

THE ROLE OF POLICY FOR INTEGRATION AND UPGRADING IN GVCS

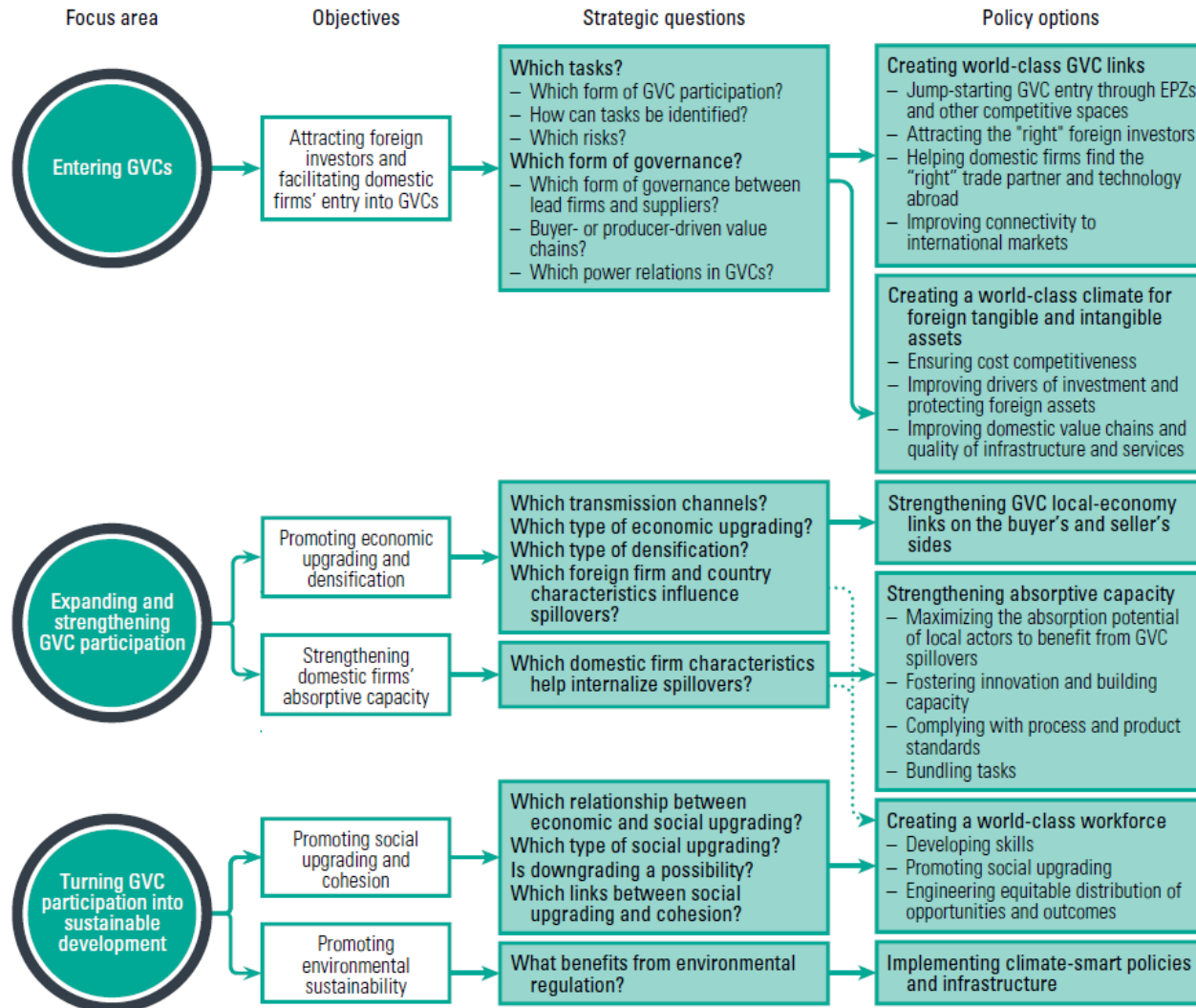


WORLD BANK GROUP
Trade & Competitiveness

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STRATEGIC POLICY FRAMEWORK



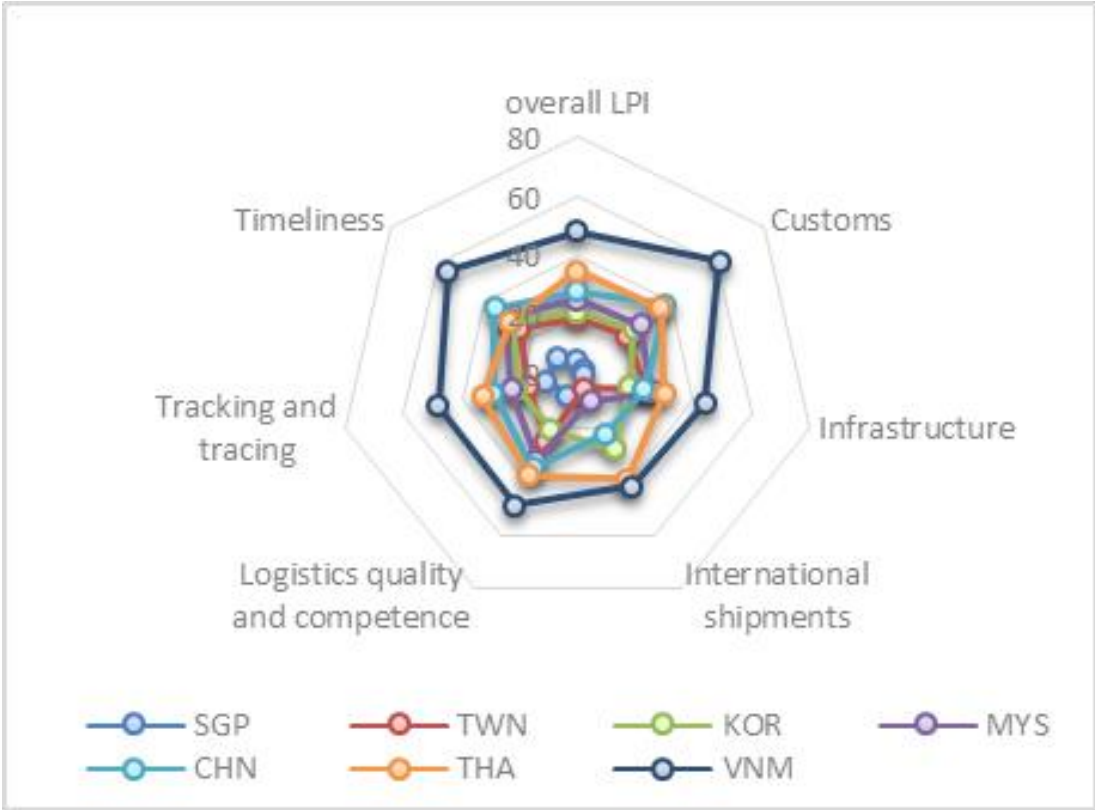
SELECTED POLICY OPTIONS AND PERFORMANCE INDICATORS

Focus area	Policy options	Selected performance indicators
Entering GVCs	Improving connectivity to international markets	LPI (international)—overall and components; efficiency of customs (WDI)
	Ensuring cost competitiveness	Unit labor costs
	Improving drivers of investment	Ease of doing business index—overall (WDI)
	Protecting assets	Ease of doing business index—protecting investors (WDI)
	Improving domestic value chains and quality of infrastructure and services	LPI (domestic)—quality of infrastructure, quality and competence of services (WDI)
Expanding and strengthening GVC participation	Fostering innovation and building capacity	R&D intensity
	Complying with process and product standards	Diffusion of voluntary standards and ISO certification ownership (WDI, national statistics); surveys/field assessments in country
Turning GVC participation into sustainable development	Developing skills	Education statistics
	Promoting social upgrading	Wage statistics; employment statistics; labor standards
	Engineering equitable distribution of opportunities and outcomes	Indicators on access to information; antidiscrimination laws and rights; social insurance and assistance

Source: Taglioni and Winkler (2016, 6).

