ANALYSIS OF DETERMINANTS OF INDONESIAN AGRICULTURAL EXPORTS*

by Lilik Sugiharti

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ANALYSIS OF DETERMINANTS OF INDONESIAN AGRICULTURAL EXPORTS*

Lilik Sugiharti [1], Rudi Purwono [2], Miguel Angel Esquivias [*3]

[1,2,3,4] Universitas Airlangga, Jl. Airlangga No.4, Surabaya, Indonesia 60286

E-mails: [1] lilik.sugiharti@feb.unair.ac.id ; [2] rudipurwono@feb.unair.ac.id ; [3] miguel@feb.unair.ac.id (Corresponding author)*

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Abstract. This paper analyses determinants of agricultural exports and imports from Indonesia, including a set of demand and supply factors capturing effects of income, market size, prices, tariffs, exchange rates and variables related to logistics, competitiveness, trade policy, and innovation. A specific focus is on trade creation and diversion effects possibly arising as Indonesia experienced a deep liberalization of markets through the implementation of multiple Free Trade Agreements (FTAs). A gravity model helps to analyze the determinants of trade and the impacts of the various trade agreements, applied to two categories of agricultural exports: raw goods and food. The dataset comprises 50 countries with data on exports and imports from 2007 until 2017. The results find trade creation effects for both categories, with larger effects in exports within agricultural raw goods, and higher trade creation effects through imports in food. Indonesia also experienced trade expansion with non-free trade partners, suggesting that demand variables (e.g., income, market size, sophistication) are a more critical driver of growth rather than agreements. Price factors affect agricultural goods, with food products experiencing elastic price demand, while raw goods are affected by prices and exchange rate. Gains in competitiveness, logistics performance, and innovation is supporting agricultural exports (imports as well), although Indonesia is behind most of its trade partners. The current implementation of the FTA should be critically evaluated concerning food products as imports have expanded more rapidly than exports, and domestic goods may have experienced pressure from liberalization.

Keywords: Agricultural Trade; Gravity Model; Trade creation and trade diversion effects; GMM

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JEL Classifications: C23, F10, F14

Additional disciplines (besides field of economics reflected in JEL classifications): economics; agriculture; internationsl trade

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1. Introduction

This study analyses the determinants of agricultural exports from Indonesia, distinguishing two categories: agricultural raw materials (Agro raw hereafter) and food processing. Data covers the years 2007 to 2017, capturing exports and imports of Indonesia with 50 partner countries, of which 23 have a Free Trade Agreement (FTA) in place, and the rest (27) do not have active FTA. The period is of importance, considering five reasons. 1) The rapid rise in agricultural exports as new markers emerge (e.g., China, India, Sheperd, 2019). 2) A change in consumer behavior in both emerging countries (as income increased rapidly) and in advanced ones (Sun & Li, 2018). 3) Major technological changes that allows more extensive trade in processed food (Athukorala & Jayasuriya, 2003). 4) Large shocks in prices, global demand, and exchange rate during the period of study (Hegerty, 2016). 5) Indonesia experienced a broad liberalization in trade, moving from 10 FTA agreements in place in 2007 to 23 by the end of 2017.

Developing countries have emerged as new markets for agricultural goods and as new competitors in the global food supply, shaking the structure of markets (Jongwanich, 2009; Villoria, 2019). Indonesia alone reported an increase from US$23 billion in agricultural exports in 2007 to nearly US$50 billion in 2017, turning agricultural exports into a new source of growth for the country. Indonesia's agricultural raw exports expanded at 3.3% compound average growth (CAGR), more than double the CAGR for global exports of agricultural raw goods at 1.2%. Exports of food from Indonesia were notably faster as they grew 8.8% CAGR from 2007 to 2017, twice the global growth rate of 4.4% CARG.

In addition to Indonesia being among those active emerging markets taking larger shares in the global food supply (Jongwanich, 2009; Villoria, 2019), the country also shifted its pattern of agricultural exports by increasing both the share of food exports to total exports by 10%, and increasing the value of food exports faster than that of raw materials. A decade before, agricultural exports were mainly agricultural raw materials.

On the other hand, a volatile exchange rate, significant fluctuation of prices, and global demand seems to affect exports of agricultural commodities (raw or minimally unprocessed) in a more significant way than for food (which often has lower price elasticity), particularly for emerging countries (Baiardi, Bianchi, & Lorenzini, 2015). Main agricultural goods and raw exports of Indonesia experienced negative effects due to high volatility in exchange rate (Sugiharti, Esquivias, & Setyorani, 2020). Agricultural goods also face lower income elasticity, making them more sensitive to global shocks. As an example, the price of crude palm oil (CPO), the largest agricultural export product from Indonesia, recorded a price Index equal to 112.5 in 2006. Two years after, in 2008, the index increased to 227 and reached its peak in 2011 at 257. By 2015, the index price of CPO collapsed to 145 (Serrano & Pinilla, 2010). In contrast, imports dominated by sugar and cereals experience significant volatility, particularly sugar products, suggesting that agricultural trade is sensitive to price volatility.

While trade liberalization has penetrated a large number of sectors under manufacturing, agriculture is a sensitive and often an excluded sector (Anderson, Rausser & Swinnen, 2014), protected by tariffs and non-tariff barriers, and frequently subsidized by governments (Serrano & Pinilla, 2010). Nevertheless, in recent years, Indonesia has entered into a broader trade integration (beginning in the late 2000s) by removing a number of barriers and lowering tariffs that could allow the country greater access to new markets and to play a more important role in global exports (Villoria, 2019). Liberalization also imposes more considerable competition from foreign goods at home (Dai, Yotov, & Zylkin, 2014).

In the line of the literature of exports demand and the recent development of the market for agricultural products, this paper looks at the role played by supply and demand factors in shaping the demand for agricultural exports and imports from Indonesia. While demand function for exports (imports) is mainly related to incomes (at higher level) and to a lower degree to prices (Serrano & Pinilla, 2010), this study also includes factors related to distance,

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indexes capturing logistic performance (LPI), human development (HDI), competitiveness (GCI), innovation (GII), and governance (GI), plus factors related to prices including the consumer price index (CPI), tariffs, and exchange rates. Also, facilitation in trade and removal of barriers to trade (liberalization of markets), often reflected in the existence of Free Trade Agreements (FTAs), are included in the model to measure the possible trade creation, expansion, or diversion effects arising from trade liberalization. The set of factors allows the capturing of multi-resistance terms, an essential challenge in gravity models.

