

Transmission Channel of Agriculture Food Import Tariff to Stunting Prevalence

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Abstract: Increases in food prices affect poverty in a way that poor consumer is harmed due to the high proportion of their budget they spent on food. Stunting prevalence might be instigated by several factors such as access to food and nutrition intake, genetic and environment. This research aims to analyse the effect of food import tariffs towards the stunting prevalence of children aged under 5 (five) across districts in Indonesia, and we explore the indirect relationship between stunting prevalence and trade policy. This research uses quantitative descriptive research methods, utilizing both primary and secondary data. Primary data were obtained through the distribution of questionnaires, followed by Focus Group. Secondary data were obtained from relevant institutions such as the Central Statistics Agency, research journals, and related books. The method of data analysis in the study uses quantitative analysis with a mathematical model. The results showed that tariffs can reduce the consumption of foods that serve in the intake of dietary nutrients such as calories, protein and fat. As a result, food intake affects the prevalence of stunting. Trade liberalisation can have a beneficial impact on child health. The effects of trade liberalisation on stunting through the food channel include: a) trade has a significant effect on calorie, protein, and fat intake, b) intake of these nutrients has a significant effect on child stunting.

Keywords: Food Security; Import tariff; Transmission channel; Stunting

Introduction

In the era of globalization, providing and supplying adequate food and nutritious one to household level is challenging to a country, identified the core reason of consumption which related to malnutrition. They state that some people cannot afford enough food because of lack of income source. Increases in food prices affect poverty in a way that poor consumer is harmed due to the high proportion of their budget they spent on food.

Warr, (2005); Yusuf (2013) reports that Indonesia is a larger net importer of food particularly for staples food. Thus, when international food prices increase, it raised poverty incidence within Indonesia. (Kumar & Singh, 2013) examine the socioeconomic inequality in childhood undernutrition in urban India, they found that the decline in the prevalence of stunting is higher among wealthier HH and mother with higher education.

Historical record shows that Indonesia has been a rice importer for at least the past 100 years (Rosner & McCulloch, 2008). The same also for soybean, based on FAO 2007 data, Indonesia has been importing soybean for consumption which accounted for 71% of domestic demand. Moreover, based on their forecasting method found that in 2020 Indonesia's domestic demand of maize, rice and wheat will be satisfied by import. Warr, (2005) indicates that a 90% increase in rice import ban will increase poverty by almost 1% through utilizing a general equilibrium multi-household model in Indonesia.

It cannot be denied that to some extent, the issue of trade is relevant more to economic and political matters so that health issue is far related to trade. The existing trade research is mostly focusing on the impact of trade on economic growth, poverty reduction or child labour such as (Edwards, 1993; Frankel & Romer, (2017);

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Edmonds & Pavcnik (2005); (Coelho, 2011). Other studies have developed an analytical framework which focusing on how the effect of trade to household/individual. (Dollar & Kraay, 2001) have shown in their cross-country analysis that trade lead to faster economic growth and reduce poverty of poor country. Nonetheless, Smith & Haddad (2015) stated that health sector is one of macroeconomic sectors that may be benefited from trade openness.

The impact of international trade on country's achievement in faster reduction of malnutrition and increase calorie intake remains largely overlooked and understudied (Heady et al, 2014). It is also claim that the impact of trade openness on nutrition indicator is rarely investigates (Mary, 2018). With respect to health and nutrition, trade and its impact somehow become a contradictory issue. There are substantial studies either empirical or theoretical which discuss the define area of trade and health, however study of the relation between trade and stunting specifically in one country is rarely found. In this study, we analyse the effect of food import tariffs towards the stunting prevalence of children aged under 5 (five) across districts in Indonesia, and we explore the indirect relationship between stunting prevalence and trade policy.

Several studies demonstrated that trade openness and trade liberalization may affect food security (Dithmer & Abdulai, 2017; Kuncoro et al., 2019) in certain cases, food security outcome is nutrition intake such as calorie and protein consumption. A recent survey of studies in Indonesia also shows that one of the determinants of stunting prevalence is food intake (Beal et al., 2018). Looking at the result of those previous result, it may suggest that trade openness could affect to food consumption and subsequently affect child malnutrition. Therefore, trade effect to stunting prevalence may be present indirectly in which trade effect to stunting is transmitted through food security. Further, the link between trade and child health can be through food security which mean that it may affect child health thru household dietary intake (Dithmer & Abdulai, 2020).

