Diversification Index	NSEW	–7.20E-03					1.0729*
Private Nonfarm Enterprise (% of establishments)	NSEW			–0.5704	–0.383	0.7212*	0.7046**
Formal Manufacturing, Food/ Beverage/Tobacco (%)	NSEW	–0.0005	–0.0006		0.0504		
Governance Index	NSEW	–0.1582	–0.0341	0.1802	–6.037	1.5415	2.9084
Number of observations		1,626	1,626	854	854	854	854
Adjusted R ²		0	–0.2	0.3	0	0.3	0

Note: This table reports regressions estimate with year fixed effects instead of state-year fixed effects. HH = household. GQ = Golden Quadrilateral; NSEW = North-South-East-West.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Annex 6B

Regression Results for Pakistan

TABLE 6B.1 Summary Statistics of Market Condition (Interaction) Variables, Pakistan

Interaction terms	Source of data	Geographical level of data availability	Mean value	SD	25th percentile	75th percentile
<i>For districts 0–40 km from or intersected by proposed eastern CPEC</i>						
Households' Access to Banking Services (% of total households)	PLSM 2012–13	District	29.40	16.16	17.00	40.00
Private Nonfarm Enterprises' Borrowing from Financial Institutions (% of enterprises)	Enterprise Survey, Pakistan 2013	Province	2.63	3.29	0.70	1.52
10+ Literacy Rate (% of population group)	PLSM 2012–13	District	55.74	11.94	47.00	62.00
Secondary Education Complete (% of population)	PLSM 2012–13	District	26.10	7.15	20.00	30.00
Cropland (% of area)	MODIS Land Cover Type I product (2013)	District	66.72	34.15	47.00	94.00
Formal Manufacturing, Food/Beverage/Tobacco (% of establishments)	Pakistan CMI Survey 2005–06	Province	27.88	5.49	25.00	31.00
Nonfarm Diversification Index ^a	Pakistan CMI Survey 2005–06	Province	6.04	0.82	5.70	6.07
Private Nonfarm Enterprise (% of establishments)	Pakistan CMI Survey 2005–06	Province	91.26	5.27	91.00	95.00

(table continued next page)

TABLE 6B.1 Summary Statistics of Market Condition (Interaction) Variables, Pakistan (continued)

Interaction terms	Source of data	Geographical level of data availability	Mean value	SD	25th percentile	75th percentile
<i>For all districts</i>						
Households' Access to Banking Services (% of total households)	PLSM 2012–13	District	29.93	17.81	16.00	42.00
Private Nonfarm Enterprises' Borrowing from Financial Institutions (% of enterprises)	World Bank Enterprise Survey, Pakistan 2013	Province	3.31	3.79	1.49	1.52
10+ Literacy Rate (% of population group)	PLSM 2012–13	District	50.62	13.60	42.00	59.50
Secondary Education Complete (% of population)	PLSM 2012–13	District	23.47	7.22	18.00	28.00
Cropland (% of area)	MODIS Land Cover Type I product (2013)	District	47.69	36.19	14.00	84.00
Formal Manufacturing, Food/Beverage/Tobacco (percent of establishments)	Pakistan CMI Survey 2005–06	Province	25.06	6.53	19.00	31.00
Nonfarm Diversification Index ^a	Pakistan CMI Survey 2005–06	Province	6.35	1.13	5.70	6.07
Private Nonfarm Enterprise (percent of establishments)	Pakistan CMI Survey 2005–06	Province	89.70	6.49	91.00	95.00

Source: The source for each interaction variable is listed in the table, in the "source of data" column.

Note: Among 151 districts in Pakistan, 43 districts are either within 40 km of the purposed highway or the highway passes through part of its territory. Karachi and Lahore are classified as nodal districts in this study. SD = standard deviation.

a. The Diversification Index of nonagriculture enterprises is generated from the Pakistan CMI Survey, which covers only the manufacturing sector. The index captures the level of diversification of economic activities only within the manufacturing sector.