INTERNATIONAL CONNECTIVITY

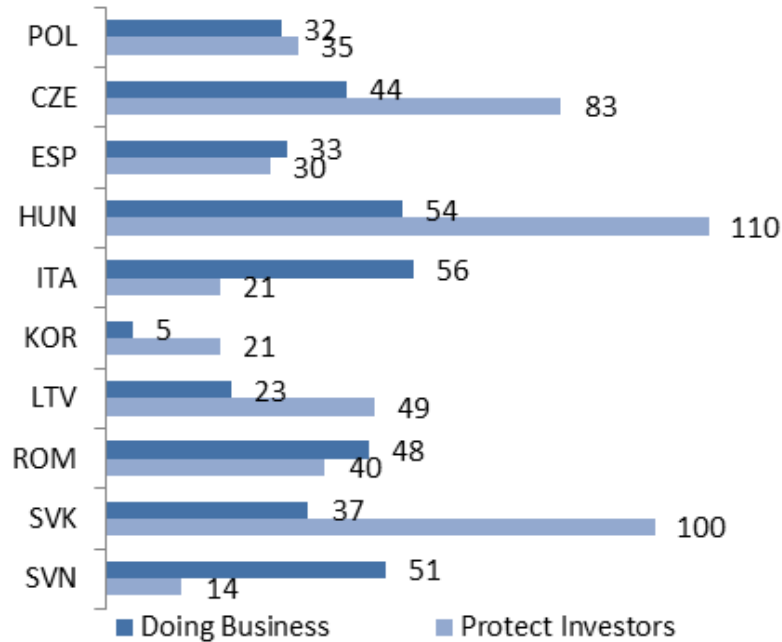
Logistics Performance Index, 2014 (rank



Data: World Bank LPI.

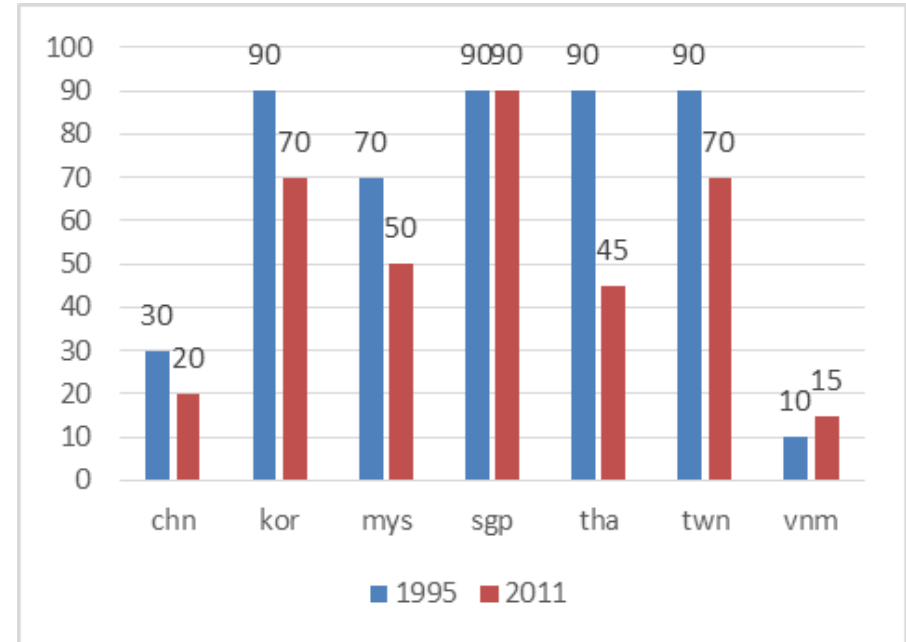
BUSINESS CLIMATE AND INSTITUTIONS

Ease of Doing Business Indicator, Overall and Protecting Investors, 2014 (rank)



Source: World Bank Doing Business Indicators.