In developing country, food insecurity and malnutrition has become a challenge in which a lot of people still suffer of this condition (Fusco, Collucia, De Leo, 2020). Thus, food security is not only the matters of individual and households, but it is important for national level, where the government hold responsibility to fulfill the food needed in a reasonable price. It is also believed that trade can become the important element in achieving food security in which food trade and trade policy may encourage people either producer and consumer to utilize the available resource economically (Rome declaration, 1996). Therefore, trade can potentially bridge this mismatch and impact a country's

development process, either directly or indirectly, at the macro and micro level.

Stunting prevalence might be instigated by several factors such as access to food and nutrition intake, genetic and environment. The long term of insufficient nutrient intake since conception until 24 months and other infections may causes stunting (Torlesse et al., 2016) and after 36 months of age, it is difficult to reverse the growth of stunting child. Bhutta et al (2008) state that maternal and nutrition intervention for young children is relevant to prevent child stunting. Childhood stunting is one of the overall indicators of children's well-being and it is affecting children globally (De Onis & Branca, 2016). There are number of papers have analysed the determinants causing child malnutrition like stunting and wasting i.e. (De Silva & Sumarto, 2014; Torlesse et al., 2016; Beal et al., 2018).

International trade may impact malnutrition through certain channels. Consequently, the effect of trade liberalization to stunting prevalence is considered to have indirect transmission through food and nutrition intake. This is also reckoned in UNICEF (2013) framework in which trade policy is not directly affected stunting. This is because international trade is fall into socio economic category which is considered as the basic causes of child undernutrition in which its effect is through food insecurity channel as the underlying causes. Thus, the linkages between trade and child health might be expressed indirectly. Based on the previous literatures of the possible relationship between trade and other indicator of health, this study is going to show the indirect relationship of trade and stunting prevalence.

Stunting is related to household poverty because connected to certain aspects such as food access and food availability. Hence, this study is focused on sectors that related to food which is thought that child nutrition comes from food intake. Study that resolves the impact of trade liberalization is still rarely done, particularly in Indonesia at district level. Most of the study that links trade liberalization and child stunting does not find that actually the effect is through food channel in which household food consumption is important.

Method

In theory, the impact of trade liberalization to stunting may occur via many channels. Stunting is the long-term effect of malnutrition thus household income may take effect to stunting by affecting the quantity and the access to food dietary. Figure 1 demonstrate the relation between trade liberalization and stunting prevalence in which food security act as the channel that

show the indirect relation of both factors. Food security in this case is measured in nutrition intake.

The flow of the study is as follows:

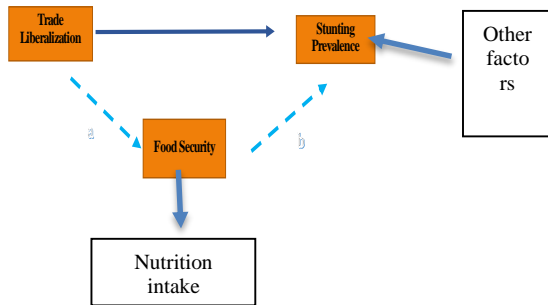


Figure 1. Food security as the transmission channel of the indirect effect from trade liberalization towards child stunting.

This study follows the method develop by Mary (2018) which used two stage square regression. It picture the relation between agriculture trade openness and stunting prevalence. In this study rather than use trade openness, tariff is used to represent trade liberalization. Therefore, the model specification in this study can be presented as below:

$$h = f(FS, NF) \tag{1}$$

$$h = f(FS (f(Tf), BH, EN, EC) \tag{2}$$

$$h = f(FS, BH, EN, EC) \tag{3}$$

Where h is stunting prevalence, FS is food intake (calorie, protein, and fat), NF is other factor than food intake such as BH is aggregate basic health governance (i.e., midwife ration, nutrition status, birth health medic and so on), EN is environment cleanliness (sanitation, safe water) and EC is social and economic factors (education and growth). Moreover, as it is mentioned that stunting prevalence is indirectly affected by trade liberalization (Tf) via food channel.

