Greaney, Theresa M.; Karacaovali, Baybars

Article

Trade, growth and economic inequality in the Asia-Pacific region : lessons for policymakers

Journal of
Economics and Political Economy
www.kspjournals.org
Volume 4 June 2017 Issue 2

Trade, Growth and Economic Inequality in the Asia-Pacific Region: Lessons for Policymakers *

By Theresa M. GREANEY [a]
& Baybars KARACAOVALI [b†]

Abstract. This policy brief is intended to provide policymakers with a summary of the results of our research project entitled "Trade, Growth and Economic Inequality in the Asia-Pacific Region", which explores and documents the linkages between international trade and inequality in the Asia-Pacific Region (APR).The project's eleven research papers appeared in a special issue of the *Journal of Asian Economics* in February 2017. Overall, we conclude that the relationships between international trade, foreign direct investment (FDI), economic growth and inequality are extremely complicated, so no single theory should be relied upon for policy guidance across all APR countries with their varying stages of development and unique characteristics. Our studies find some evidence that trade or FDI contribute to inequality, some evidence that it reduces inequality and some evidence of no causal relationship. These seemingly conflicting results are not at all surprising given the complex relationships involved and the different countries, time periods, and means of measuring inequality, trade and FDI our authors adopted. Our main takeaway for policymakers is to be wary of both anti-trade and pro-trade advocates who provide "one size fits all" advice related to trade, FDI and inequality; these economic relationships are much too complex for that.
Keywords. International trade, Foreign direct investment, Economic growth, Economic inequality.
JEL. F13, F14, F16, F21, F23, J31.

1. Introduction

Pro-trade advocates have focused on theories and measurement of aggregate "gains from trade" for decades, while downplaying trade's distributional effects in creating winners and losers. That tendency has become indefensible in light of the recent backlash against international trade, as seen in the 2016 U.S. Presidential campaign and Brexit referendum. Anti-trade voicesallege that

* We gratefully acknowledge the "Trade, Growth and Economic Inequality in the Asia-Pacific Region"conference sponsor (The Japan Foundation Center for Global Partnership, CGP) and co-sponsors (Keio Economic Observatory, the Ministry of Education, Culture, Sports, Science and Technology's Program for the Strategic Research Foundation at Private Universities, and the University of Hawaii Center for Japanese Studies, College of Social Sciences, and Economics Department) for financial support. We also thank Project Collaborator Kozo Kiyota, Project Manager Jane Martin, CGP Associate Program Officer Lisa Wong, and conference discussants for helping to make this project successful.
[a] University of Hawaii at Manoa, Department of Economics, Saunders Hall 542, 2424 Maile Way, Honolulu, HI 96822, USA.
☎. 808-956-7521
✉. greaney@hawaii.edu
[b†] University of Hawaii at Manoa,Department of Economics, Saunders Hall 542, 2424 Maile Way, Honolulu, HI 96822, USA.
☎. 808-956-7296
✉. baybars.ka@gmail.com

international trade directly contributes to increasing economic inequality, and therefore trade liberalization should be halted or even reversed. Pro-trade voices typically deflect such criticism by pointing to aggregate gains from trade or to other causes of inequality, such as technological change, that may play a larger role. As public concern over inequality has risen thanks to the Occupy Wall Street movement and provocative books by Piketty (2014) and Stiglitz (2012), policymakers are being forced to respond to increasing economic inequality[1] and to defend or reverse past policy choices, such as trade liberalization, that may have contributed to it.