The study includes Agricultural Materials categorized under SITC under codes (0+1+2 – 27 -28 + 4), and further categorized into two groups 1) Agricultural Raw Materials and 2) Food products. The distinction is proposed as literature suggests that income and price elasticity differ between raw goods and processed goods (food), and other factors are also expected to be different depending on the nature of the goods (Hayakawa, Ito, & Kimura, 2016). Distance, logistics, competitiveness, innovation, and governance indexes may reflect important differences in the role they play to promote deeper integration into the global agricultural chain.

2. Literature Review

This section offers evidence on studies addressing export/import demand employing gravity models, as well as offering evidence of variables employed in empirical models, likely to influence the pattern of agricultural trade from Indonesia. The main intention is to provide support for the model proposed in this paper, as well as to highlight empirical gaps in the literature, related to the object of this study.

In the literature on trade creation and diversion employing gravity models, the logic implies that trade is driven by demand-side factors as income, prices, exporter production capability, and trade costs often associated with distance (Urata & Okabe, 2010). Trade creation and trade diversion effects complement free trade agreements, a concept introduced by Viner (1950). Trade creation describes how having a free trade deal could lead to a substitution of goods previously imported from non-member countries, by products from within new country members. The switch to cheaper goods from inside country members could lead to a more efficient allocation of resources and possible welfare gains. By contrast, trade diversion is the effect where goods from outside the bloc substitute intra-bloc goods (FTA members).

Nevertheless, while trade agreements are likely to help expand trade (Lee & Oh, 2019), not all agreements offer evidence of trade creation (Ghosh & Yamarik, 2004), and some deals are instead mixed in dimension (Anderson & Yotov, 2016; Kohl, Brakman, & Garretsen, 2016; Urata & Okabe, 2014), suggesting the need to look at specific country-time-industry-agreement effects. While trade agreements could lead to large trade effects, the welfare repercussions may be less substantial (Shepherd, 2019). In addition, FTAs could lead to stronger trade creation for imports than for exports, while diversion effects could be stronger (and increasing) for domestic trade (Dai et al., 2014).

Different sorts of factors can play a role in intensifying or lessening the demand for goods. Factors like lower tariffs and fewer barriers to trade promoted through FTA agreements could support lower trading costs and tentatively, promote more substantial trade. Nevertheless, the literature suggests the presence of heterogeneity effects across agreements, across countries and across sectors. Specifically, Baier, Yotov and Zylkin (2019) offer evidence of four sources of heterogeneous effects on FTA agreements. Firstly, countries with high barriers previous to the signature of the FTA deal have larger potential gains. Secondly, countries with relatively lower market power grant relatively smaller allowances when signing FTA deals. Thirdly, countries with prior trade agreements in place may tend to have lower effects in successive deals. Fourthly, FTA deals tend to be weaker for further away partners (harder coordination or cultural affinity). In addition to mixed results found within the agreements and across partners (Baier et al., 2019), Anderson and Yotov (2016) note the presence of *phasing-in* trade effects as agreements may take time before they affect supply and demand. The different factors suggesting

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heterogeneous results open a gap for empirical research when dealing with a specific country -Indonesia-, different agreements in place, and specific sectors and product groups within agriculture, where so far there is no conclusive evidence on trade effects.

As an example, Urata and Okabe (2010) found more frequent trade diversion effects among developing countries, highlighting that the tariffs imposed on non-members could be a driver of diversion effects. Other studies at the commodity level (dairy products), as that of Schaak (2015), find larger trade creation in imports than in exports, advising a more critical evaluation of policies for countries playing essential roles in global supply that can lead to volatility in global prices. Other studies suggest that latecomers to FTAs (as in the case of Indonesia) may have lower potential benefits from trade agreements (Anderson & Yotov, 2016). The large concentration of Indonesia in few strategic goods (at a global level), as in the case of rubber goods, Crude Palm Oil (CPO), paper products, cork & wood, shrimps, and coffee, among others, opens a gap for empirical analysis.

Nevertheless, studies within the Association of Southeast Asian Nations (ASEAN) find evidence of net trade creation within agricultural trade as a result of the integration of markets (Shepherd, 2019; Korinek & Melatos, 2009). Other studies with the largest partners of Indonesia in Asia (Japan and China) also suggest gains, at least at the regional level. As an example, Szalanczi and Trinh (2017) find trade creation and higher levels of intra-regional trade as a result of the ASEAN-Japan Comprehensive Economic Partnership (AJCEP). Yang and Martinez-Zarzoso (2014) also find that FTAs in nearby countries (China) contributed to trade expansion both for members and non-members and partners.

Besides estimating trade creation and diversion effects, empirical literature covers multilateral-resistance factors (MR) that can explain the degree of gains/losses, both captured by non-time and time-varying aspects, often introduced as treatments. In gravity models, trade cost is associated with distance and coordination costs (Bergstrand, Larch, & Yotov, 2015). A number of empirical studies suggest a negative impact between distance and trade (e.g., Magerman, Studnicka & Van Hove, 2016). Other studies suggest a negative relationship between distance and trade as it could be associated with sensitivity to trade policy, higher coordination costs or weaker cultural affinity (Baier et al., 2019).

In the literature of determinants of agricultural trade, income often appears as the primary driver of trade (Baiardi et al., 2015; Serrano & Pinilla, 2010). Together with income, market size (population) is often associated with purchasing power or a proxy for demand. In Sasaki (2015), a high population growth rate is associated with larger trading flows driven by consumption growth, especially under free trade agreements that offer large scope in liberalization. A larger GDP and a greater similarity between countries, is associated with a larger probability of trade creation (Baier & Bergstrand, 2004; Baier et al., 2019).