Trade liberalizations represent as trade exposure in district level (agriculture, food manufacture sectors). Following the model shown above, the transmission of trade and stunting prevalence can be stated as below:

$$Foodsecurity = f(Trade Liberalization) \tag{4}$$

$$Stunting Prevalence = f(Foodsecurity, Basic health, Socioeconomics, Environment cleanliness) \tag{5}$$

Based on the theoretical model noted above, the empirical models that estimated the transmission of trade and stunting prevalence thru food channel is represented below:

$$FS = f(Agriculture tariff_{it}, Food manufacture tariff_{it}) \tag{6}$$

$$SP_{it} = f\left(\begin{matrix} Foodintake_{it}, Healthgovernance_{it}, FemaleEduc_{it}, \\ Growth_{it}, Sanitation_{it}, \mu_i \end{matrix}\right) \tag{7}$$

Whereas stunting prevalence is the indicator of child stunting per district and μ_i is the disturbances term, i is the district and t is the observe time.

Food security is representing in food nutrients consumption per capita per day. This indicator may demonstrate the access and the availability of food to the population and per capita food supplies across districts. BPS (*Statistic Indonesia*) used the level of calorie and protein consumed to express the level of nutritional adequacy which is one of the indicators of population welfare. Meanwhile, the measurement operation of tariff provided here is tariff exposure which following the method of converting national tariff into district tariff (Kis-Katos & Sparrow, 2015). We use 2013 and 2018 data because stunting prevalence and other health data at the district level is only available for those years. Stunting and food intake data is obtained from the Riskesdas (Basic Health Research) and Susenas (National Household SocioEconomic Survey) datasets, and national-level tariffs are obtained from the WITS (World Integrated Trade Solution) UNCTAD Train data.

We use two stage least square estimation because the effect of trade liberalization to stunting prevalence is transmitted thru food consumption which is expressed in nutrient intake. The idea is to capture the effect of trade liberalization to stunting prevalence thru food channel. The two stages in the estimation are as follows:

$$NI_{i,t} = \alpha + \beta_1 TA_{i,t} + \beta_2 TM_{i,t} + \epsilon_{i,t} \tag{1st stage} \tag{8}$$

$$SP_{i,t} = \alpha + \beta_1 NI_{i,t} + \sum \beta_2 X_{i,t} + \epsilon_{i,t} \tag{2nd stage} \tag{9}$$

Remarks:

NI: Nutrient Intake (Calorie, Protein, Fat)

SP : Stunting Prevalence

TA: Agriculture Tariff

TM: Manufacture Tariff

X: Control Variables

We use fixed effect 2sls method to estimate the relationship of stunting and trade liberalization. This is to show that trade liberalization impact to stunting prevalence (SP) via food security which is proxy by the level of nutrient intake per capita per day. Thus, this study attempts to capture and estimate the potential linkage between these variables.

Result and Discussion

Descriptive Statistic

The Table 1 is the real result that has calculated from the data found across the districts. The result shows that the number of districts that suffer for stunting is declining although the percentage of stunting is slightly going down. Although the number of district that level up from one category to next one is increase,

the percentage of stunted is still far from the government target (below 20%) and WHO category. The number of districts with high category of stunting case is still high compare to that of low stunting rate districts. This means

that a prevention of stunting to whole nation is needed in which the intervention is giving to all districts based on each district's rate of stunting.

Table 1. The districts based on the category of stunting prevalence

Categories	Number of districts	2018		2013	
		Average	Number of districts	Average	Number of districts
Low	33	16.94	8	15.98	
Medium	179	25.79	71	26.79	
High	195	34.24	190	35.35	
Very High	90	44.51	228	47.46	
Total	497	31.91	497	39.37	

There are many factors that might affect children's health particularly stunting, however in this study tariff and food security is expected to have association with stunting. It is contributed to the prevalence of stunting in all districts. The relation is showing in the next graphs in Figure 1.

