

Discussion of: Global value chains in the Pacific island countries- Patterns and structure

Abyaya Neopane

Crawford School of Public Policy

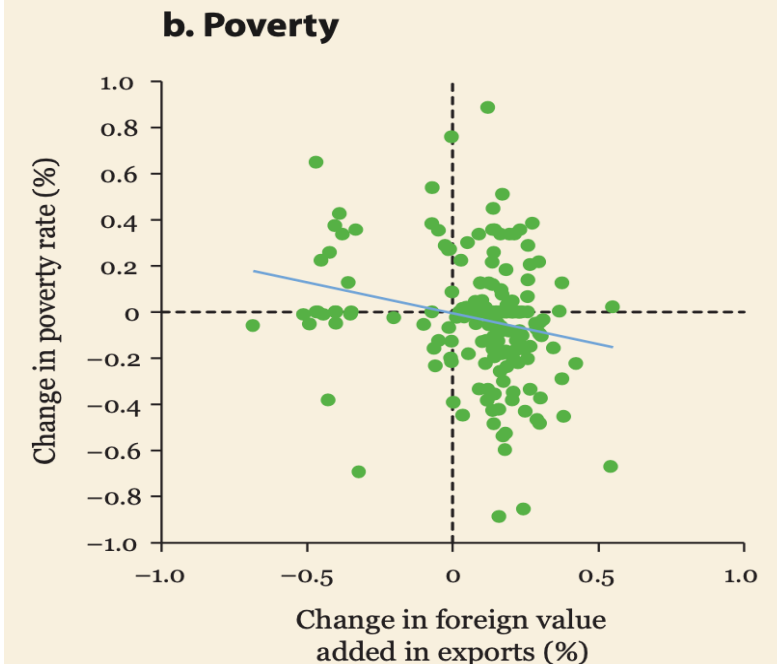
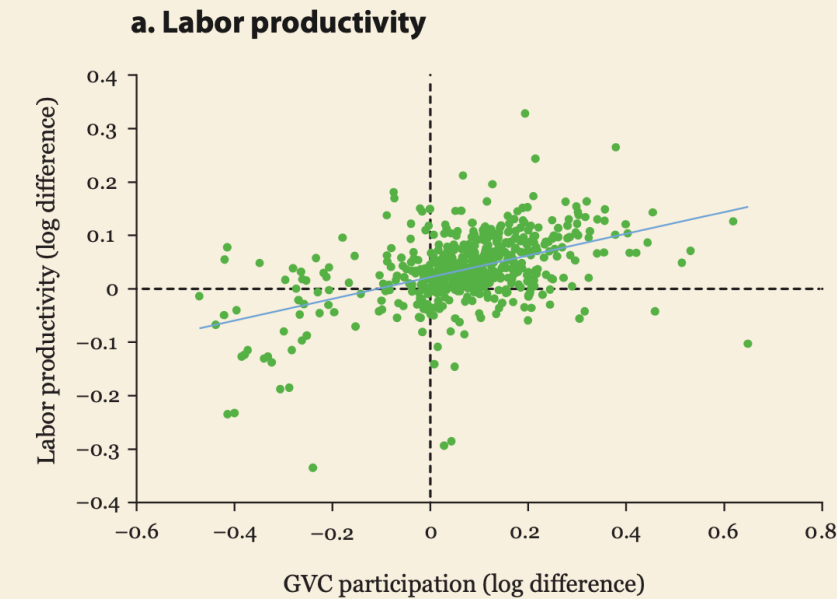
Australian National University

Contents

1. Motivation – Why should we care about GVCs?
2. Summary of the paper
3. Comments
 - Patterns
 - Technology classification
 - Methods and robustness

Motivation – WHY GVC?