TABLE 6B.2 Districts in Pakistan within 40 km of or Intersected by the Proposed Eastern CPEC

Location relative to CPEC	District name	Province	Distance to highway (km)
Nodal	Karachi	Sindh	0.6
	Lahore	Punjab	0.8
0–40 km	Sheikhupura	Punjab	1.3
	Matiali	Sindh	1.6
	Khanewal	Punjab	1.8
	Naushehro Feroze	Sindh	2.7
	Peshawar	Khyber Pakhtunkhwa	4.6
	Sahiwal	Punjab	4.8
	Shikarpur	Sindh	9.6
	Okara	Punjab	9.8
	Gwadar	Balochistan	9.9
	Multan	Punjab	10.1
	Lodhran	Punjab	10.4
	Hafizabad	Punjab	10.6
	Swabi	Khyber Pakhtunkhwa	11.1
	Charsadda	Khyber Pakhtunkhwa	13.3
	Chakwal	Punjab	13.8
	Lasbela	Balochistan	15.2
	Nowshera	Balochistan	19.6

(table continued next page)

TABLE 6B.2 Districts in Pakistan within 40 km of or Intersected by the Proposed Eastern CPEC (continued)

Location relative to CPEC	District name	Province	Distance to highway (km)
Highway passes through	Shaheed Benazirabad	Sindh	20.4
	Mardan	Khyber Pakhtunkhwa	21.7
	Ghotki	Sindh	21.9
	Kasur	Punjab	23.3
	Khuzdar	Balochistan	23.4
	Islamabad	ICT	24.4
	Hyderabad	Sindh	24.6
	Larkana	Sindh	25.0
	Rawalpindi	Punjab	26.6
	Sukkur	Sindh	28.3
	Rahim Yar Khan	Punjab	28.9
	Haripur	Khyber Pakhtunkhwa	30.7
	Kashmore-Kandhkot	Sindh	31.3
	Jhal Magsi	Balochistan	31.5
	Sargodha	Punjab	33.8
	Pakpattan	Punjab	36.2
	Toba Tek Singh	Punjab	39.0
	Nankana Sahib	Punjab	40.6
	Attock	Punjab	48.1
	Jamshoro	Sindh	48.6
Bahawalpur	Punjab	53.4	
Jhelum	Punjab	54.8	
Thatta	Sindh	75.5	
Khairpur	Sindh	77.9	

Note: The distance is the linear distance from the highway to the district centroids. ICT = Islamabad Capital Territory.

TABLE 6B.3 Comparing Sources of Data for India and Pakistan

Market	Measure	India	Pakistan	Geographical level of data availability
<i>Interaction terms</i>				
Capital market	Households' Access to Banking Services, total (% of households)	Census of India–House listing and Housing Census	Pakistan Social and Living Standard Measurement Survey 2012–13	District
Capital market	Private Nonfarm Enterprise's Borrowing from Financial Institutions (% of enterprises)	Economic Census (EC) / Enterprise Survey	World Bank Enterprise Survey, Pakistan 2013	Province
Labor market	10 + Literacy Rate, total (% of population group)	Literacy rate 7+ years, Census of India	Pakistan Social and Living Standard Measurement Survey 2012–13	District
Labor market	Secondary Education Completion Rate, 15+ years, total (% of population group)	Household Consumption Expenditure Survey	Pakistan Social and Living Standard Measurement Survey 2012–13	District
Labor market	Gross Primary Enrollment, total (% of population group)	Census of India	Pakistan Atif Ailan Education Index 2015–16	District

(table continued next page)

TABLE 6B.3 Comparing Sources of Data for India and Pakistan (continued)

Market	Measure	India	Pakistan	Geographical level of data availability
Land market	Cropland (% of area)	MODIS Land Cover Type I product	MODIS Land Cover Type I product (2013)	District
Product market	Diversification Index of Nonfarm Enterprises (ISIC 3.1, 2-digit level)	Economic Census (EC)	Pakistan Census for Manufacturing Industry Survey 2005–06	Province
Product market	Nonfarm Enterprises Privately Owned (% of establishments)	Economic Census (EC)	Pakistan Census for Manufacturing Industry Survey 2005–06	Province
Product market	Formal Manufacturing, Food/Beverage/Tobacco (15, 16) (% of establishments)	Annual Survey of Industries	Pakistan Census for Manufacturing Industry Survey 2005–06	Province
<i>Outcomes</i>				
Environment	Aerosol Particle Radius (% of small particles)	(NASA) Earth Observations (NEO-ND)	(NASA) Earth Observations (NEO-ND)	District
Environment	Aerosol Optical Thickness (thickness scale 0–1)	(NASA) Earth Observations (NEO-ND)	(NASA) Earth Observations (NEO-ND)	District
Environment	Nitrogen Dioxide Levels (billion molecules/mm ²)	(NASA) Earth Observations (NEO-ND)	(NASA) Earth Observations (NEO-ND)	District
Equity	Poverty Rate (headcount below poverty line)	Household Consumption Expenditure Survey	Pakistan Multi-Dimensional Poverty 2013–14	District
Inclusion	Employed/Total population	Census of India	Pakistan Social and Living Standard Measurement Survey 2012–13	District
Market	Measure	India	Pakistan	Geographical level of data availability
Inclusion	Females Employed/Female Total Population	Census of India	Pakistan Social and Living Standard Measurement Survey 2012–13	District
Inclusion	Regular Wage Employed/Total Employed	Census of India	–	–
Inclusion	Females Regular Wage Employed/Total Female Employed	Census of India	–	–
Inclusion	Total Employed on Farm/Total Employed	Census of India	–	–
Inclusion	Total Females Employed on Farm/Total Females Employed	Census of India	–	–
Inclusion	Total Employed on Nonfarm/Total Employed	Census of India	–	–
Inclusion	Total Females Employed on Nonfarm/Total Females employed	Census of India	–	–