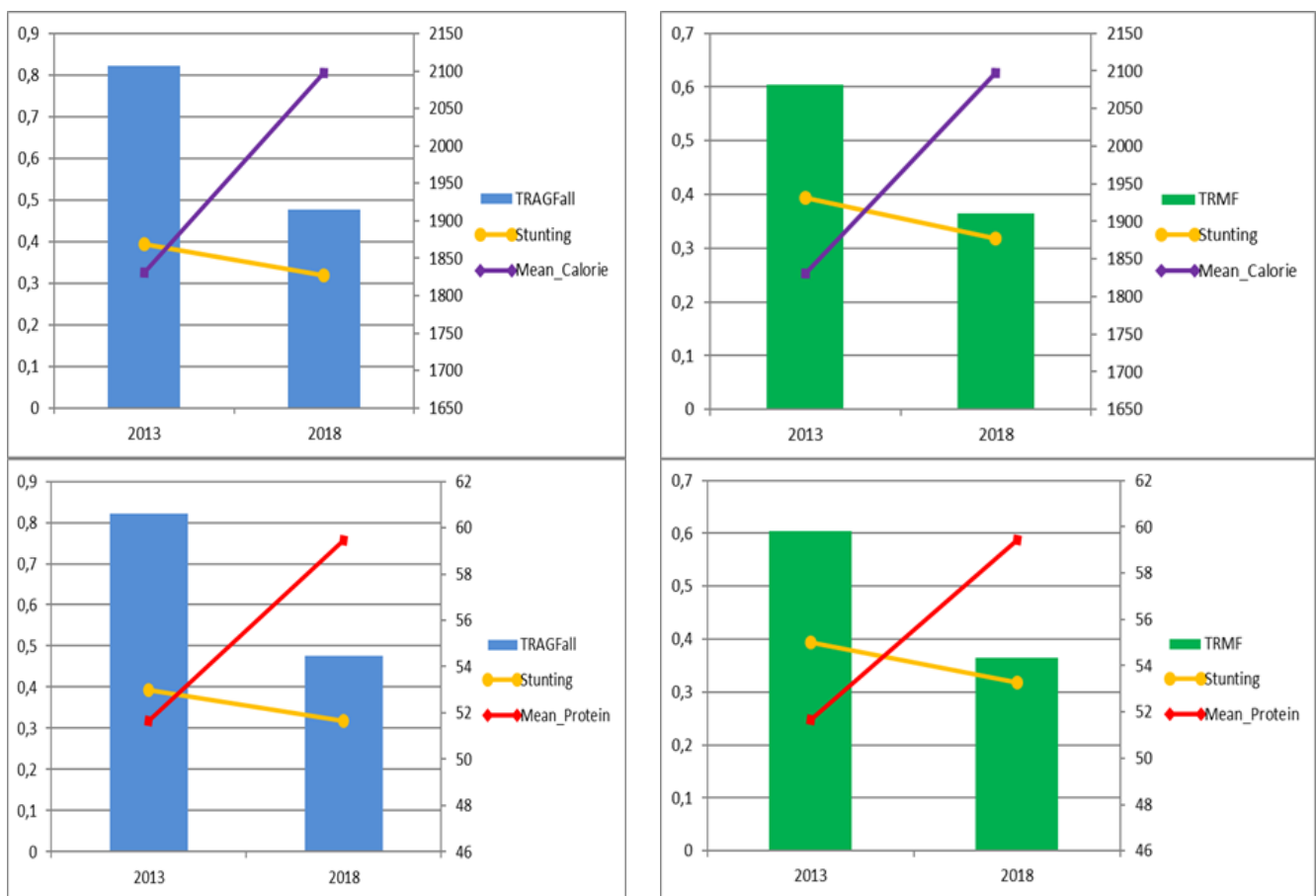


Figure 1. Graphical Presentation of Tariff Exposure and Stunting Based on Nutrients Intake

The relation shows that as tariff decrease, consumption tend to increase gradually particularly for both tariff in which the increasing is steeper for calorie consumption if compared to protein intake. The graphs also show that stunting prevalence and food consumption has adverse relation which means that stunting is decreasing as calorie and protein intake is going up. Thus, tariff exposure decreasing is followed by

the declining of stunting prevalence. From this relation, tariff might associate to stunting prevalence indirectly thru food consumption. It is clearly that as tariff exposure going down, the line of food intake is going up while the line of stunting prevalence is going down.