- There seems to be a positive association between GVC participation and the growth rate of economies.
 - Between 1990-2010, developing countries with high rates of GVC participation (upper quartile) had a mean growth rate of 3.3% as compared to 0.7% for counties that were in the bottom quartile. UNCTAD (2013)
- GVC participation increases firm-level productivity.
 - TFP index for firms participating in GVC (backward linkage) was 1.25 as compared to 0.87 for non-participatory firms. (World Bank, 2019).
- It is also associated with a rise in Labor productivity (World Bank, 2019).
- GVC is also associated with a fall in poverty rates (World Bank, 2019).
- Today, four-fifths of world trade—worth around US\$17 trillion— happens along global value chains (GVCs) (World Bank, 2019).
- Given its ubiquity and benefits, the issue of what drives their location, and what countries can do to become part GVC is, therefore, an enduring academic and policy interest.



Summary

- Explores the *patterns* of GVC in Pacific Island Countries (PICs) at the country, industry, and firm-level and examines the *relationship* between country and firm characteristics and GVC participation.
- Utilizes two different datasets – *UNCTAD-Eora* GVC data (1999-2018) and the *World Bank Enterprise survey* data (2009 and 2015)
- Findings
 - Country-level: Low participation rate of PICs in GVC
 - Industry-level: Participation concentrated in low-value-added activities
 - Firm-level: Labor productivity and quality certification are essential for entry into GVC, but insufficient to deepen participation. Macro factors such as good governance, trade openness, and FDI also play a role.

Comment I: Is the pattern of GVC unique to PICs?

Baldwin (2013) points out GVCs have:

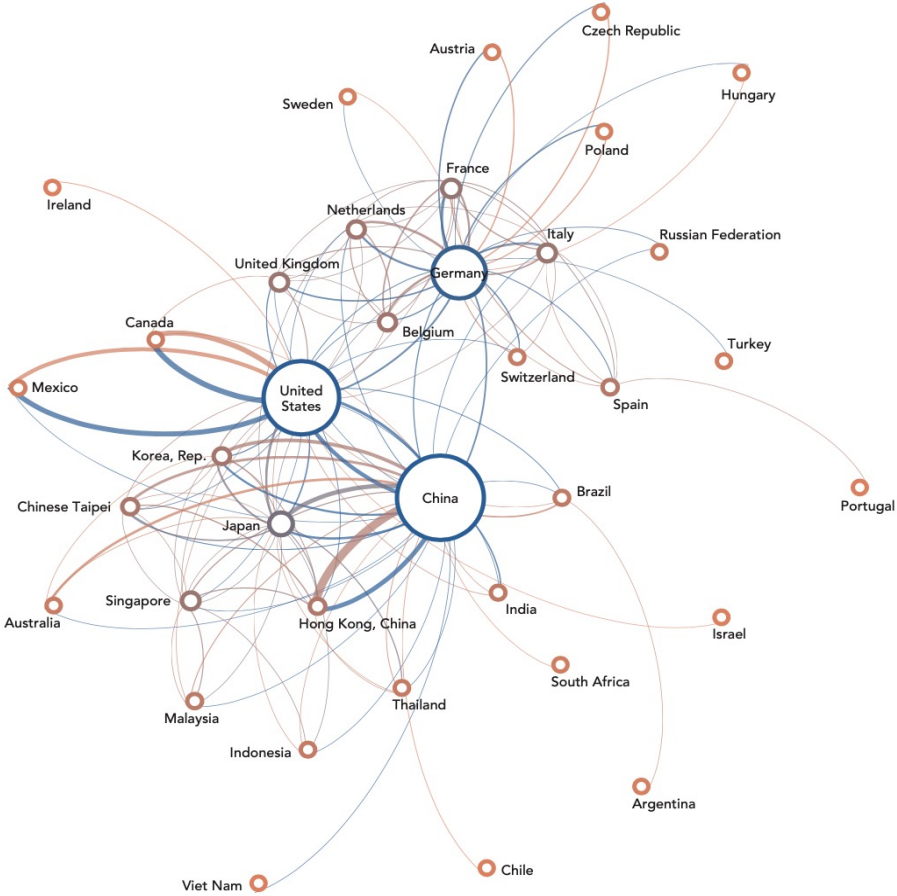
1. Headquarters and factories economies
2. GVCs are not very global but regional
3. Hub-and-spoke asymmetry