(table continued next page)

TABLE 6B.3 Comparing Sources of Data for India and Pakistan (continued)

Market	Measure	India	Pakistan	Geographical level of data availability
Welfare	Mean Household Consumption Expenditure per capita	Household Consumption Expenditure Survey	–	–
Welfare	GDP (current US\$, in millions)	Directorate of Economics and Statistics, Planning Commission, Government of India	Pakistan Bureau of Statistics, 2016	Province
Welfare	GDP per capita (current US\$)	Directorate of Economics and Statistics, Planning Commission, Government of India	Pakistan Bureau of Statistics, 2016	Province
Welfare	Light Intensity per area	DSMP-OLS Radiance Calibrated Nighttime Lights (RCNTL).	n.a.	n.a.
Welfare	Light Intensity per 1,000 people	DSMP-OLS Radiance Calibrated Nighttime Lights (RCNTL)	n.a.	n.a.

Note: n.a. = not applicable; – = not available.

TABLE 6B.4 Predicted Impact of China-Pakistan Economic Corridor (CPEC)

Measure of impact	Estimate of average impact of GQ statistically significant?	Prediction for CPEC districts			
		Mean	10th percentile	50th percentile	90th percentile
Aerosol Optical Thickness (thickness scale 0–1)	Y	0.024	0.012	0.021	0.039
Reduction in Poverty Rate (rural)	N	4.01	3.55	4.15	4.42
Reduction in Poverty Rate (total)	N	1.25	5.07	2.08	–3.02
Regular Wage Earners, Female (total female employed)	N	–0.62	–3.62	–0.25	2.23
Regular Wage Earners, Total (total employed)	N	0	0	0	0
Farm Employment, Female (total female employed)	N	–6.62	–5.62	–7.43	–6.17
Farm Employment, Total (total employed)	N	–5.51	–4.32	–6.10	–5.53
Nonfarm Employment, Female (total female employed)	N	6.05	2.81	7.13	7.75
Nonfarm Employment, Total (total employed)	N	5.83	4.55	6.41	5.94
Log of Mean Household Consumption (current US\$)	N	–0.05	–0.07	–0.05	–0.03
Log of GDP per capita (current US\$)	Y	0.0402	0.0402	0.0402	0.0402

Note: Nodal districts (Karachi and Lahore) are excluded from the calculation of the average impact. GQ = Golden Quadrilateral.

Annex 6C

Regression Results for Bangladesh

TABLE 6C.1 Summary Statistics of Market Condition (Interaction) Variables—Bangladesh

Interaction terms	Source of data	Geographical level of data availability	Mean value	SD	25th percentile	75th percentile
<i>For districts within 40 km of proposed corridor</i>						
Households' Access to Banking Services (% of total households)	Bangladesh Integrated Household Survey 2011	Division	50.57	7.43	50.00	56.00
Private Nonfarm Enterprises' Borrowing from Financial Institutions (% of enterprises)	Enterprise Survey, Bangladesh 2013	Division	29.82	16.81	14.42	54.23
7+ Literacy Rate (percent of population group)	Bangladesh Census 2011	District	51.77	6.97	47.00	57.00
Secondary Education Complete (% of population)	Bangladesh Census 2011	District	31.34	6.56	27.00	35.00
Cropland (% of area)	MODIS Land Cover Type I product (2013)	District	66.73	29.27	54.90	89.29
Formal Manufacturing, Food/Beverage/Tobacco (% of establishments)	Bangladesh Economic Census 2001	District	24.03	9.64	18.00	30.00
Nonfarm Diversification Index	Bangladesh Economic Census 2001	District	3.50	0.62	3.02	3.70
Private Nonfarm Enterprises (percent of establishments)	Bangladesh Economic Census 2001	District	85.79	4.25	85.00	89.00
<i>For all districts</i>						
Households' Access to Banking Services (% of total households)	Bangladesh Integrated Household Survey 2011	Division	46.31	11.41	38.00	52.00
Private Nonfarm Enterprise's Borrowing from Financial Institutions (% of enterprises)	Enterprise Survey, Bangladesh 2013	Division	33.47	16.42	14.42	46.96
7+ Literacy Rate (% of population group)	Bangladesh Census 2011	District	50.19	7.58	46.00	56.00