In this study, the effect of demand is expected to be large, firstly because the GDP of the main export destinations of Indonesian goods is large (particularly that of the US, Japan, Singapore and Korea) and, secondly, as income is growing quickly among new partners in the developing world (India and China). Nevertheless, the GDP factor is expected to be lower for agricultural raw goods than in manufacturing goods, as noted in Urata and Okabe (2014).

Together with income, prices are also important determinants of exports. Lower prices, a favorable exchange rate and stable prices could be a driver of more significant exports. Serrano and Pinilla (2010) find larger agricultural exports in periods of less volatility, although this is a rather small positive factor. On the other hand, while exchange rate depreciation could lead to lower prices of exports and increasing export flows (Baek, 2014; Bahmani-Oskooee and Aftab, 2017), it could also be associated with higher transaction costs and for instance, with lower trade. Volatility in the exchange rate could also affect exports (Asteriou, Masatci, & Pılbeam, 2016; Sugiharti, et al. 2020). Prices affect goods within agriculture in a different way, as price elasticity within processed food is often lower than for commodities (raw), as found in Baiardi et al., (2015). The role of price

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elasticity, tariffs and exchange rates seems to affect commodities more sharply than food, while non-price factors tend to have a more significant effect on the trade of food products. Processed food faces lower price elasticity in demand for exports and higher income elasticity, while the opposite is proposed for commodities (Baiardi et al., 2015); however, at the disaggregated product level and for more prolonged periods, elasticity may tend to be similar. In previous years, price distortions and multiple government interventions to reduce negative impacts due to high volatility (Pieters & Swinnen, 2016) suggest the importance of price stability for both domestic and international trade of food.

Tariffs are also employed as a standard control variable in gravity models, with evidence of significant adverse effects on trade flows (Ando & Urata, 2007). Nevertheless, Urata and Okabe (2014) find that tariffs could still lead to trade diversion effects, more for manufacturing than for agricultural goods (often excluded from RTAs). As noted in Fugazza and Maur (2008), tariffs are essential components of trade agreements, but other factors may also play a role in trade effects (e.g., trade facilitation and non-trade barriers), especially when tariffs reach low levels. Nevertheless, tariffs and trade relations may require time before bringing benefits (Lin, 2018) and effects may experience diminishing benefits as the trade relation matures (Baier et al., 2019; Ghosh & Yamarik, 2004).

Empirical studies observing effects on trade due to transportation costs conclude that improvements in the logistics index could lower transportation costs, driving positive effects in trade expansion (Hoekman & Nicita, 2010; Saslavsky & Shepherd, 2014). Available high-quality logistics services are likely to influence the volume of trade, both in exporting and in importing countries (Gani, 2017). In the ASEAN region, Korinek and Melatos (2009) suggest potential gains in agricultural trade as a result of improvements within logistic performance in the region. Although, Hummels (2007) and Disdier and Head (2008) argue that transportation costs have not fallen as much as expected, meaning that even higher logistic performance may not necessarily mean massive cuts in transportation costs. The mixed evidence opens a gap for empirical findings.

The type of trade agreements also offers evidence of heterogeneous effects (Urata & Okabe, 2014). In countries like Indonesia, where most of the trade agreements are under the umbrella of regional deals (mainly under ASEAN), trade may face both creation and diversion effects. While standard trade provisions could be drivers of trade, more current provisions are not always favorable (Kohl et al., 2016). Although more recently bilateral Trade Agreements have flourished in Indonesia as they require fewer coordination efforts versus multilateral deals (Urata & Okabe, 2010), new agreements are more sophisticated and more profound, going beyond tariff reduction-removal (Fugazza & Maur, 2008). So far the largest trade growth of Indonesia is under the ASEAN Plus Six Trade agreements (Padilla, Handoyo, Sugiharti, & Muryani, 2019).

A final note on control variables covers global competitiveness, innovation, human development and governance. Studies such as that of Llatja (2015), find a positive relationship between foreign investment inflows and trade, often related to innovation, higher competitiveness and transparency. Erkan (2015) also notes a positive relationship between trade and innovation, concluding that increases in the innovation index lead to larger trade flows. In a gravity model conducted for Central and Eastern Europe (CEECs), it was shown that human development (HDI) is also possibly associated with trade flows (Cieślik, Michalek & Mycielski, 2016). However, while human development can support growth, other studies suggest unidirectional effect from trade liberalization to human development, but not necessarily the other way around (Mustafa, Rizov & Kernohan, 2017), opening an empirical question for this study. Another country-specific effect is derived from the role of institutions, with negative impacts on trade under unstable economic and political environments (Kuncic, 2013), and positive ones when institutions are well in place (Campi & Dueñas, 2019). Although Indonesia reports considerable improvements over the past years in the above indicators, the country runs behind in competitiveness-related indicators versus main trading partners, as in the Global Competitiveness Index (GCI), Logistic Performance Index (LPI) and Global Innovation Index (GII) (see Table 2).

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A large number of agreements are in place in Indonesia. However, it is still an empirical question if the agreements have benefited or affected the trade pattern and the trade balance. While some studies present evidence of less than a third of total FTAs signaling positive effects to trade (Kohl, 2014), other sources are more optimistic, presenting nearly 38.5% of deals as being positive to trade (Baier et al., 2019). Serrano and Pinilla (2010) attributed the significant expansion of agricultural trade mainly to income growth, while prices and exchange rates played a smaller role, and trade cost and liberalization may not have been the main drivers of trade. The implementation of trade agreements and the proliferation of multiple RTAs supported the expansion of regional agricultural trade in cases like Europe (Serrano & Pinilla, 2010), but does the research does not offer evidence on the impacts on the Indonesian case.

3. Methodology

This paper applies a gravity model employing a data panel incorporating country- and time-specific effects (Urata & Okabe, 2014), and country-pair fixed effects (Baier & Bergstrand, 2007). The attention focuses on agricultural trade, disaggregating goods into two main groups: agricultural raw goods and food products. This research follows the structural gravity model proposed by Anderson and Van Wincoop (2003) in which trade flows are represented as a function of income, prices and relative trade cost among country partners, often reflected as multilateral resistance terms (MR). The MR captures some of the changing conditions of the exporter and importer partners at a country-specific and time-specific level (Feenstra, 2015).