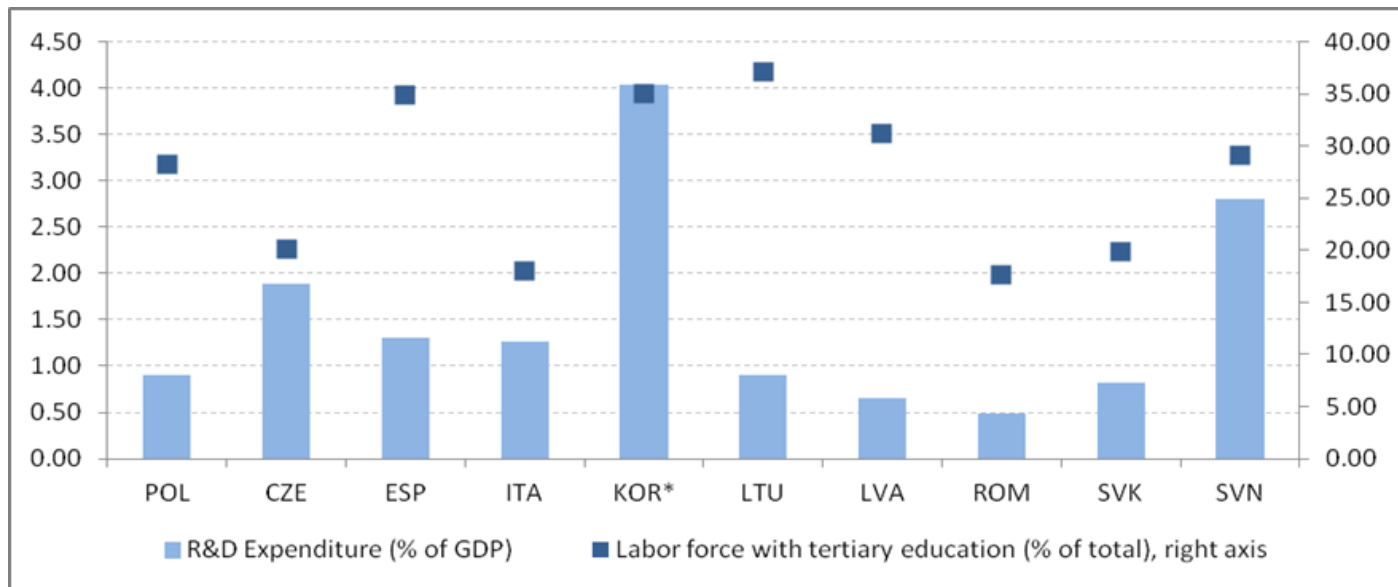
Property Rights Index, 0 to 100 (best)



Source: Heritage Foundation.

EDUCATION AND INNOVATION

Innovation capacity and skills, 2012, Poland and peer countries



Data: World Development Indicators. Note: for Korea (KOR) last available year for labor force education is 2007, for R&D expenditure is 2011.

MODEL BY KUMMRITZ, TAGLIONI AND WINKLER: THE ROLE OF POLICY FOR ECONOMIC UPGRADING IN GVC'S

$$\ln \text{econup}_{cst} = \alpha + \beta_1 \text{GVC}_{cst} + \beta_2 (\text{GVC}_{cst} * \text{country}_c) + \gamma_1 (\text{GVC}_{cst} * \text{policy}_c) + \gamma_2 (\text{GVC}_{cst} * \text{policy}_c * \text{country}_c) + \delta \ln \text{control}_{cst} + \text{country}_c + D_{cs} + D_t + \varepsilon_{cst}$$

- **policy** is a proxy for national policies at the country level.
- We use **interaction terms** to assess the mediating impact of **national policy** (orange).
- The **total effect** of GVC integration on economic upgrading for country c is given by $\beta_1 + \beta_2 + (\gamma_1 + \gamma_2) * \text{policy}_c$.
- The **total effect** of GVC integration on economic upgrading in the rest of the country sample is given by $\beta_1 + \gamma_1 * \text{policy}_c$.

EXAMPLE: THE ROLE OF CONNECTIVITY FOR THE VALUE ADDED GAINS FROM GVC INTEGRATION AS A SELLER

- Data: OECD ICIO database, which cover 61 countries, 34 industries, and the years 1995, 2000, 2005, and 2008-2011.

VARIABLES	(1) DVA	(2) DVA	(3) DVA	(4) DVA	(5) DVA	(6) DVA
Forward linkages						
DVAR	0.183*** (0.0230)	0.0415 (0.0695)	0.0511 (0.0630)	0.0090 (0.0756)	0.306*** (0.0288)	0.275*** (0.0252)
FVADP	0.232*** (0.0259)	0.251*** (0.0227)	0.250*** (0.0227)	0.250*** (0.0227)	0.232*** (0.0258)	0.231*** (0.0260)
DVAR*Internet	0.0014** (0.0006)					
DVAR*LPI logistics		0.0593*** (0.0210)				
DVAR*LPI customs			0.0594*** (0.0202)			
DVAR*LPI overall				0.0686*** (0.0228)		
DVAR*Time to export					-0.0053*** (0.0017)	
DVAR*Time to import						-0.0033** (0.0013)
Constant	4.989*** (0.180)	4.773*** (0.156)	4.916*** (0.163)	4.854*** (0.161)	5.017*** (0.175)	4.901*** (0.178)
Observations	7,164	7,060	7,060	7,060	7,164	7,164
F-test ($\beta_1=\beta_3=0$)	102.1	120.7	117.1	120	120.2	109.4
R-squared	0.872	0.879	0.879	0.879	0.872	0.872