To assist policymakers in making these critical decisions, University of Hawaii economists Theresa M. Greaney and Baybars Karacaovali invited economists from China, Japan, South Korea and the U.S. to participate in a research project entitled "Trade, Growth and Economic Inequality in the Asia-Pacific Region", to explore and document the linkages between international trade and inequality in the Asia-Pacific Region (APR).[2] This policy brief is intended to provide policymakers with a summary of the results of the eleven research papers produced by our project. Overall, we conclude that the relationships between international trade, foreign direct investment (FDI), economic growth and inequality are extremely complicated, so no single theory should be relied upon for policy guidance across all APR countries with their varying stages of development and unique characteristics. Our studies find some evidence that trade or FDI contribute to inequality, some evidence that it reduces inequality and some evidence of no causal relationship. These seemingly conflicting results are not at all surprising given the complicated relationships involved and the different countries, time periods, and means of measuring inequality, trade and FDI our authors adopted. A macro-level approach using Gini coefficients and total trade shares of GDP over time for a country differs tremendously from a micro-level approach where a firm's purchases of imported inputs can be identified separately from the import competition it faces in its product market. Our main takeaway for policymakers is to be wary of both anti-trade and pro-trade advocates who provide "one size fits all" advice related to trade, FDI and inequality; these economic relationships are much too complex for that. To guide policymakers on intricate economic linkages, we emphasize the importance of careful econometric analysis, so that correlated trends are not automatically taken to imply causal relationships, and we emphasize less doctrinaire approaches demonstrated by the willingness of our authors to report and interpret the sometimes conflicting evidence found in their studies, which means adopting a multi-theory approach.

The project papers are organized into four topic areas based on which particular economic relationship is examined. The first two papers focus on the linkages between economic growth and inequality, including discussion of industrialization, deindustrialization, poverty reduction and labor movement from rural to urban sectors. These papers include cross-country comparisons involving many East Asian countries and the U.S. The next set of three papers examines the linkages between international trade and inequality, with two papers focused on South Korea and one on China. The last two groupings of papers explore the complicated relationship between FDI and inequality, with the first three papers focused on home country effects and the last three papers focused on host country effects. Japan and the U.S. are the home countries studied while China and Vietnam are the host countries studied in these FDI and inequality papers. The research findings of the eleven conference papers are summarized below, and appear in a special issue

[1] We use the non-specific term "economic inequality" intentionally to allow for the use of various means of measuring disparities in economic welfare (e.g., inequalities in income, living standards or life expectancy).

[2] The project culminated in a conference at Keio University in Tokyo, May 20-21, 2016. The authors also met for a pre-conference meeting at the University of Hawaii on Jan. 6-7, 2016, to present preliminary results and discuss further research.

of the *Journal of Asian Economics* in February 2017.[3] Of the eleven papers, seven find mixed results regarding the basic question: "does trade (or FDI) increase inequality?", while three conclude there is no significant causal effect, and one provides descriptive evidence on a specific channel through which trade can reduce poverty and inequality.

2. Economic Growth and Inequality

The first paper, "Economic growth and economic inequality in the Asia-Pacific region" (Yang & Greaney 2017) presents our first set of mixed results in examining whether economic growth impacts inequality and vice versa. Authors Yiwen Yang and Theresa M. Greaney investigate short-run and long-run relationships between growth and inequality for four APR economies: China, Japan, South Korea, and the U.S. They find support for the augmented Kuznets curve relating per capita income to inequality with industrialization and deindustrialization forces producing an S-shaped curve over time.[4] Each country's data is used to estimate a unique S-shaped curve, as shown in the figure below. Each country experienced its own unique S-shaped curve over the 1960-2013 period, indicating that growth increased inequality for some period of time and it decreased inequality over another period. For the reverse relationship, the authors find that increased inequality spurred economic growth in China, Japan and the U.S., but it hindered growth in South Korea. The effects of trade on inequality also differed by country over the study period. Trade openness reduced inequality in Japan and the U.S., increased inequality in China and had no significant impact on inequality in South Korea. In other words, this study finds that the causal relationship between trade and inequality can be positive, negative or insignificant depending on which country we examine using macroeconomic data.