This study follows the proposed methodology of Martinez-Zarzoso, Felicitas and Horsewood (2009), where individual bilateral fixed effects and country-and-time effects are introduced in panel data structures to address the endogeneity issue. As noted in Carrere (2006), panel data estimations are more reliable than OLS, as the latter tend to over(under) estimate effects. In addition, MR-terms at country-specific (Fixed effects) suggests the need to employ panel datasets rather than time series.

Considering the presence of endogeneity problems in the data, a Generalized Method of Moment (GMM) is selected as a suitable approach (Martinez-Zarzoso et al., 2009; Schaak, 2015). Trade data at commodity level is employed to avoid mis-estimation of effects arising from aggregation. A significant challenge in gravity models is how to account for unobserved multilateral resistance and how to account for unobservable endogeneity. For instance, the model proposes a set of variables to capture MR effects. For the demand side, the real GDP and the market size (population) allows the capturing of effects related to the importer's capability. An additional set of variables considers an interaction between demand and supply (relative role), mainly through index variables proxying efficient logistics (Logistic Performance - LPI), Human Development (HDI), distance, Global Competitiveness (GCI), Global Innovation (GII), and public policy - Government (GI). The interaction arises as the performance of both exporter and importer together determine trade flows. The GDP of the exporter country gives information on domestic demand, production capability and income, likely affecting trade flows positively. Three variables capture the effects of prices; these are applied tariffs, Consumer Price Index (CPI) and Exchange Rates. A dummy variable captures whether country pairs have an FTA in place (one) or not (zero). The FTA dummy variable captures the effects on trade creation and diversion, as a way of addressing having (or not having) a trade deal affects / benefits trade flows, both for exports and imports.

Data

The study includes a total of 50 countries, from which 23 have FTA agreements with Indonesia, and 27 did not have FTA in place with Indonesia before the end of 2017. The 23 countries under FTA are: ASEAN (Brunei, Cambodia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam); East Asia (China, Japan, Korea, Rep,); South Asia (Bangladesh, India, Pakistan); Others (Australia, Egypt, Iceland, New Zealand,

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Nigeria, Norway, Switzerland and Turkey). The study covers the period from the year 2007 to 2017. Agricultural exports are further aggregated within two main groups: agricultural raw materials and food.

The variables in the model include: The Human Development Index (HDI) whose value ranges from 0 to 1 (highest). The Logistics Performance Index (LPI) ranges from 1 to 5 (highest). The Global Innovation Index (GII) ranges from 0 to 100 (highest). The Global Competitiveness Index (GCI) ranges from 1 to 7 (highest). The Governance Index (GI) goes from -2.5 to 2.5, with higher values representing better performance. The Relative Consumer Price Index (CPI) among countries is adjusted by the exchange rate. Real Exchange Rate (ER) between partners. LPI, HDI, GCI, GII, Tariff, and GI are computed as an average bilateral index among partners.

Model Specification

This section describes the model adapted from the general gravity equation. Within the gravity model, trade flows between countries are expected to be positively related to income and size of the importing country, and negatively related to a set of factors reflecting the costs. A considerable cost may be linked to production, transportation, coordination and other sets of the cost associated with distance, trade performance, competitiveness and innovation, among others.

The model is estimated, including a time dimension. Xijt is the exports (imports) from the country of origin i to country destination j at time t expressed in current USD $. Data for each of the different groups (r) is run independently, namely: Total Agricultural trade, Agricultural Raw goods, and Food. The model is linearized by taking natural logs (Ln), except for the indexes and tariff variables.

$$lnExp^{r}_{ijt} = \beta_1 lnExp^{r}_{ijt-1} + \beta_2 lnGDPi_{jt} + \beta_3 lnPop_{ijt} + \beta_4 LPI_{ijt} + \beta_5 HDI_{ijt} + \beta_6 lnDist_{ijt} + \beta_7 GCI_{ijt} + \beta_8 GII_{ijt} + \beta_9 Tariff^{r}_{ijt} + \beta_{10} GI_{ijt} + \beta_{11} CPI_{ijt} + \beta_{12} ER_{ijt} + \beta_{13} FTA_{ij} + \varepsilon_{ij} \quad (1)$$

$$lnImp^{r}_{ijt} = \beta_1 lnImp^{r}_{ijt-1} + \beta_2 lnGDPi_{jt} + \beta_3 lnPop_{ijt} + \beta_4 LPI_{ijt} + \beta_5 HDI_{ijt} + \beta_6 lnDist_{ijt} + \beta_7 GCI_{ijt} + \beta_8 GII_{ijt} + \beta_9 Tariff^{r}_{ijt} + \beta_{10} GI_{ijt} + \beta_{11} CPI_{ijt} + \beta_{12} ER_{ijt} + \beta_{13} FTA_{ij} + \varepsilon_{ij} \quad (2)$$

Where *ln* denotes variables in natural logs, Exp_{ijt} denotes bilateral exports from *i* (*Indonesia*) to country *j* in period *t* in current thousand US$. Imp_{ijt} denotes bilateral imports from country *j* to country *i* (*Indonesia*) in period *t* in current thousand US$. The subscript *j* includes 23 trade partner countries in the free trade agreement with Indonesia and 27 of Indonesia's most significant trading counterparts. *t* captures time from the year 2007 to 2017. $lnGDPi_{jt}$ indicates Real GDP of country *i* and *j* years in year *t* (USD), in natural logarithms (*ln*). $lnPop_{ijt}$ denotes total population of country *i* and *j* in year *t*. LPI_{ijt} indicates the Logistic Value Performance Index, HDI_{ijt} signifies the value of the Human Development Index, $LnDist_{ij}$ captures the distance between countries *i* and *j*, GCI_{ij} records the Global Value of Competitivity Index of partners (*i* and *j*) in year *t*. GII_{ij} represents the value of the Global Innovation Index of countries *i* and *j* in year *t*, $Tariff_{ij}$ *signifies the average tariff rate in the country i* from *j* in year *t* for a specific sector *r*. GI_{ij} is the Institution Value Index between country *i* and *j* in year t. CPI captures the Consumer Price Index adjusted by exchange rate among partners *i* and *j*. EX represents the bilateral exchange among partners *i* and *j*. FTA_{ijt} is a dummy variable that takes the value of 1 if Indonesia and the partner are on a trade agreement, and it takes the value of 0 (zero) if the opposite is true. The effect of trade creation occurs if the coefficient of this variable is positive and significant, while there is trade diversion if the coefficient of this variable is negative and significant.

