Effects of Preferential Trade Agreements on the Manufacturing Export Performance of the Philippines
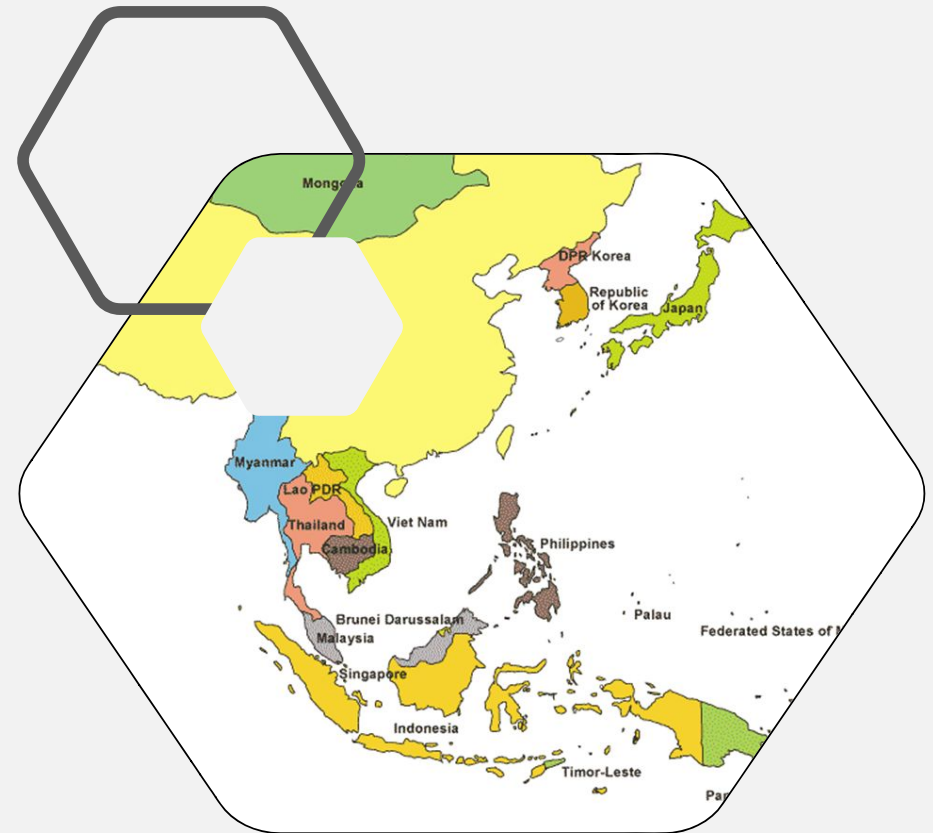
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Kobe University

Outline

Introduction

i. Background of the Study
ii. Research Questions

About the Philippines

- Location: Southeast Asia
- Archipelago with 3 major islands – Luzon, Visayas and Mindanao – but is actually composed of 7,641 islands
- Land Area: 300,000km^2
- Population: 106.7 million (2018)

Definition of Terms

Preferential Trade Agreement (PTA)
- An international treaty with restrictive membership and including any articles that (i) apply only to its members, and (ii) aim to secure or increase their respective market access

Most Favored Nation (MFN) Tariff
- Tariff that countries promise to impose on imports from other members of the WTO, unless the country is part of a PTA

Background of the Study

- The Philippine government has identified trade liberalization through PTAs as a strategic trade policy to facilitate trade and expand its export market.

- The Philippine currently has 10 PTAs.