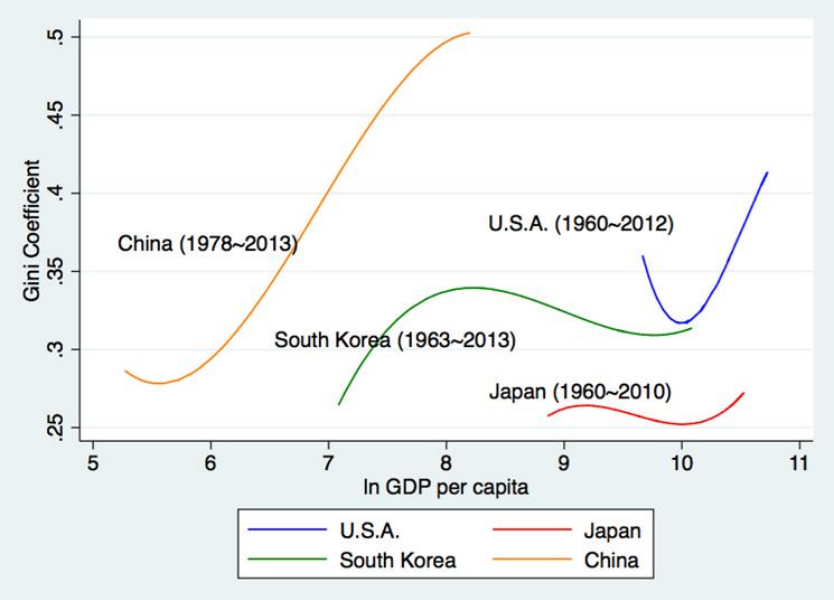

Figure 1. *Projected Relationship between Output Level and Inequality*
Source: Yang & Greaney (2017), figure 2, p.19.

[3] A more technical summary of the papers are presented in Greaney & Karacaovali (2017).

[4] The original Kuznets curve predicted an inverted U-shape as a country industrializes: First experiencing increasing inequality with growth, followed by a declining trend in inequality as growth continues. The early movement out of agriculture and into manufacturing that occurs during industrialization often is followed by a deindustrialization process where the shares of output and labor in manufacturing decline in favor of increased shares of both in services industries. This deindustrialization process is accompanied by a U-shaped decline and then increase in inequality in developed countries. The two processes together form an S-shaped relationship between growth and inequality over time.

Fukunari Kimura and Mateus Silva Chang take a different approach in examining a particular channel through which international trade might impact economic growth. In "Industrialization and Poverty Reduction in East Asia: Internal Labor Movements Matter" (Kimura & Chang 2017) they link trade and international supply chains to intra-national labor mobility and its importance in economic growth and poverty reduction. They document the rapid and inclusive growth that has occurred in ASEAN countries and China since the 1980s. Industrialization has involved population shifts towards urban areas, output shifts away from agriculture and towards manufacturing and/or services, and reductions in poverty for almost all of these countries. They argue that these countries maintained the competitive wages needed to participate in international supply chains through smooth flows of surplus unskilled labor from rural to urban areas. They use Thailand's experience as a case study of this transition, with large labor movements from 1965 until the mid-2000s. They discuss possible reasons why Thailand's internal labor movements have slowed over the last decade despite the persistent, and slightly increasing, gap between non-agricultural and agricultural wages. Contributing factors may include slower economic growth, a quality mismatch between labor demanded in urban areas and available labor supply in rural areas, and inflows of migrant workers from neighboring developing countries.

3. International Trade and Inequality

The papers in this section, and subsequent sections, use microeconomic data, in this case to analyze the wage inequality effects of international trade with two papers on South Korea and one on China. In "Trade, Technology and Within-sector Wage Inequality: the Case of South Korea", Siwook Lee focuses on within-sector wage variation after confirming it to be the main component of wage inequality in Korean manufacturing (Lee, 2017). In other words, hourly wages differ more within industries than across industries. Lee finds that both import penetration and skill-biased technological change contributed to rising within-sector wage inequality.[5] However, he finds no robust effects of other international trade-related measures such as export intensity, offshoring, and inward or outward FDI. After confirming a structural change in the mid-1990's, Lee discovers that none of the inequality determinants are significant for the 1980-1994 period when inequality declined but those mentioned above as significant come into play in the 1995-2012 period when inequality increased. Overall, Lee's study illustrates a case of mixed results and the need for careful analysis of the trade-inequality relationship since the determinants of inequality included import penetration and technological change but only during the most recent period since 1995, and other trade-related measures did not affect inequality in either period.