The $\beta_1 - \beta_{13}$ represents the *slope*, while ε is the *error* term.

This model assumes a dynamic relationship in the dependent variable, meaning the presence of a lag on exports and imports where the regression models are influenced by both the current period and the previous one (*t-1*),

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known as distributed lag models (Gujarati & Porter, 2009). Furthermore, dynamic adjustment analysis is better using panel data. According to Baltagi (2008) *Dynamic panel data model* is shown as follows:

$$y_{it} = \delta_{i,t-1} + x_{1it}\beta + u_{it} \; ; = 1,..., N \; ; t=1,2,...,T \qquad (3)$$

in which δ is a scalar and x_{1it} is a matrix measuring 1 x *K*, and β is a *K* x sized matrix 1. It is assumed that the u_{it} follows the one-way component model as follows:

$$u_{it} = \mu_i + v_{it} \qquad (4)$$

μ_i is the individual effect assumed μ_i~N $(0, \sigma 2 / \mu)$ and v_{it} is the error term assumed to be v_{it}~N $(0, \sigma 2 / \mu)$, where μ_i and v_{it} are mutually independent.

The panel data model that includes the lag of the dependent variable as a regressor within the regression as trade is likely to be related to previous flows. The lag causes endogeneity problems but the Generalized Method of Moments (GMM) overcomes this problem (Baltagi, 2008). Also, it is possible to address the endogeneity of the explanatory variable by introducing instrumental variables or by a differential fixed effect model as FTA terms tend to be correlated with the error term (Baier & Bergstrand, 2004). To avoid serial correlation on error terms, a fixed effect model is more efficient than instrumental variables (Baier & Bergstrand, 2007; Powers, 2007).

GMM System (SYS-GMM)

The GMM system is applied to deal with unobserved heterogeneity by applying a set of treatment variables. This paper follows the specifications in Blundell and Bond (1998), as well as those in research papers such as that of De Benedictis, De Santis & Vicarelli (2005) and Martinez-Zarzoso et al., (2009). The core of the GMM method is estimating a system of equations at first difference level by employing a different instrument for each equation. The instrument used at the level is the first difference lag. The GMM System employs a combination of instruments in the form of levels in the first difference equation and the instrument in the form of first difference in level equations. Misspecification in the estimators is lower employing the GMM System.

4. Results

Exports of Agricultural goods increased from US$23.8 billion in 2007 to US$49.3 billion in 2017, a 107% growth. The most significant expansion of exports was registered to FTA partners (363.8% growth). During the period of analysis, five large countries were incorporated as trade partners: Japan in 2008, India in 2010, and Pakistan, Bangladesh and Egypt in 2011. Agricultural raw materials and food experienced a large expansion of trade with strategic trade partners and a shift of markets formerly from non-FTA to FTA partners.

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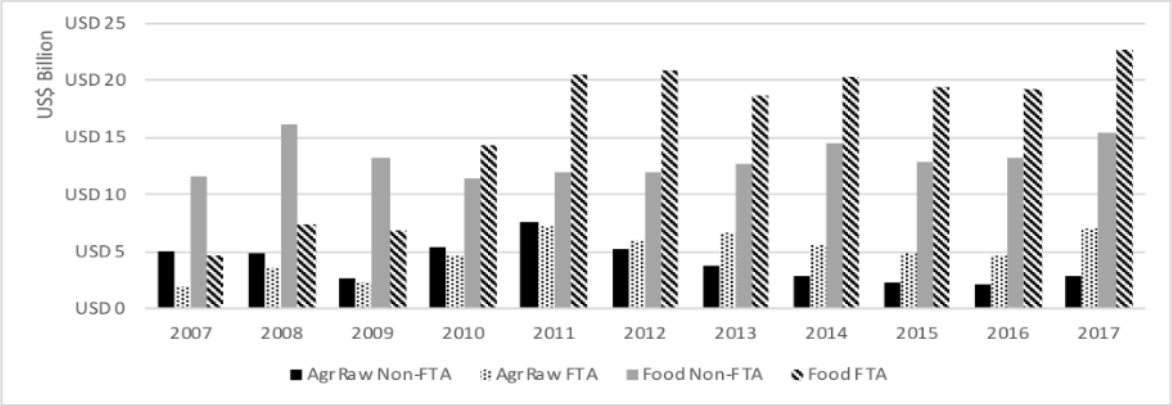

Fig 1. Exports to FTA and non-FTA Countries (2007 – 2017) (US$ Billion).
Source: Annual Data retrived from International Trade Centre (Trade Map), processed by author.