- There are limited empirical studies on the effects of PTAs on Philippine export performance.
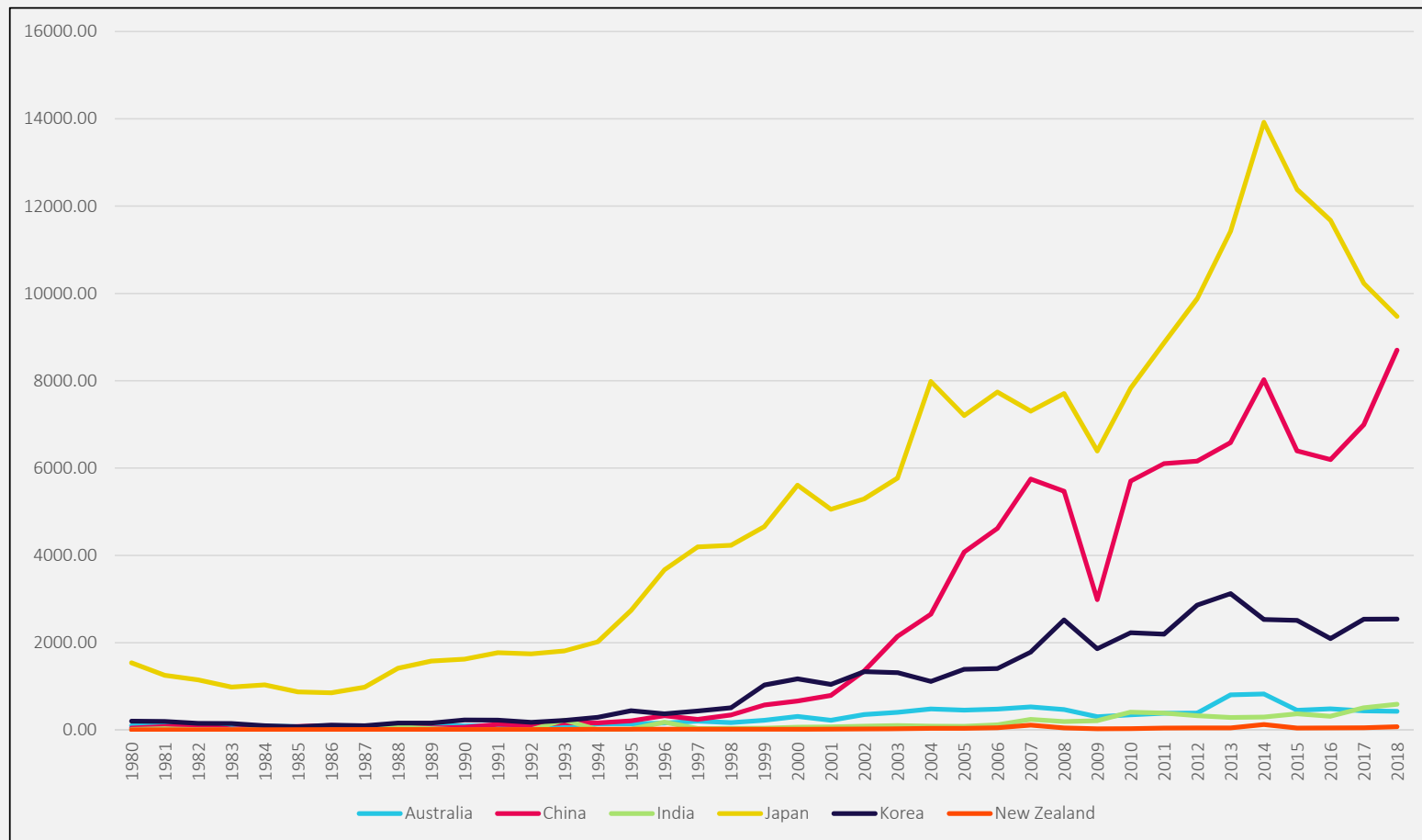