While Lee focuses on the manufacturing sector, Baybars Karacaovali and Chrysostomos Tabakis include both manufacturing and services industries and employ a panel dataset in the second paper on South Korea, "Wage Inequality Dynamics and Trade Exposure in South Korea" (Karacaovali, & Tabakis, 2017). With their alternative dataset, Karacaovali and Tabakis confirm Lee's finding that overall inequality in South Korea has risen over the 1998-2012 period and that most of the total wage inequality occurs within sectors and educational groups rather than between them. However, in contrast with Lee, they demonstrate that cross-sectoral wage variation and inter-educational wage dispersion both increase substantially between 1998 and the mid-2000s, and modestly decrease afterwards in their particular dataset. Next, Karacaovali and Tabakis analyze whether trade might have played a role in this change. They document that almost the entire aggregate wage inequality in both manufacturing and services occurs within

[5] Lee defines import penetration as the ratio of imports to value-added in an industry and skill-biased technology as information and computer technology capital expenditures per hour worked; increases in the latter are interpreted as changes in technology that favor skilled over unskilled labor.

different trade-exposure categories rather than between them, and that the share of between-trade-exposure category variation is persistent over time. Therefore, they suggest that international trade might not be the main driving force behind rising wage dispersion in South Korea in the last two decades. This paper is the first reviewed thus far to conclude that trade does not appear to drive changes in inequality, at least for South Korea in recent years.

While many papers examine trade's impact on wage inequality by focusing on import penetration ratios, in "Upstreamness, Exports, and Wage Inequality: Evidence from Chinese Manufacturing Data", Bo Chen measures trade exposure using export shares of sales and where a firm is located along the value chain of production (Chen 2017). He also focuses on within-firm wage inequality, while the aforementioned papers focused on within-industry wage inequality. Chen finds that within-firm wage inequality is lower in firms that are further downstream in the production process,[6]which implies that they are engaged in more unskilled-labor-intensive and assembly-type work. He suggests that since unskilled workers gain relative to skilled workers in downstream industries,it provides partial support for the comparative-advantage-based neoclassical trade theory with unskilled labor being an abundant factor in China. However, Chen also finds that intra-firm wage inequality is higher in firms more engaged in exports which is in line with a new trade theory explanation (i.e., heterogeneous firms model) where opening to trade mostly benefits exporters and their skilled labor force.Combining these results, we again see mixed results regarding the trade-inequality relationship, with trade decreasing inequality within firms engaged in more downstream production work while it has an opposite effect on firms more heavily engaged in exporting.

4. FDI and Inequality: Effects on Home Countries

The papers in this section consider different labor market effects of internationalization in developed economies, with two papers on Japan and one on the Unites States. Anti-trade advocates in developed countries often assert that offshoring, or locating parts of the production process in lower-cost countries, necessarily hurts developed country workers, particularly those earning lower wages. These papers set out to examine these claims.