Table 1.2: Backward linkage matrix for major supply chain traders, 2007

Partner	Reporter															
	United States	Canada	Mexico	Japan	China	India	Indonesia	Korea, Rep. of	Germany	United Kingdom	Italy	France	Spain	Poland	Portugal	Brazil
US		18%	37%	1%	2%	2%	3%	3%	1%	2%	1%	2%	2%	1%	1%	5%
Canada	4%		2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mexico	2%	1%		0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	1%
Japan	1%	1%	5%		5%	1%	5%	6%	1%	1%	0%	1%	1%	1%	1%	1%
China	3%	3%	9%	2%		5%	6%	7%	2%	2%	2%	2%	3%	3%	1%	3%
India	0%	0%	0%	0%	1%		1%	1%	0%	0%	0%	0%	0%	0%	0%	1%
Indonesia	0%	0%	0%	2%	1%	1%		1%	0%	0%	0%	0%	0%	0%	0%	0%
Korea, Rep. of	1%	0%	4%	1%	4%	1%	2%		0%	0%	0%	0%	1%	1%	0%	1%
Germany	1%	1%	3%	0%	1%	2%	2%	1%		4%	5%	5%	7%	12%	7%	2%
UK	1%	1%	1%	0%	0%	1%	0%	0%	2%		1%	2%	2%	1%	2%	1%
Italy	0%	0%	1%	0%	0%	1%	1%	0%	1%	1%		3%	4%	3%	3%	1%
France	0%	0%	1%	0%	0%	0%	1%	0%	2%	2%	3%		5%	2%	4%	1%
Spain	0%	0%	1%	0%	0%	0%	0%	0%	1%	1%	1%	2%		1%	15%	0%
Poland	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%		0%	0%
Portugal	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%		0%	0%
Brazil	0%	0%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	
Total	15%	27%	65%	8%	16%	16%	20%	21%	11%	13%	16%	17%	29%	26%	35%	16%

Source: Author's manipulation of Lopez-González (2012) data.

Note: The columns show the intermediate inputs intensity from each row nation, e.g., five per cent of the gross value of China's exports consists of intermediates bought from Japan, while two per cent of Japan's gross exports consist of intermediates bought from China.



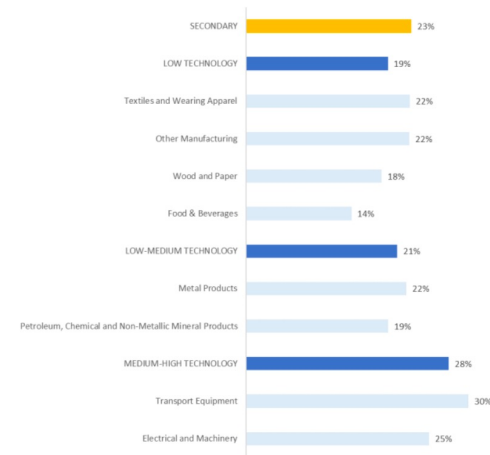
Source: Diakantoni and others 2017, based on the UN Comtrade database (<https://comtrade.un.org>).

Note: Includes the 61 economies in the Organisation for Economic Co-operation and Development–World Trade Organization Trade in Value-Added database and their most important bilateral gross trade flows.