Protocol on Trade Negotiation

Philippine Export Performance

Figure 1. Philippine Exports to ASEAN, 1980-2018 (in USD Million)
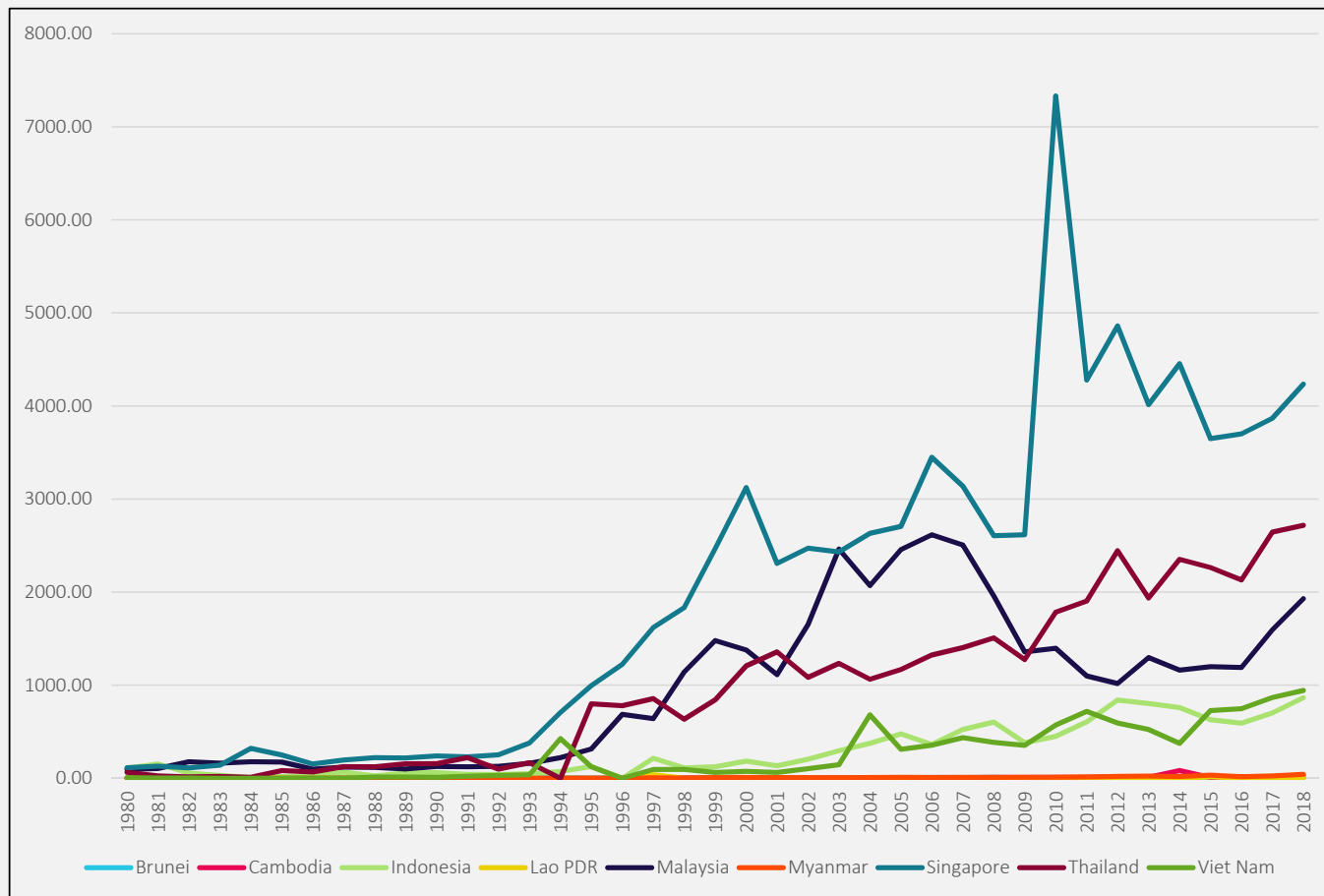
Philippine Export Performance

Figure 2. Philippine Exports to ASEAN+6, 1980-2018 (in USD Million)