In "ICT, Offshoring, and the Demand for Part-time Workers: The Case of Japanese Manufacturing", Kozo Kiyota and Sawako Maruyama investigate the effects of offshoring and information and communication technology (ICT) usage on the skill composition of labor demand in manufacturing industries for the 1980-2011 period (Kiyota & Maruyama 2017). They find that although offshoring (or outward FDI) increases the demand for high-skilled workers in Japan, it does not affect the demand for part-time workers with low-wages, which they label as low-skilled workers, or for workers with middle-level skills. They also find that industries with higher ICT usage experience increased demand for low-skilled workers and for middle-high-skilled workers at the expense of middle-low-skilled workers. They indicate that these findings combinedare in line with the "job polarization" argument where middle education groups contract while high and low education groups expand in terms of their shares of total costs, contributing to increasing wage inequality in Japan due to technological change, or ICT usage. Kiyota's and Maruyama's results regarding offshoring's impact on inequality are less clear cut than those on technological change, since offshoring only impacted demand for high-skilled workers but had no effect on demand for medium-skilled or low-skilled workers in Japan. For that reason, we categorize their results as mixed regarding the FDI-inequality link.

In the second paper on Japan, "Foreign Direct Investment and Temporary Workers in Japan" Ayumu Tanaka focuses on the effects of Japan's outward FDI in Asia on temporary workers in Japan, who have lower wages and more job

[6] Downstream industries produce goods or service for final consumers while upstream industries produce intermediate inputs that are sold to firms further downstream in the production process.

insecurity than non-temporary workers (Tanaka 2017). The offshoring in Asia is viewed as so-called "vertical FDI", which implies that the main motivation is seeking lower cost inputs for parent companies in Japan. Tanaka finds that a year after the initiation of vertical FDI, the shares of temporary workers in employment and in the total wage bill increase in Japan. However, these effects are temporary and disappear two years after the outward FDI. Temporary workers, also called non-standard workers in Japan, include part-time workers (Kiyota and Maruyama's focus), dispatched workers and day laborers. Tanaka indicates that labor market deregulation in 2004 liberalized the employment of temporary workers through employment services, that is dispatched workers, which became the main driver of the increase in temporary worker employment. Both Japan-focused studies agree that offshoring does not have long-run effects on non-standard workers in Japan. Given Tanaka's focus on temporary workers, his study provides an example of an insignificant link between offshoring and the welfare of domestic workers who typically are among the lowest paid.

In "Import Competition from and Offshoring to Low-Income Countries: Implications for Employment and Wages at U.S. Domestic Manufacturers", Fariha Kamal and Mary E. Lovely analyze the impact of trade and offshoring on U.S. wages and employment using confidential linked firm-level transactions and census data (Kamal, & Lovely, 2017). They focus on comparing domestic firms that do not trade at all with so-called "arm's length importers", which refers to firms that import only from non-affiliated firms abroad. Multinational firms are not included in their study because they want to isolate the effects of offshoring and import competition on domestic employment at firms that do not trade with their own foreign affiliates. Kamal and Lovely find that offshoring to low-income countries reduces U.S. production and nonproduction (i.e., blue-collar and white-collar) employment as well as average production employee wages by a statistically significant but quantitatively small amount. However, no significant employment effects are found for offshoring to non-low-income countries using their broad measure of offshoring. When offshoring is defined narrowly to include only imports of intermediate inputs, they find offshoring from non-low-income countries positively impacts U.S. manufacturing employment and it even leads to a positive effect on average production worker wages. Furthermore, larger import penetration from low-income countries and hence more import competition at the industry level is associated with significant drops in manufacturing production worker employment and in the production to non-production worker wage ratio for arms' length importing firms but has no effect on average wages of production workers in these firms. Interestingly, these significant employment effects from import competition were not found among non-trading firms, nor for import penetration from middle and high-income countries. In sum, Kamal and Lovely find that the impacts of offshoring and import competition on U.S. manufacturing employment and wage inequality between production and non-production workers can be positive, negative or insignificant depending on the type of U.S. firms (i.e., trading firms or not) involved and the source of the imports (i.e., low income countries or not).