Econometric Result

Herewith the result after we did the regression, when the variables used are growth,

sanitation, access to save water, women education and midwife ratio as the control variables. The result can be seen in the Table 2.

Table 2. Estimation result of first and second stage of tariff and stunting prevalence

Explanatory Variable	Dependent Variable					
	(1) Stunting	(2) calorie	(3) Stunting	(4) protein	(5) Stunting	(6) fat
calorie	-0.029*** (0.007)					
protein			-1.016*** (0.240)			
fat					-0.659*** (0.155)	
Agriculture Tariff		-274.107*** (41.821)		-7.631*** (1.315)		-9.962*** (1.507)
FManufacture Tariff		-188.563*** (30.374)		-5.469*** (0.955)		-8.598*** (1.095)
growth	0.261 (0.201)	-7.069** (3.406)	0.192 (0.212)	-0.271** (0.107)	0.272 (0.194)	-0.300** (0.123)
Sanitation	0.039 (0.045)	1.365* (0.712)	0.040 (0.046)	0.041* (0.022)	0.034 (0.043)	0.066** (0.026)
Safewater access	0.001 (0.033)	2.106*** (0.415)	-0.001 (0.034)	0.059*** (0.013)	-0.010 (0.032)	0.085*** (0.015)
Women education	24.069 (14.864)	394.885 (252.911)	28.032* (15.568)	15.307* (7.955)	33.705** (15.096)	32.642*** (9.115)
Midwife ratio	-0.068** (0.027)	-0.733 (0.509)	-0.066** (0.028)	-0.018 (0.016)	-0.083*** (0.026)	-0.046** (0.018)
_cons	87.650*** (10.038)	2034.314*** (86.805)	86.380*** (10.168)	56.908*** (2.730)	59.844*** (4.431)	44.934*** (3.129)
No. of Obs.	930	930	930	930	930	930
R-square		0.639		0.601		0.694

Table 2 shows the effect of agriculture and food manufacturing tariffs on stunting prevalence through food channel. Column 1-6 accommodate the transmission of tariff impact to child stunting via food channel with the control variables as mentioned above. The results presented in table 2 shows that the magnitude of the impact of agriculture tariff thru calorie consumption is higher than that of food manufacture tariff. The same also applied in its impact thru protein and fat consumption. In sum, for almost cases the results shows that tariff has negative impact to food consumption in which as tariff increase resulted in the decrease of food nutrient intake which in turn affect to stunting prevalence.

Given the estimation results, the nature of the relation between trade and stunting prevalence is through the channel of food security. It is following the framework given in the previous result that trade liberalization implication to health is beyond certain channel (Blouin et al., 2009; Dithmer & Abdulai, 2020;

Winters et al., 2004). Thus, overall trade liberalization has a positive impact to stunting by increasing food intake. Trade liberalization may reduce the percentage of child stunting in the district. Trade liberalization may ease the worry of the poor in having access to food and the lack of insufficient food by affecting the price and the availability of food supply since the poor spend almost their budget on food.

In addition, Dithmer & Abdulai (2017) used KOF globalization index instead of trade openness, found that globalization is beneficial to child health. It is concluded that openness gives positive and significant impact on child health. The same result is given in this study that tariff contributes to reduce child stunting by affecting the food intake. It is also stated trade liberalization is one factor that may alter diet and nutrition (Blouin et al., 2009) in which nutrient intake is one of the elements that essential to child growth. Tariff increase lead to the reduction of nutrient intake while stunting prevalence decrease if the nutrient intake rise.

This study gives some indication that the pathway by which tariff may affect child stunting indirectly via food channel. Overall, the effect of agriculture tariff exposure to stunting thru food is larger than that of food manufacture tariff. This is might be because the majority of people in Indonesia is reside in rural area which still depends on agriculture sectors. There are many factors that might affect children's health particularly stunting, however in this study tariff and food security is expected to have association with stunting. It is contributed to the prevalence of stunting in all districts. Thus, between tariff and food consumption negatively associate and so does stunting and food consumption. From this relation, tariff have associate to stunting prevalence indirectly thru food consumption.