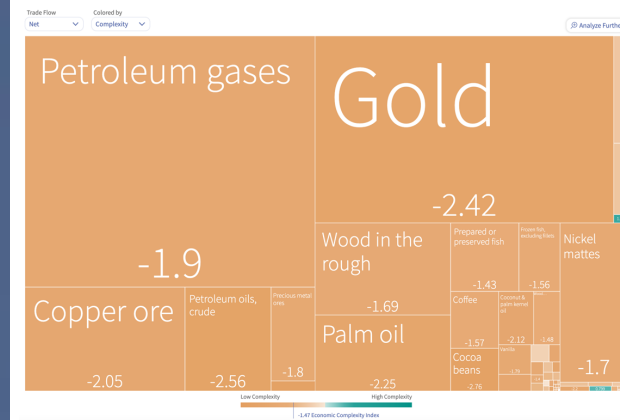
Comment II: Technology classification

- What classifies *low, medium, and medium-high* technology?
- Can be based on existing literature: Harvard Growth-lab's product-wise complexity; aka Atlas of Economic Complexity (Hausman and Higaldo, 2011)
- Why is it important that countries export complex products? Hausmann et al (2007)
 - In general, countries that produce more sophisticated products tend to enjoy higher incomes, because such products are associated with higher productivity and more knowledge spillovers, helping push countries to higher economic growth

B. Papua New Guinea



Export complexity PNG



Country & Product Complexity Rankings

The economic complexity of a country is connected to the complexity of the products that it exports. The Product Complexity Index (PCI) ranks the diversity and sophistication of the productive know-how required to produce a product. Products with a high PCI value (the most complex products that only a few countries can produce) include electronics and chemicals. Products with a low PCI value (the least complex product that nearly all countries can produce) include raw materials and simple agricultural products. Learn more here.

LEARN RANKING METHODOLOGY

SEE WHAT COUNTRIES ARE INCLUDED

DOWNLOAD FULL DATA SET

COUNTRY COMPLEXITY RANKING

PRODUCT COMPLEXITY RANKING

Search for product: 2020


RANK	HS 1992 CODE	PRODUCT	PRODUCT COMPLEXITY INDEX (PCI)
634	0101	Live horses, asses, mules or hinnies	0.0214
929	0102	Live bovine animals	-0.755
440	0103	Live swine	0.491
1115	0104	Live sheep and goats	-1.45
814	0105	Live poultry of the following kinds Chickens, ducks, geese, turkeys and guineas	-0.423
1004	0106	Other live animals	-1
902	0201	Meat of bovine animals, fresh or chilled	-0.675
1113	0202	Meat of bovine animals, frozen	-1.43
355	0203	Meat of swine, fresh, chilled or frozen	0.665
1178	0204	Meat of sheep or goats, fresh, chilled or frozen	-1.82

Comment III: Model and robustness

1. Financial access: In contrast to the literature, the effect is not significant
 - The choice of variable might be driving the result—alternative ways of capturing financial access, (eg: working credit for trade.)
 - Evidence shows exporters are more dependent on working credit than domestic firms. This is more evident for GVC exporters due to the long lag between exporting and receiving payments (see Bruno and Shin (2021), Manova (2013), Chor and Manova (2012), among others)
2. Firm age: not significant
 - Whenever we talk about firm age and size, an important distinction needs to be made between infant firms vs. dwarf firms (Ministry of Finance, Government of India)
 - Infants: Firms that tend to be innovative and have high productivity but are young
 - Dwarfs: Firms that are small but have been operational for more than ten years
 - Can add/interact with these factors in the model (age and size)

References

- Baldwin, R. (2013). “Changing features of global value chains”. In *Global Value Chains in a Changing World*, edited by D. K. Elms and P. Low. Geneva: World Trade Organization.
- Bruno, Valentina and Hyun Song Shin, “Dollar and Exports,” 2021.
- Chor, Davin and Kalina Manova, “Off the cliff and back? Credit conditions and international trade during the global financial crisis,” *Journal of International Economics*, May 2012, 87 (1), 117–133.
- Hausmann, R., J. Hwang, and D. Rodrik. 2007. “What You Export Matters”. *Journal of Economic Growth*.
- Manova, Kalina, “Credit constraints, heterogeneous firms, and international trade,” *Review of Economic Studies*, Apr 2013, 80 (2), 711–744.
- United Nations Conference on Trade and Development. 2013. *World Investment Report 2013: Global Value Chains: Investment and Trade for Development*. Geneva: United Nations Publication.
- World Bank. 2019. *World Development Report 2020: Trading for Development in the Age of Global Value Chains*. Washington, D.C.: World Bank.



Thank you !