5. FDI and Inequality: Effects on Host Countries

The three papers that focus on FDI effects on inequality in host countries all happen to focus not only on developing countries but also on transition economies, with two papers on China and one on Vietnam. In "Multinational Enterprises and Regional Inequality in China", Theresa M. Greaney and Yao Li improve upon past studies seeking to link spatial inequality and FDI in China by using improved measurements of regional incomes and regional MNE activities (Greaney, & Li, 2017). A problem with many past studies of regional inequality in China has been the use of gross regional product per capita data that did not account for millions of migrant workers who have left their city or village of registered residence to work in another location. This leads to undercounting urban populations and

overcounting rural populations, which then inflates the measured gap between urban and rural incomes as measured by regional output per capita. Using provincial average wages, rather than faulty regional output per capita data, they find that interprovincial wage inequality increased slightly from 1999-2003, but has followed a stronger declining trend since then. A similar pattern is found for urban-rural wage inequality across all of the provinces on average, but individual provinces experienced quite different trends over the 1999-2013 study period. Measuring MNE activities using their regional shares of industrial output, the authors find that the urban-rural gap in MNE activities is higher for foreign-owned firms than for overseas-Chinese-owned firms (i.e., owners located in Hong Kong, Macao and/or Taiwan), withboth types of foreign firms becoming more concentrated in urban parts of China over time. They test for a relationship between urban-rural wage inequality and MNE activities but conclude that neither provincial MNE activities nor the concentration of MNE activities in urban areas significantly affect urban-rural wage inequality. The factors driving this type of inequality over recent years appear to be rural-to-urban labor migration and wage growth, both of which contribute towards lowering this type of inequality in China.

In contrast to the Greaney and Li's findings of no significant link between MNE activities and urban-rural inequality in China, John McLaren and Myunghwan Yoo find both positive and negative effects of MNEs on living standards in Vietnam. In "FDI and Inequality in Vietnam: An Approach with Census Data" (McLaren, & Yoo, 2017), they use the number of employees working in MNEs in each province as a measure of regional FDI, and look for relationships with various household-level indicators of living standards (e.g., child mortality, access to electricity, ownership of a TV, radio or flush toilet). Their estimates show small negative effects of FDI for households with no members employed at foreign firms and only modest gains for households that include workers hired by foreign firms. However, they acknowledge that selection effects, whereby more able workers are hired by foreign firms, might help to explain these results. The authors admit that province-level measurements of FDI might be too aggregated to capture FDI effects that are more localized. However, they do find that provinces experiencing increases in foreign hiring also tended to experience large increases in provincial population, suggesting worker migration towards better opportunities. McLaren and Yoo interpret this as indirect evidence of positive effects of FDI on local welfare, while admitting that finding direct evidence of household welfare gains from FDI in Vietnam proved more difficult than finding such gains from increased export opportunities, which has been established by several other Vietnam-focused studies.

The final paper in this project departs from the income and wage inequality of most of the other papers, and from the living standards inequality examined by McLaren and Yoo using a wide variety of indicators. Another indicator of living standards is environmental quality or access to clean air and water. Theresa M. Greaney, Yao Liand Dongmei Tu address issuesrelated to inequality in environmental quality in "Pollution Control and Foreign Firms' Exit Behavior in China" (Greaney, Li, & Tu 2017). They consider whether foreign and domestic firms differ in their responses to pollution control policies in China, specifically the Two Control Zone (TCZ) policy that targets SO_2 emissions. If foreign firms invest in China seeking a pollution haven production location, they may be more likely to exit the market when pollution control policies take effect in some cities in China. However, if foreign firms bring more advanced production technologies to China, they may be less likely to exit than domestic firms when the environmental protection policies take effect. Greaney, Li and Tu find that both foreign firms and domestic private firms are less likely to exit from cities where the TCZ policies went into effect, but firm ownership did not matter for these differential effects. In other words, foreign firms were neither more likely nor less likely to exit from TCZs than domestic private firms. Interestingly, however, this conclusion changes when more firm characteristics are considered. Among firms that export, are large

or have high productivity in TCZs, foreign firm are less likely to exit than domestic firms, while the opposite tendency is implied for non-exporting, small or low productivity firms. These differential results provide support for both the pollution halo and pollution haven hypotheses, thereby illustrating the importance of firm-level characteristics in analyzing the impacts of pollution control policies and in drawing policy implications regarding the desirability of attracting FDI.