Source: Kummritz, Taglioni and Winkler (forthcoming).
Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

EXAMPLE: THE ROLE OF GLOBAL VALUE CHAINS IN THE RISE OF POLAND AND THE NEW HIGH-INCOME ECONOMIES

- We **categorize a subset** of these countries into:
 - **9 NHICs:** Chile, Croatia, Czech Republic, Estonia, Hungary, Republic of Korea, Malaysia, and Slovakia (Poland is analyzed separately);
 - **6 TMICs:** Argentina, Brazil, Mexico, Romania, Turkey, and South Africa;
 - **18 OHICs:** Australia, Austria, Belgium, Canada, Switzerland, Germany, Denmark, Finland, France, UK, Ireland, Italy, Japan, Netherlands, Norway, New Zealand, Sweden, and USA.
- We apply the model to **(i) Poland + TMICs + NHICs, and (ii) OHICs to detect:**
 - Which policies are of particular importance for either of these country groups?
 - Why have the NHICs grown faster than the TMICs, and which policies will matter for the NHICs in the future?

EXAMPLE: THE ROLE OF GLOBAL VALUE CHAINS IN THE RISE OF POLAND AND THE NEW HIGH-INCOME ECONOMIES

- Connectivity & Infrastructure

Groups	<i>Internet</i>	<i>Customs LPI</i>	<i>Time to export</i>	<i>Air transport</i>	<i>Rail network</i>
OHICs	49.6	3.7	9.3	2.5	597.0
NHICs	34.3	3.0	15.3	4.6	520.6
Poland	28.1	3.0	17.0	0.3	540.4
TMICs	14.5	2.7	16.3	1.2	377.5

- Trade & Investment

Groups	<i>Investment freedom</i>	<i>FDI inflows</i>	<i>Trade openness</i>	<i>Foreign comp.</i>	<i>Services trc</i>
OHICs	73.9	4.3	75.3	5.0	20.3
NHICs	67.7	5.4	113.1	5.1	22.1
Poland	63.1	3.7	66.6	4.5	12.2
TMICs	58.1	2.5	46.8	4.1	7.5

Note: Includes only policies which showed a significant interaction term with GVC integration in either country group.

Red: Poland's performance is statistically significant below NHICs and OHICs. Green: Poland's performance is not significantly different from OHICs and its policy value is above the value of both NHICs and TMICs. Yellow: All other policies.

We determine statistical significance by comparing Poland's values with the respective 95% confidence intervals of the country groups.

EXAMPLE: THE ROLE OF GLOBAL VALUE CHAINS IN THE RISE OF POLAND AND THE NEW HIGH-INCOME ECONOMIES

- Institutions & Business Climate

Groups	<i>Financial freedom</i>	<i>Property rights</i>	<i>Corruption</i>	<i>Doing business</i>	<i>Domestic Compet.</i>
OHICs	73.1	86.2	81.6	79.5	5.0
NHICs	65.9	65.5	51.5	71.0	4.6
Poland	60.0	60.2	48.1	64.0	4.3
TMICs	51.9	46.6	37.1	62.9	4.0

- Quality, Innovation & Skills

Groups	<i>Quality ISOs</i>	<i>Innovation</i>	<i>Technology adopt.</i>	<i>Years of schooling</i>	<i>Quality of educ.</i>	<i>Workforce second.</i>
OHICs	4420.8	4.9	5.7	8.7	5.3	75.3
NHICs	2103.8	3.8	5.3	7.9	4.6	82.1
Poland	768.5	3.3	4.7	8.0	4.3	86.2
TMICs	537.4	3.2	4.9	4.8	3.6	49.3

Note: Includes only policies which showed a significant interaction term with GVC integration in either country group.

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EXAMPLE: THE ROLE OF GLOBAL VALUE CHAINS IN THE RISE OF POLAND AND THE NEW HIGH-INCOME ECONOMIES

- Social & Environmental Standards

Groups	<i>Eco ISOs</i>	<i>Pension Insurance</i>	<i>Unemploy. Ins.</i>	<i>Wage dispersion</i>
OHICs	575.7	93.5	58.4	1.9
NHICs	351.0	79.9	24.0	2.1
Poland	107.5	88.8	15.6	1.9
TMICs	91.8	37.3	6.0	2.4

Note: Includes only policies which showed a significant interaction term with GVC integration in either country group.

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