(table continued next page)

TABLE 6C.1 Summary Statistics of Market Condition (Interaction) Variables—Bangladesh (continued)

Interaction terms	Source of data	Geographical level of data availability	Mean value	SD	25th percentile	75th percentile
Secondary Education Complete (% of population)	Bangladesh Census 2011	District	29.77	6.44	26.00	33.00
Cropland (% of area)	MODIS Land Cover Type I product (2013)	District	70.74	27.09	56.33	90.13
Formal Manufacturing, Food/Beverage/Tobacco (% of establishments)	Bangladesh Economic Census 2001	District	28.85	10.43	22.00	36.00
Nonfarm Diversification Index	Bangladesh Economic Census 2001	District	3.44	0.56	2.99	3.70
Private Nonfarm Enterprise (% of establishments)	Bangladesh Economic Census 2001	District	84.62	3.80	83.00	87.00

Source: Source for each interaction variable is listed in the table, under the "Source of data" column.

Note: There are 64 districts in Bangladesh, of which 35 districts are located within 40 km of the proposed highway. SD = standard deviation.

TABLE 6C.2 Districts in Bangladesh within 40 km of the Proposed Corridor

District type	District name	Distance to highway (km)
Nodal	Dhaka	0.1
	Chittagong	4.8
0–40 km	Feni	0.1
	Manikganj	0.9
	Magura	1.5
	Jessore	2.3
	Comilla	2.4
	Narayanganj	3.1
	Faridpur	4.9
	Rajbari	7.1
	Munshiganj	9.6
	Chandpur	12.8
	Jhenaidah	13.2
	Narail	15.9
	Ghazipur	16.6
	Shariatpur	19.4
	Norshingdi	19.6
	Noakhali	20.8
	Brammonbaria	23.2
	Gopalganj	23.2
	Pabna	23.8
	Khagrachhari	24.1
	Tangail	24.9
	Chuadanga	25.6
	Madaripur	25.9
	Laksmipur	25.9
	Kushtia	29.0
	Sirajganj	30.0
	Rangamati	32.4
	Satkhira	34.1
	Khulna	36.3
	Meherpur	37.1
	Bandarban	38.6
	Kishoreganj	39.4
	Barisal	39.5

Note: The distance is the linear distance from the highway to the district centroids. For Bangladesh, the spelling of district names is consistent with the Bangladesh 2011 Census.