Table 1. Exports and Imports from Indonesia (Billion US$) Selected Years

	Exports						Imports					
	2007	2011	2017	Growth 07-17	CARG	% Share	2007	2011	2017	Growth 07-17	CARG	% Share
Total Agricultural Raw	**7,1**	**15,3**	**10**	**42,6%**	**3,3%**	**20,6%**	**2,6**	**5,7**	**5,1**	**95%**	**6%**	**21%**
Cork and wood	0,6	0,8	1,1	89%	6%	11%	0,1	0,1	0,3	133%	8%	6%
Anim/vegetable matter	0,2	0,3	0,5	130%	8%	4%	0,1	0,1	0,2	193%	10%	4%
Rubber	4,9	11,8	5,6	13%	1%	55%	0,3	1,0	0,8	197%	10%	15%
Hide/skin/fur, raw	0,0	0,0	0,0	-71%	-11%	0%	0,0	0,0	0,0	106%	7%	0%
Pulp and waste paper	1,1	1,6	2,4	127%	8%	24%	1,0	1,8	1,8	72%	5%	35%
Textile fibres	0,4	0,8	0,6	69%	5%	6%	1,1	2,6	2,0	80%	6%	40%
Total Food	***17***	***33***	***39***	***134%***	***8,1%***	***79,4%***	***7,9***	***16,7***	***18,6***	***137%***	***8%***	***79%***
Animal feed	0,3	0,5	0,6	87,6%	5,9%	1,5%	1,1	2,2	2,9	156%	9%	16%
Animal oil/fat	0,0	0,0	0,0	50,3%	3,8%	0,0%	0,0	0,0	0,0	62%	5%	0%
Animal/veg oils	0,9	1,6	3,4	290,6%	13,2%	8,7%	0,0	0,1	0,1	233%	12%	1%
Beverages	0,0	0,1	0,1	470,3%	17,1%	0,3%	0,1	0,1	0,1	81%	6%	1%
Cereals	0,2	0,4	0,7	359,4%	14,9%	1,9%	2,0	5,1	4,1	102%	7%	22%
Coffee/tea/cocoa/spices	2,0	3,3	3,6	77,1%	5,3%	9,1%	0,2	0,7	1,0	314%	14%	5%
Dairy products & eggs	0,1	0,1	0,1	-19,7%	-2,0%	0,2%	0,9	1,2	1,0	11%	1%	5%
Fish/shellfish/etc.	2,1	3,2	4,2	100,4%	6,5%	10,7%	0,1	0,3	0,3	455%	17%	2%
Fixed veg oils/fats	9,4	20,3	21,6	128,4%	7,8%	55,1%	0,0	0,1	0,1	173%	10%	0%
Live animals except fish	0,0	0,1	0,1	56,7%	4,2%	0,2%	0,2	0,3	0,5	128%	8%	3%
Meat & preparations	0,0	0,0	0,0	-25,2%	-2,6%	0,0%	0,2	0,3	0,6	238%	12%	3%
Misc food products	0,5	1,6	2,0	261,7%	12,4%	5,1%	0,3	0,7	0,8	193%	10%	4%
Oil seeds/oil fruits	0,0	0,1	0,0	23,9%	2,0%	0,1%	0,6	1,5	1,6	192%	10%	9%
Sugar/sugar prep/honey	0,1	0,2	0,2	146,1%	8,5%	0,6%	1,1	1,9	2,6	137%	8%	14%
Tobacco/manufactures	0,4	0,7	1,1	168,3%	9,4%	2,9%	0,3	0,6	0,6	143%	8%	3%
Vegetables and fruit	0,5	0,8	1,4	176,8%	9,7%	3,5%	0,7	1,5	2,2	195%	10%	12%
Growth	**23,8**	**48,1**	**49,3**	**107%**	**7%**	**126%**	**10,5**	**22,4**	**23,7**	**127%**	**8%**	**61%**

Source: Annual Data retrived from International Trade Centre (Trade Map), processed by author.

Among agricultural exports, food products experienced the most substantial growth with 133% expansion and accounting for more than 80% of total agricultural exports. In the years 2011 and 2012, agricultural exports

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reached a historical high, although exports fell in the following years amid low prices, particularly within agricultural raw materials (in line with Esquivias, 2017).

Agricultural Raw materials (Agro raw hereafter) experienced significant fluctuation in exports, reaching its peak in 2011 (US$15.2 billion), its lowest point in 2016 (US$6.9 billion), and recovered to US$10.15 billion in 2017. By the end of 2017, Agro raw material exports accounted for 20.6% share of total agricultural exports from Indonesia, down from the 30% it accounted for in 2007. Within agricultural raw, 90% of the exports were represented by rubber materials (US$5.6 billion), pulp and paper (US$2,4 billion), and cork & wood (US$ 1 billion). Rubber and paper experienced an average CAGR growth rate of 7.9% and 7.7%, respectively, from 2007 to 2017 (see Table 1). Other goods, such as hides and skin materials, by contrast, collapsed at CARG -10% a year. Agricultural raw goods experienced a sharp impact due to global commodity prices and sluggish global demand. Food exports, by contrast, experienced constant growth, although there was a slowdown from 2012 to 2015. As noted in Baiardi et al., (2015) agricultural raw goods tend to experience higher competition and higher exposure to prices as it faces higher price elasticity compared to processed food (lower price elasticity of exports). Also, agricultural goods face higher income elasticity, making it more sensitive to global shocks, as opposed to food.

In both agricultural materials and food, Indonesia has a net surplus. Nevertheless, imports have been rising faster than exports. In agricultural raw materials, imports are concentrated in textile fibers, pulp, and rubber, while in food products there is significant concentration in cereals, feeds, sugar, vegetables and fruit (see *Table 1*). Four food import categories had expanded more than 200% during the period (double-digit CAGR); animal and vegetable oils (233%), coffee/tea/cocoa/spices (314%), fish (455%), and meat (238%).

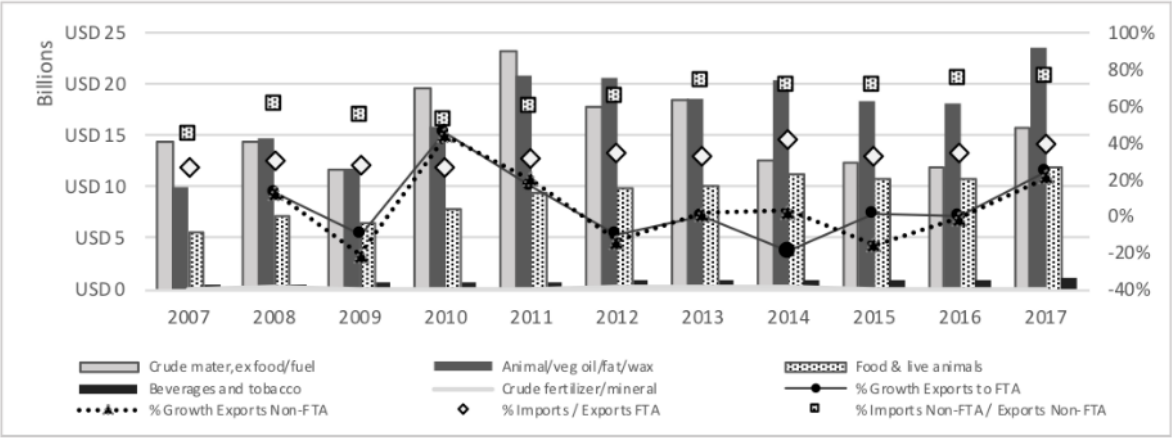

Fig 2. Total Exports per sub-category, rates of growth, and share of imports to exports
Source: Annual Data retrived from International Trade Centre (Trade Map), processed by author.