In comparison to the previous result, this study has shown that there are relation between trade liberalization and stunting prevalence, however, the relation is via food intake. Previous studies shows that household income is play a significant role in explaining the improvement of children health (Mani, 2014). This study prove that nutritious food may decrease the case of child stunting, this suggest that household access to healthy food is essential in providing nutritious food to the family members. Fanzo (2017) states that children is vulnerable to harm from dietary and nutritious status hence they are needed to be protected from food insecure. Accordingly, there are other factors that may affect child stunting such as inadequate food, the level of education and economic growth and other socio economic factors (Desmukh, Sinha and Dongre, 2013). This study, emphasize that other factors for instance basic health (access to safe water, sanitation) and education has effect to stunting prevalence. The other factors are also worth to mention as such not all the factors contributed significantly to stunting prevalence.

Further, nutritious food has impact to stunting prevalence which is in the first stage shows that agriculture and manufacture tariff has impact to calorie, protein and fat consumption. The higher the tariff in this sectors, the lessen the volume of nutritious food consumption. In relation to healthy food intake, people need to fulfil the dietary needed. Household need to have access easily to food particularly staple food and protein. Because of food is human basic need in which healthy food adequacy is important, hence the availability of food itself is becoming the responsibility of the government. Providing enough food and access to food for the household has to be warranted so that when people can afford healthy food, they can meet the dietary needed and feed all the family members. Hence trade policy should not hurt the household especially the poor one. Warr (2011) states that people who are poor is harmed by the food price increase.

This study also confirmed the findings on previous study that there are relation between trade liberalization and dietary energy consumption (Dithmer and Abdulai, 2017) and also lower trade barriers may impact to calorie and protein intake (Kuncoro et al, 2019) which is affect to stunting prevalence. Therefore, this study confirmed that, tariff in agriculture and food manufacture affect to stunting prevalence transmit via food intake channel.

Conclusion

Tariffs can reduce the consumption of foods that serve in the intake of dietary nutrients such as calories, protein and fat. As a result, food intake affects the prevalence of stunting. Trade liberalisation can have a beneficial impact on child health. The effects of trade liberalisation on stunting through the food channel include: a) trade has a significant effect on calorie, protein, and fat intake, b) intake of these nutrients has a significant effect on child stunting.

A beneficial effect of trade liberalisation is increased food availability and household access to food, as food intake is critical to child health. Therefore, flexible policies are needed to make the best tariff decisions for trade liberalisation so as to enrich nutrition and improve child health.

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Author Contributions

MHM: Developing ideas, analyzing data, writing, reviewing, responding to reviewers' comments; JF, ET:, overseeing data collection, reviewing scripts, and writing.

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Conflicts of Interest

The authors declare no conflict of interest.

References

- Beal, T., Tumilowicz, A., Sutrisna, A., Izwardy, D., & Neufeld, L. M. (2018). A review of child stunting determinants in Indonesia. *Maternal and Child Nutrition*, 14(4), 1-10. <https://doi.org/10.1111/mcn.12617>
- Bhutta, Z. A., Ahmed, T., Black, R. E., Cousens, S., Dewey, K., Giugliani, E., Haider, B. A., Kirkwood, B., Morris, S. S., Sachdev, H., & Shekar, M. (2008). What works? Interventions for maternal and child undernutrition and survival. *The Lancet*, 371(9610), 417-440. [https://doi.org/10.1016/S0140-6736\(07\)61693-6](https://doi.org/10.1016/S0140-6736(07)61693-6)