TABLE 6C.3 Comparison of Data Sources: India and Bangladesh

Market	Measure	India	Bangladesh	Geographical level of data availability
<i>Interaction Terms</i>				
Capital market	Households' Access to Banking Services, Total (% of households)	Census of India–House Listing and Housing Census	Bangladesh Integrated Household Survey 2011	Division
Capital market	Private Nonagricultural Enterprise's Borrowing from Financial Institution (% of enterprises)	Economic Census (EC)/Enterprise Survey	World Bank Enterprise Survey, Bangladesh 2013	Division
Labor market	Literacy Rate, 15+ Years, Total (% of population group)	Census of India	Bangladesh Census 2011	District
Labor market	Literacy Rate, 7+ Years, Total (% of population group)	Census of India	Bangladesh Census 2011	District
Labor market	Secondary Education Completion Rate, 15+ Years, total (% of population group)	Household Consumption Expenditure Survey	Bangladesh Census 2011	District
Labor market	Tertiary Education Completion Rate, 15+ Years, Total (% of population group)	Household Consumption Expenditure Survey	Bangladesh Census 2011	District
Labor market	Gross Primary Enrollment, Total (% of population group)	Census of India	Bangladesh Census 2011	District
Land market	Cropland (% of area)	MODIS Land Cover Type I product	MODIS Land Cover Type I product (2013)	District
Product market	Diversification Index of Nonagricultural Enterprises (ISIC 3.1 2- digit level)	Economic Census (EC)	Bangladesh Economic Census 2001	District
Product market	Nonagricultural Enterprises Privately Owned (percent of establishments)	Economic Census (EC)	Bangladesh Economic Census 2001	District
Product market	Formal Manufacturing, Food/Beverage/Tobacco (15, 16) (% of establishments)	Annual Survey of Industries	Bangladesh Economic Census 2001	District
<i>Outcomes</i>				
Environment	Aerosol Particle Radius (% of small particles)	(NASA) Earth Observations (NEO- ND)	(NASA) Earth Observations (NEO-ND)	District
Environment	Aerosol Optical Thickness (thickness scale 0–1)	(NASA) Earth Observations (NEO- ND)	(NASA) Earth Observations (NEO-ND)	District
Environment	Nitrogen Dioxide Levels (billion molecules/mm ²)	(NASA) Earth Observations (NEO- ND)	(NASA) Earth Observations (NEO-ND)	District
Equity	Poverty Rate (headcount below poverty line)	Household Consumption Expenditure Survey	Bangladesh Household Income and Expenditure Survey 2010	District
Inclusion	Employed/Total Population	Census of India	Labor Force Survey 2005	District
Inclusion	Females Employed/Female Total Population	Census of India	Labor Force Survey 2005	District
Inclusion	Regular Wage Employed/ Total Employed	Census of India	Labor Force Survey 2005	District

(table continued next page)

TABLE 6C.3 Comparison of Data Sources: India and Bangladesh (continued)

Market	Measure	India	Bangladesh	Geographical level of data availability
Inclusion	Females Regular Wage Employed/Total Female Employed	Census of India	Labor Force Survey 2005	District
Inclusion	Total Employed on Farm/Total Employed	Census of India	Labor Force Survey 2005	District
Inclusion	Total Females Employed on Farm/Total Females Employed	Census of India	Labor Force Survey 2005	District
Inclusion	Total Employed on Nonfarm / Total Employed	Census of India	Labor Force Survey 2005	District
Inclusion	Total Females Employed on Non-farm/Total Females Employed	Census of India	Labor Force Survey 2005	District
Welfare	Mean Household Consumption Expenditure per capita	Household Consumption Expenditure Survey	Bangladesh Household Income and Expenditure Survey 2010	District
Welfare	GDP (current US\$, in millions)	Directorate of Economics and Statistics, Planning Commission, Government of India	Bangladesh Bureau of Stat 2011	District
Welfare	GDP per capita (current US\$)	Directorate of Economics and Statistics, Planning Commission, Government of India	Bangladesh Bureau of Stat 2011	District
Welfare	Light Intensity per Area	DSMP-OLS Radiance Calibrated Nighttime Lights (RCNTL)	n.a.	n.a.
Welfare	Light Intensity per 1,000 People	DSMP-OLS Radiance Calibrated Nighttime Lights (RCNTL)	n.a.	n.a.

Note: n.a. = not applicable; – = not available.

TABLE 6C.4 Predicted Impact of the Kolkata-Dhaka Corridor

Measure	Estimate of average impact of GQ statistically significant?	Prediction for Kolkata-Dhaka districts			
		Mean	10th percentile	Median	90th percentile
Aerosol Optical Thickness (thickness scale 0–1)	Y	0.016	0.004	0.013	0.031
Reduction in Poverty Rate (rural)	N	–5.96	–6.66	–5.87	–5.29
Reduction in Poverty Rate (total)	N	0.32	4.02	1.12	–3.82
Regular Wage Earners, Female/Total Female Employed	N	–0.59	–3.59	–0.22	2.26
Regular Wage Earners, Total/Total Employed	N	0	0	0	0
Farm Employment, Female/Total Female Employed	N	–15.01	–14.21	–15.83	–14.37
Farm Employment, Total/Total Employed	N	–11.47	–10.37	–12.06	–11.38
Nonfarm Employment, Female/Total Female Employed	N	14.38	11.32	15.46	15.87
Nonfarm Employment, Total/Total Employed	N	11.58	10.38	12.16	11.59
Log of Mean Household Consumption (current US\$)	N	–0.12	–0.14	–0.11	–0.09
Log of GDP per capita (current US\$)	Y	0.0402	0.0402	0.0402	0.0402

Note: Nodal districts (Dhaka and Chittagong) are excluded from the calculation of the average impact. GQ = Golden Quadrilateral.