Note. 1) Exports of Crude materials, Animal/Vegetable oils/fats/wax, Food & live animals, and Beverages and tobacco indicated in USD $ billion (left axis). 2) % Growth Exports to FTA partners, % Growth Exports to non-FTA partners, Percentage of Imports from FTA partners to Exports to FTA, and % of Imports from Non-FTA to Exports to non-FTA are indicated in percentage terms in the right axis.

Table 2 illustrates, firstly, the position of Indonesia relative to the main nine trading partners. The colored cells denoted that Indonesia underperformed versus its trade partners (worsened its position). As an example, in 2017, the GDP of Indonesia was 11% that of China's GDP, and the population was 19% relative to China's total population. In GDP growth, China expanded more than Indonesia (colored cell), while in terms of population, Indonesia expanded more rapidly, although in both indicators China is far larger than Indonesia (89% larger GDP, and 81% larger population).

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Table 2. Indonesia relative to Top Trade Partners. Percentage 2017, Indonesia as reference point

	China	India	Japan	Korea	Malaysia	Netherlands	Pakistan	Singapore	United States	Indonesia
GDP	11%	41%	18%	81%	299%	119%	453%	352%	6%	100%
Population	19%	20%	208%	513%	835%	1541%	134%	4704%	81%	100%
LPI	82%	87%	75%	80%	87%	71%	102%	72%	75%	100%
HDI	92%	108%	76%	77%	87%	75%	123%	74%	75%	100%
GCI	92%	100%	84%	91%	89%	81%	125%	81%	79%	100%
Tariff	84%	82%	190%	41%	87%	282%	54%	3012%	231%	100%
GII	57%	85%	55%	52%	70%	48%	86%	51%	49%	100%
GI	10%	44%	3%	4%	5%	5%	-7%	2%	3%	100%
Price Index	119%	89%	137%	126%	119%	128%	91%	126%	126%	100%

Source. *GDP, Population, Logistic Performance Index, Human Development Index, Tariff, and Governance Index (retrived from World Bank, World Development Indicator). Distance retrived from indonesia.distanceworld.com. Global Competitiveness Index retrived from World Economic Forum. Global Innovation Index retrived from globalinnovationindex.org.*
Note. The relative size of Indonesia versus main trade partners. The colored cells denote that Indonesia underperformed versus its main trade partners during the 2007-2017 period (worsened its position).

In terms of GDP, Population, LPI, HDI, and GCI, Indonesia improved significantly versus most of its top partners. Nevertheless, it has lower LPI, HDI, and GCI indexes versus most of the trade partners, meaning that it has lower competitiveness in transportation, human development and global competitiveness (except for Pakistan). It is noticeable that in GII and GI all top trade partners did better than Indonesia, similar to prices where Indonesia's price Index increased faster (deteriorated) than its partners (except versus India and Pakistan). Currencies studied showed the following results: Indonesia (-32% depreciation versus 2007 level), China (-39%), Japan (-35%), Korea (-17%), Malaysia (-15%), Netherlands (-17%), and Singapore (-37%) weakened versus the US Dollar, while only India (8%) and Pakistan (19%) strengthened versus USD 2007 level.

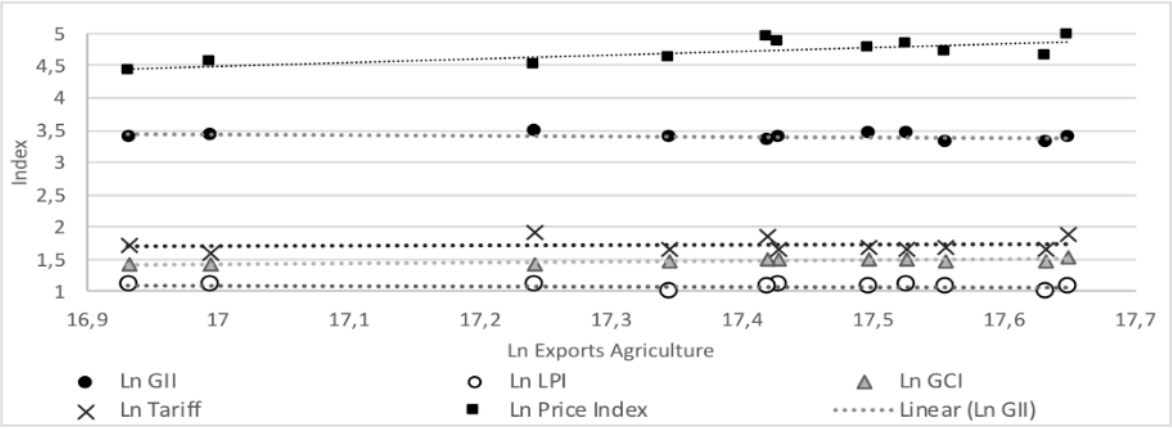

Fig. 3. Selected Indicators (Index) versus Ln Exports of Agriculture

Note. Indicators for Indonesia. Global Innovation Index (GII), Logistic Performance Index (LPI), Global Competitiveness Index (GCI), Average Tariffs, Exports of Agriculture (Ln)