6. Conclusions

These eleven research papers together illustrate the complexities involved in the relationships between international trade, economic growth, FDI and inequality. Most of the papers found mixed results, which we interpret as strong evidence that no single theory is sufficient for understanding these linkages. Vocal advocates on either side of the trade debate should resist selectively embracing results that support their viewpoint while ignoring contrary results. The linkages between trade, FDI, growth and inequality may be subtler than many studies imply through simple correlation findings. This suggests the need for further studies along these lines to examine inequality across countries and within industries, firms and regions in particular countries utilizing guidance from trade theories based on comparative advantage, heterogeneous firms and heterogeneous workers. Examining particular channels through which trade or FDI impact growth and inequality presents the best outlook for making progress in our understanding of these fundamental economic development challenges.

References

Chen, B. (2017). Upstreamness, exports, and wage inequality: Evidence from Chinese manufacturing data, *Journal of Asian Economics*, 48, 66-74. doi. 10.1016/j.asieco.2016.11.003

Greaney, T.M., & Karacaovali, B. (2017). Editorial: Trade, growth and economic inequality in the Asia-Pacific region, *Journal of Asian Economics*, 48, 1-5. doi. 10.1016/j.asieco.2016.12.001

Greaney, T.M., & Li, Y. (2017). Multinational enterprises and regional inequality in China, *Journal of Asian Economics*, 48, 120-133. doi. 10.1016/j.asieco.2016.09.003

Greaney, T.M., Li, Y., & Tu, D. (2017). Pollution control and foreign firms' exit behavior in China, *Journal of Asian Economics*, 48, 148-159. doi. 10.1016/j.asieco.2016.10.006

Kamal, F., & Lovely, M.E. (2017). Import competition from and offshoring to low-income countries: Implications for employment and wages at U.S. domestic manufacturers, *Journal of Asian Economics*, 48, 100-119. doi. 10.1016/j.asieco.2016.10.010

Karacaovali, B., & Tabakis, C. (2017). Wage inequality dynamics and trade exposure in South Korea, *Journal of Asian Economics*, 48, 48-65. doi. 10.1016/j.asieco.2016.11.004

Kimura, F., & Chang, M.S. (2017). Industrialization and poverty reduction in East Asia: Internal labor movements matter, *Journal of Asian Economics*, 48, 23-37. doi. 10.1016/j.asieco.2016.10.005

Kiyota, K., & Maruyama, S. (2017). ICT, offshoring and the demand for part-time workers: The case of Japanese manufacturing, *Journal of Asian Economics*, 48, 75-86. doi. 10.1016/j.asieco.2016.10.007

Lee, S. (2017). International trade and wage inequality: The case of South Korea, *Journal of Asian Economics*, 48, 38-47. doi. 10.1016/j.asieco.2016.11.001

McLaren, J., & Yoo, M. (2017). FDI and inequality in Vietnam: An approach with census data, *Journal of Asian Economics*, 48, 134-147. doi. 10.1016/j.asieco.2016.11.002

Piketty, T. (2014). *Capital in the twenty-first century*, Cambridge, MA: Harvard University Press.

Stiglitz, J. (2012). *The price of inequality: How today's divided society endangers our future*, New York, NY: W.W. Norton & Company.

Tanaka, A. (2017). Foreign direct investment and temporary workers in Japan, *Journal of Asian Economics*, 48, 87-99. doi. 10.1016/j.asieco.2016.10.004

Yang, Y.,& Greaney, T.M. (2017). Economic growth and economic inequality in the Asia-Pacific region, *Journal of Asian Economics*, 48, 6-22. doi. 10.1016/j.asieco.2016.10.008