Research Questions

1. Do PTAs contribute to the expansion of Philippine manufacturing exports?

2. How do the different manufacturing sub-sectors respond to PTAs?

machinery and transport equipment

electronics

food

Methodology
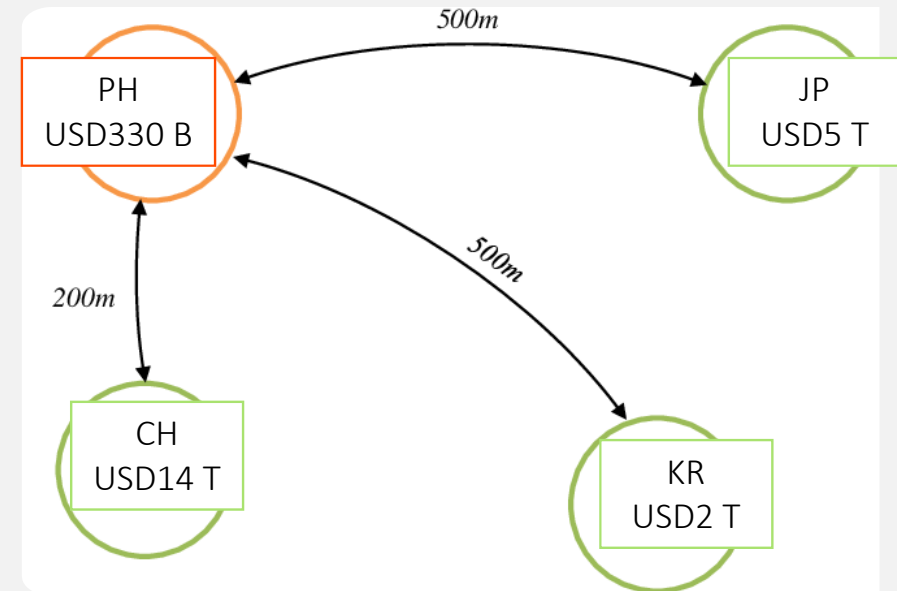
i.   Model Specification

ii.   Estimation Method

Model Specification

$$X_{ij} = G\frac{Y_i E_j}{D_{ij}^2}$$

Gravity Model

- From Newton's Law of Universal Gravitation
- Bilateral trade flow between two countries can be estimated based on the size of their economies and their distance from each other

Model Specification

$$Exp_{jt} = \beta_0 + \beta_1 PTA_{jt} + \beta_2 GSP_{jt} + \beta_3 lnGDP_{jt} + \beta_4 lnGDPPC_{jt} + \beta_5 lnDIST_j + \beta_6 Controls_j + u_{it} + v_{ij} + \varepsilon_{jt}$$

- Dependent variable:
  - Exp_{jt} refers to the four dependent variables, i.e., total manufacturing exports, total electronics exports, total machinery and transport equipment exports, and total food exports to country j at time t.

- Independent variables:
  - Preferential trade agreements (PTA)
  - Generalized System of Preferences (GSP)
  - Gross Domestic Product (GDP)
  - GDP per capita
  - Distance
  - Controls – common official language, common colonial link, being landlocked of either partner country
  - $u_{it} + v_{ij}$ – fixed effects for multilateral resistance terms (MRTs)
  - ε_{jt} – error term

Estimation Method

Poisson Pseudo Maximum Likelihood (PPML)

- Consistent in the presence of heteroscedasticity and fixed effects, as theory-consistent gravity models require exporter- and importer-fixed effects