- Blouin, C., Chopra, M., & van der Hoeven, R. (2009). Trade and social determinants of health. *The Lancet*, 373(9662), 502-507. [https://doi.org/10.1016/S0140-6736\(08\)61777-8](https://doi.org/10.1016/S0140-6736(08)61777-8)
- Coelho, K. R. (2011). Identifying telemedicine services to improve access to specialty care for the underserved in the San Francisco safety net. *International Journal of Telemedicine and Applications*, 2011. <https://doi.org/10.1155/2011/523161>
- De Onis, M., & Branca, F. (2016). Childhood stunting: A global perspective. *Maternal and Child Nutrition*, 12, 12-26. <https://doi.org/10.1111/mcn.12231>
- De Silva, I., & Sumarto, S. (2014). Does Economic Growth Really Benefit the Poor? Income Distribution Dynamics and Pro-poor Growth in Indonesia. *Bulletin of Indonesian Economic Studies*, 50(2), 227-242. <https://doi.org/10.1080/00074918.2014.938405>
- Dithmer, J., & Abdulai, A. (2017). Does trade openness contribute to food security? A dynamic panel analysis. *Food Policy*, 69, 218-230. <https://doi.org/10.1016/j.foodpol.2017.04.008>
- Dithmer, J., & Abdulai, A. (2020). Trade openness and child health: a heterogeneous panel cointegration analysis. *Applied Economics*, 52(23), 2508-2525. <https://doi.org/10.1080/00036846.2019.1693018>
- Dollar, D., & Kraay, A. (2001). Growth is Good When average incomes rise, the average incomes of the for the Poor. In *The World Bank Development Research Group Macroeconomics and Growth* (Issue April). www.worldbank.org/research/qgrowth.
- Edmonds, E. V., & Pavcnik, N. (2005). The effect of trade liberalization on child labor. *Journal of International Economics*, 65(2), 401-419. <https://doi.org/10.1016/j.jinteco.2004.04.001>
- Edwards, S. (1993). Openness , Growth Trade in Developing Countries. *American Economic Association*, 31(3), 1358-1393.
- Frankel, J. A., & Romer, D. (2017). Does Trade Cause Growth? *Global Trade*, 1991, 255-275. <https://doi.org/10.4324/9781315254166-11>
- Fusco, G., Coluccia, B., & De Leo, F. (2020). Effect of trade openness on food security in the EU: A dynamic panel analysis. *International Journal of Environmental Research and Public Health*, 17(12), 1-13. <https://doi.org/10.3390/ijerph17124311>
- Kis-Katos, K., & Sparrow, R. (2015). Poverty, labor markets and trade liberalization in Indonesia. *Journal of Development Economics*, 117, 94-106. <https://doi.org/10.1016/j.jdeveco.2015.07.005>
- Kumar, A., & Singh, A. (2013). Decomposing the Gap in Childhood Undernutrition between Poor and Non-Poor in Urban India, 2005-06. *PLoS ONE*, 8(5). <https://doi.org/10.1371/journal.pone.0064972>
- Kuncoro, A., Mansury, Y., Patunru, A. A., & Resosudarmo, B. P. (2019). Do Trade Reforms Promote Nutritional Status? Evidence from Indonesia. 143-161. https://doi.org/10.1007/978-981-13-6268-2_7
- Population, S., Review, D., & Dec, N. (1996). The Rome Declaration on World Food Security. *Population and Development Review*, 22(4), 807. <https://doi.org/10.2307/2137827>
- Rosner, L. P., & McCulloch, N. (2008). A note on rice production, consumption and import data in Indonesia. *Bulletin of Indonesian Economic Studies*, 44(1), 81-92. <https://doi.org/10.1080/00074910802001595>
- Smith, L. C., & Haddad, L. (2015). Reducing Child Undernutrition: Past Drivers and Priorities for the Post-MDG Era. *World Development*, 68(1), 180-204. <https://doi.org/10.1016/j.worlddev.2014.11.014>
- Torlesse, H., Cronin, A. A., Sebayang, S. K., & Nandy, R. (2016). Determinants of stunting in Indonesian children: Evidence from a cross-sectional survey indicate a prominent role for the water, sanitation and hygiene sector in stunting reduction. *BMC Public Health*, 16(1), 1-11. <https://doi.org/10.1186/s12889-016-3339-8>
- UNICEF. (2013). *Improving Child Nutrition: The achievable imperative for global progress*. UNICEF.
- Warr, D. J. (2005). "It was fun...but we don't usually talk about these things": Analyzing sociable interaction in focus groups. *Qualitative Inquiry*, 11(2), 200-225. <https://doi.org/10.1177/1077800404273412>
- Winters, L. A., McCulloch, N., & McKay, A. (2004). Trade liberalization and poverty: The evidence so far. *Journal of Economic Literature*, 42(1), 72-115. <https://doi.org/10.1257/002205104773558056>
- Yusuf, A. M. (2013). *Metode penelitian kualitatif, kuantitatif dan penelitian gabungan (Pertama)*. Renika Cipta.