- Includes observations where the value is zero, as is common in international trade, whereas zero values are automatically dropped in the OLS model since the logarithm of zero is not defined
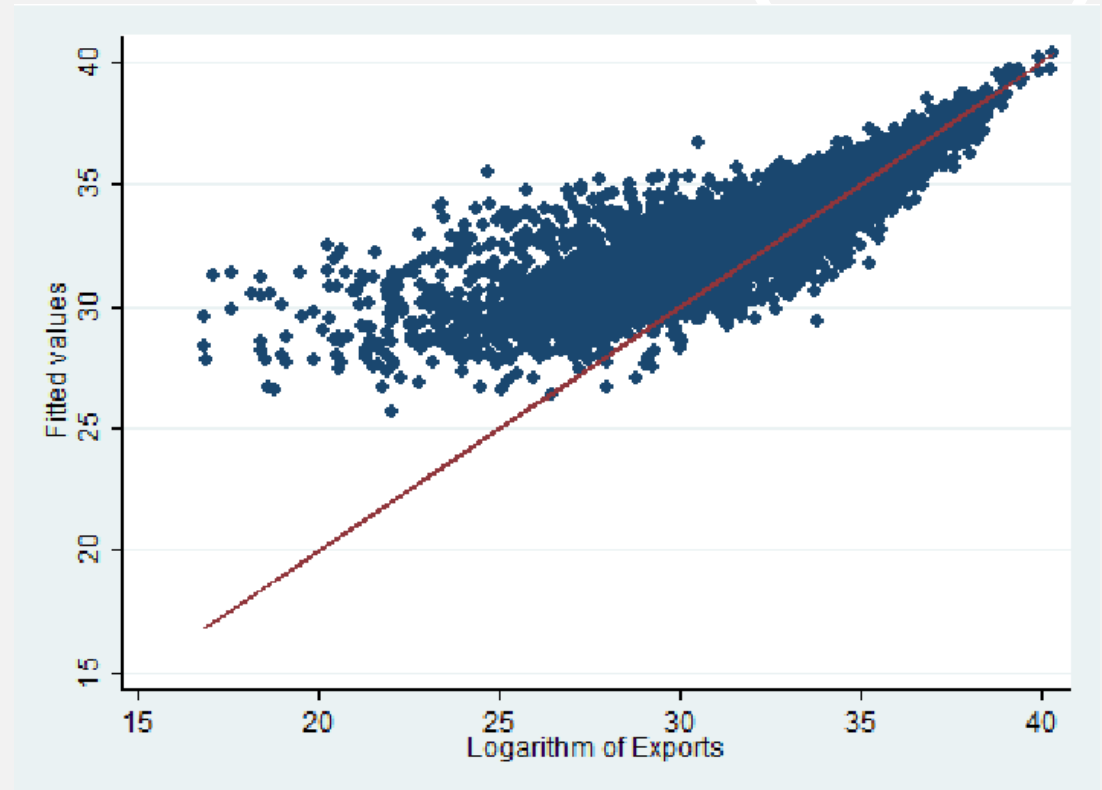
Results
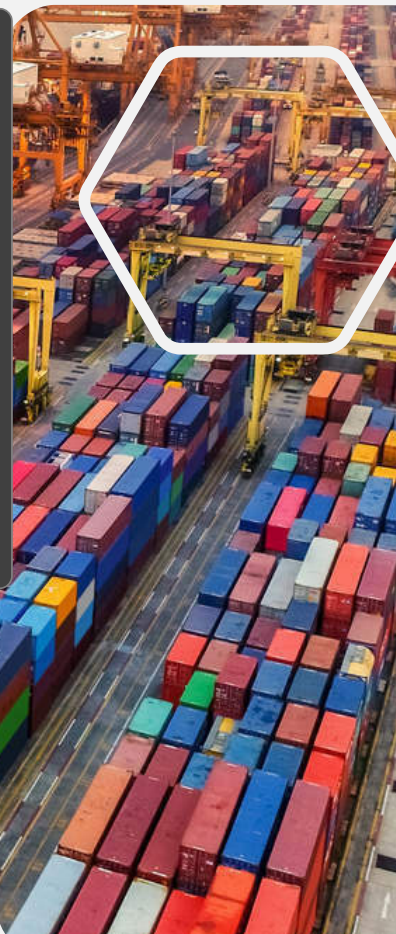
Effects of PTAs on Manufacturing Exports

- AFTA, JPEPA and AKFTA boost Philippine manufacturing exports.

JPEPA

AFTA

AKFTA

66%

181%

34%

Effects of PTAs on Manufacturing Exports

- AANZFTA reduces Philippine manufacturing exports.

- ACFTA and AIFTA both have insignificant effects on Philippine manufacturing exports.

AANZFTA

ACFTA

AIFTA

43%

Key Findings for Specific Sectors

Electronics

AFTA

220%

AANZFTA

45%

Key Findings for Specific Sectors

Machinery and Transport Equipment

AFTA

AANZFTA

564%

60%

Key Findings for Specific Sectors

Food

AFTA

1,290%

AANZFTA

48%

AKFTA

28%

Other Findings

- JPEPA's positive and significant effect on total manufacturing exports is driven by sectors other than electronics, machinery and transport equipment and food.

- PTA effects are significantly lower with partner countries that have higher levels of development.

Developed countries

Developing countries

Conclusion

Conclusion

- Philippine PTAs, particularly AFTA, JPEPA and AKFTA, expand Philippine manufacturing exports, which may be attributed to the fact that ASEAN and Japan are the biggest markets of manufacturing exports from the Philippines.

- PTAs have varying impacts on the different manufacturing sub-sectors in the Philippines.

- The positive PTA effects on total manufacturing exports and exports of the three subsectors are partly dependent on whether the PTA partner is a major trade partner to start with, taking into account the coverage, margins of preference and PTA utilization rates.

Policy Implication

- It is important to consider the volume of exports currently going to potential PTA partners as one of the major factors in pursuing future trade agreements with them.

- The current manufacturing export structure of the Philippines should be complementary to that of the potential PTA partners.

Thank You

References

- Alam, S. (2015). The Effect of Preferential Trade Agreements on Pakistan's Export Performance. *CREDIT Research Paper, No. 15/10*. The University of Nottingham, Center for Research in Economic Development and International Trade (CREDIT).
- Aldaba, R. M., Medalla, E. M., Yap, J. T., Rosellon, M. A., del Prado, F. L., Mantaring, M. C., & Ledda, V. M. (2015). How are Firms Responding to Philippine Free Trade Agreements? *Philippine Institute for Development Studies Discussion Paper Series*(2015-22). Retrieved from https://dirp3.pids.gov.ph/webportal/CDN/PUBLICATIONS/pidsdps1522.pdf
- Anderson, J. E., & Yotov, Y. V. (2016). Terms of Trade and Global Efficiency Effects of Free Trade Agreements. *Journal of International Economics*, 279-298.
- Anderson, J. E., & van Wincoop, E. (2003). Gravity with Gravitas: A Solution to the Border Puzzle. *American Economic Review, 93*(1), 170-192.
- Association of Southeast Asian Nations (ASEAN). (2017). *ASEANstats*. Retrieved from ASEAN: https://www.aseanstats.org/infographics/acpms-2017/
- Baier, S. L., & Bergstrand, J. H. (2007). Do Free Trade Agreements Actually Increase Members' International Trade? *Journal of International Economics*, 72-95.
- Baier, S. L., & Bergstrand, J. H. (2004). Economic Determinants of Free Trade Agreements. *Journal of International Economics*, 29-63.
- Baier, S. L., Bergstrand, J. H., & Clance, M. W. (2018). Heterogeneous Effects of Economic Integration Agreements. *Journal of Development Economics*, 587-608.
- Bekkers, E., Francois, J., & Manchin, M. (2012). Import Prices, Income, and Inequality. *European Economic Review*, 848-869.
- Bergstrand, J. H. (1985). The Gravity Equation in International Trade: Some Microeconomic Foundations and Empirical Evidence. *The Review of Economics and Statistics*, 474-481.
- Bergstrand, J. H. (1985). The Gravity Equation in International Trade: Some Microeconomic Foundations and Empirical Evidence. *The Review of Economics and Statistics*, 474-481.

References

- Bernasconi, C., & Wuergler, T. (2013, October 5). Per Capita Income and the Quality and Variety of Imports. Zurich. Retrieved from https://www.econ.uzh.ch/dam/jcr:00000000-7972-abe4-ffff-fffff35da820/Variety_Quality_Import.pdf
- Borojo, D. G., & Jiang, Y. (2020). The Impacts of Institutional Quality and Business Environment on Chinese Foreign Direct Investment Flow to African Countries. *Economic Research-Ekonomska Istrazivanja, 33*(1), 26-45.
- Centre d'Etudes Prospectives et d'Informations Internationales. (n.d.). *Databases and Models*. Retrieved December 2019, from Centre d'Etudes Prospectives et d'Informations Internationales: http://www.cepii.fr/CEPII/fr/bdd_modele/bdd_modele.asp
- Chaney, T. (2008). Distorted Gravity: The Intensive and Extensive Margins of International Trade. *American Economic Review*, 1707-1721.
- Chang, R., Kaltani, L., & Loayza, N. V. (2009). Openness can be Good for Growth: The Role of Policy Complementarities. *Journal of Development Economics*, 33-49.
- Cheong, J., Kwak, D. W., & Tang, K. K. (2018). The Trade Effects of Tariffs and Non-Tariff Changes of Preferential Trade Agreements. *Economic Modelling*, 370-382.
- Dutt, P., Mihov, I., & Van Zandt, T. (2013). The Effect of WTO on the Extensive and the Intensive Margins of Trade. *Journal of International Economics*, 204-219.
- Ethier, W. J. (1998). The New Regionalism. *The Economic Journal*, 1149-1161.
- European Free Trade Association (EFTA). (2018). *Free Trade Agreement-Philippines*. Retrieved from European Free Trade Association: https://www.efta.int/free-trade/Free-Trade-Agreement/Philippines
- Francis, S. (2015). India's Manufacturing Sector Export Performance: A Focus on Missing Domestic Inter-Sectoral Linkages. *Institute for Studies in Industrial Development*.
- Frankel, J. A., Stein, E., & Wei, S.-J. (1997). *Regional Trading Blocs.* Washington, DC: Institute for International Economics.
- Frankel, J. A., Stein, E., & Wei, S.-J. (1995). Trading Blocs and the Americas: The Natural, the Unnatural, and the Super-Natural. *Journal of Development Economics*, 61-95.

References

- Freund, C., & Bolaky, B. (2008). Trade, Regulations, and Income. *Journal of Development Economics*, 309-321.
- Fulponi, L., & Engler, A. (2013). *The Impact of Regional Trade Agreements on Chilean Fruit Exports, OECD Food, Agriculture and Fisheries Papers, No. 64.* Paris: OECD Publishing. Retrieved from http://dx.doi.org/10.1787/5k3z0kd43z5f-en
- Ghosh, S., & Yamarik, S. (2004). Are Regional Trading Arrangements Trade Creating? An Application of Extreme Bounds Analysis. *Journal of International Economics*, 369-395.
- Head, K. (2003, February 5). Gravity for Beginners. University of British Columbia.
- Hur, J., & Park, C. (2011). Do Free Trade Agreements Increase Economic Growth of the Member Countries? *World Development*, 1283-1294.
- International Monetary Fund. (n.d.). *Direction of Trade Statistics*. Retrieved December 2019, from International Monetary Fund: https://data.imf.org/?sk=9D6028D4-F14A-464C-A2F2-59B2CD424B85
- Irshad, M. S., Xin, Q., Hui, Z., & Arshad, H. (2018). An Empirical Analysis of Pakistan's Bilateral Trade and Trade Potential with China: A Gravity Model Approach. *Cogent Economics & Finance*.
- Krugman, P. (1991). Increasing Returns and Economic Geography. *Journal of Political Economy*, 483-499.
- Limão, N. (2016). *Handbook of Commercial Policy.* (K. Bagwell, & R. W. Staiger, Eds.) Amsterdam: North-Holland Publications.
- Navarette, A. F. & Tatlonghari, V. M. (2018). An Empirical Assessment of the Effects of the Japan-Philippine Economic Partnership Agreement (JPEPA) on Philippine Exports to Japan: A Gravity Model Approach. *Journal of Economic Structures*, 7 (31).
- Panagariya, A. (1999). The Regionalism Debate: An Overview. *The World Economy*, 477-512.
- Perkins, D. H., Radelet, S., Lindauer, D. L., & Block, S. A. (2013). *Economics of Development.* London: W. W. Norton & Company.
- Philippine Exporters Confederation, Inc. (n.d.). *FTA Gateway*. Retrieved December 2019, from Philippine Exporters Confederation, Inc.: http://www.philexport.ph/fta

References

- Philippine National Economic and Development Authority. (2017). *Philippine Development Plan (PDP) 2017-2022 Abridged Version*. Retrieved from National Economic and Development Authority: http://www.neda.gov.ph/wp-content/uploads/2018/01/Abridged-PDP-2017-2022_Updated-as-of-01052018.pdf
- Philippine Statistics Authority. (2019, May). *2018 Annual Estimates Tables*. Retrieved from Philippine Statistics Authority: http://www.psa.gov.ph/content/2018-annual-estimates-tables
- Philippine Statistics Authority. (2020, May 7). *National Accounts*. Retrieved from Philippine Statistics Authority: http://www.psa.gov.ph/national-accounts
- Prehn, S., Brummer, B., & Glauben, T. (2016). Gravity Model Estimation: Fixed Effects vs. Random Intercept Poisson Pseudo-Maximum Likelihood. *Applied Economics Letters, 23*(11), 761-764.
- Rodriguez, F., & Rodrik, D. (2000). Trade Policy and Economic Growth: A Skeptic's Guide to the Cross-National Evidence. *NBER Macroeconomics Annual 15*, 261-325.
- Santos Silva, J. M. C., & Tenreyro, S. (2006, November). The Log of Gravity. *The Review of Economics and Statistics*, 641-658.
- Santos Silva, J. M. C., & Tenreyro, S. (2011). Further Simulation Evidence on the Performance of the Poisson Pseudo-Maximum Likelihood Estimator. *Economics Letters*, 220-222.
- Saucier, P., & Rana, A. T. (2017). Do Preferential Trade Agreements Contribute to the Development of Trade? Taking into Account the Institutional Heterogeneity. *International Economics*, 41-56.
- United Nations. (1990). *International Standard Industrial Classification of All Economic Activities (ISIC) Revision 3, Series M: Miscellaneous Statistical Papers, No. 4 Rev. 3.* New York: United Nations. Retrieved from https://unstats.un.org/unsd/classification/Econ/ISIC#ISIC3
- United Nations Conference on Trade and Development. (2018, July 1). *Beneficiaries of the GSP Schemes*. Retrieved from United Nations Conference on Trade and Development: https://unctad.org/en/Pages/DITC/GSP/GSP-List-of-Beneficiary-Countries.aspx

References

- United Nations Conference on Trade and Development. (n.d.). *What are Non-Tariff Measures?* Retrieved December 2019 from United Nations Conference on Trade and Development: https://unctad.org/en/Pages/DITC/Trade-Analysis/Non-Tariff-Measures/What-are-NTMs.aspx
- United Nations Conference on Trade and Development. (n.d.). *Towards Sustainable Industrialization and Higher Technologies.* Retrieved June 2020, from UNCTAD: https://sdgpulse.unctad.org/industry-and-high-value-added/
- Viner, J. (1950). *The Customs Union Issue.* New York: Oxford University Press.
- Wacziarg, R., & Welch, K. H. (2008). Trade Liberalization and Growth: New Evidence. *The World Economic Review, 22*(2), 187-231.
- Wignaraja, G. (2014). The Determinants of FTA Use in Southeast Asia: A Firm-Level Analysis. *Journal of Asian Economics*, 32-45.
- Winters, L. A., McCulloch, N., & McKay, A. (2004). Trade Liberalization and Poverty: The Evidence So Far. *Journal of Economic Literature*, 72-115.
- Wooldridge, J. M. (2016). *Introductory Econometrics: A Modern Approach* (6th ed.). Boston, Massachusetts: Cengage Learning.
- World Bank. (2018, April 5). *Regional Trade Agreements*. Retrieved from The World Bank: https://www.worldbank.org/en/topic/regional-integration/brief/regional-trade-agreements
- World Bank. (2011, January). *WITS User Manual.* Retrieved from WITS World Integrated Trade Solution: http://wits.worldbank.org/data/public/WITS_User_Manual.pdf
- World Bank. (n.d.). *World Development Indicators*. Retrieved December 2019, from World Bank: http://wdi.worldbank.org/table/WV.1
- World Integrated Trade Solutions. (n.d.). *WITS*. Retrieved June 2020, from World Integrated Trade Solutions: http://wits.worldbank.org/WITS/WITS/Default-A.aspx?Page=Default
- World Trade Organization. (2011). *World Trade Report 2011*. Retrieved from World Trade Organization: https://www.wto.org/english/res_e/publications_e/wtr11_e.htm
- World Trade Organization. (n.d.). *Glossary*. Retrieved December 2019, from World Trade Organization: https://www.wto.org/english/thewto_e/glossary_e/glossary_e.htm
- World Trade Organization. (n.d.). *Regional Trade Agreements Database*. Retrieved April 2020, from World Trade Organization: https://rtais.wto.org/UI/PublicSearchByMemberResult.aspx?membercode=608