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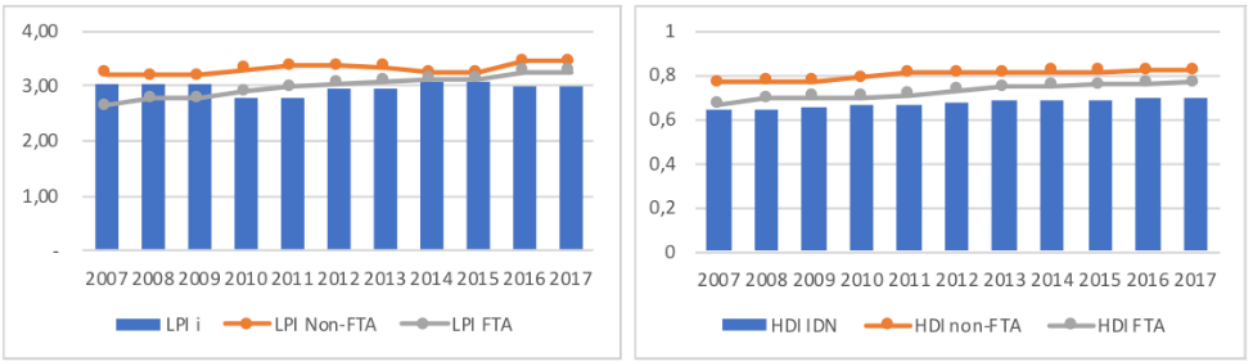

Fig. 4. Logistic Performance Index (LPI) and Human Development Index (HDI) of Indonesia versus Non-FTA partners and FTA-Partners.
Source: Annual Data retrived from International Trade Centre (Trade Map), processed by author.

Determinants of Agricultural Trade

The results of the model are significant for most of the variables, both for the different determinants, as well as for trade creation/ diversion effects (FTA dummy variables) for exports and imports. The results in *Table 2* display aggregated agricultural exports, and results based on disaggregated data in two groups: raw products and food. A first point to note is that estimators based on aggregate or disaggregate data give a different result, suggesting more precise estimations at a more disaggregated level.

Determinants for Exports

For agricultural exports, several indicators that could proxy the role of demand signal a positive effect on agricultural exports. The lagging exports variable, the GDP_j of the importing country, and the population are all positive and significant, suggesting an active role of demand in agricultural exports from Indonesia. The lagging exports variable and the GDP_j of the importer are relatively similar for agricultural raw and food exports, while the population variable signals a larger marginal effect for exports of agricultural raw goods, reflecting the role large countries play. Four large nations import nearly 65% of Indonesia's raw goods (China, India, Japan and the United States).

In 2007, the accumulated GDP of Indonesia's FTA partners accounted for only 10% of global GDP (US$5.66 Trillion). By 2017, the share increased to 38%, meaning that new agreements help to increase the market size (US$25 Trillion). In 2007, the population of FTA partners accounted for 32% of the global population. By 2017, the share increased to 71%, meaning that new agreements helped to increase the market size from 1.64 billion people to more than 4 billion.

The lagging variable for exports (*Lag Export*) signals that shipments from previous years (historical trade and relations) play an essential role in explaining current exports. Food has the most robust coefficient (0.690), followed by Agricultural Raw materials (0.616). A high lagging variable can denote particular concentration of markets, strong links with partners, and growing demand. A large lagging export variable also indicates a relatively low change in the pattern of exports as regards export destinations. The top main partners of 2007 are the same as in 2017. A few changes include the lower share of the North American market (from absorbing 20% of total raw goods to only 11%) and Singapore (from 5% to 1%). India and China significantly expanded their trade with Indonesia.

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Another interesting finding is that the variables capturing the logistics (LPI), human development Index, and the Global Competitiveness Index are all positive, suggesting that the larger the average Index, the larger the flow. All three indicators (LPI, HDI, and GCI) have a strong role in explaining trade flows. Both Indonesia and its main partners significantly improved in the three indexes. Nevertheless, in most indexes, Indonesia underperforms versus its trade partners.

The coefficient of distance has a negative relationship with trade, meaning that the greater the distance, the lower the exports, in line with trade theory and close to those findings in Baier et al. (2019). The coefficient of distance for food is larger than that of agricultural raw goods, explaining the nature of food goods where freshness is essential, proximity is key, logistics are more complicated (costly), and access to raw materials is crucial. ASEAN plus six strategic regional partners (India, China, Japan, South Korea, Australia and New Zealand) account for 52% of food exports.

As for supply variables (besides possible effects captured in LPI and HDI Indexes), the variables related to global competitiveness GCI for Indonesia are positive and significant, suggesting that the more competitive the country becomes, the larger the export flows. Within food products, logistics tend to be more complex, offering more substantial potential with transportation and infrastructure (logistics) improvements. The GCI for the importer has a reinforced effect with the partner country for agricultural raw goods but has an opposite direction in the case of food. While exports of raw goods are more directed to developing countries, food has the largest markets among more advanced countries (nearly 40%).

In 2007, the Logistics Performance Index (LPI) of Indonesia was 3.01, and by 2017 it had reached 2.98. The ratio of Indonesia's LPI to that of its partners fell from 1.14 in 2007 to 0.97, meaning that the FTA partners became more competitive than Indonesia. In 2007, the HDI index of Indonesia was 0.642, increasing to 0.694 by 2017. On the other hand, the average HDI in the World increased from 0.642 to 0.764. The ratio of Indonesia's HDI to that of its FTA partners fell from 0.96 in 2007 to 0.91, meaning that FTA partners increased their HDI more than Indonesia.

The coefficient of GDP_i for Indonesia capturing local purchasing power or production capability is negative, indicating that the larger the Indonesian GDP, the lower the exports, perhaps signaling the increase in local demand (volume and perhaps prices) with the domestic market competing for exports.

Tariffs have a positive effect, opposite to the theory. In reality, tariffs with some partners experienced periods of increasing rather than decreasing over time. A possible explanation is that although tariffs increased, export flows did not decrease. Also, in products with low price elasticity, increases in tariffs are often passed to consumers. Tariffs were mechanisms imposed by some trade partners to lower increasing imports from Indonesia (i.e., CPO in India, Pakistan, among others).

Prices captured by the CPI index are harmful for both groups, suggesting that agricultural exports are price elastic as the change in volume is affected on a larger scale by the change in price. Agricultural raw goods have a significant adverse effect of -1.027, suggesting that a 1% change in price could lead to a decrease in exports by 1%. Food, by contrast, has a coefficient of -1.527, signaling a much larger effect (1.5 times) on volumes over a change in prices. Nevertheless, agricultural raw goods are more exposed to changes in prices, not always captured by the CPI indicators as commodities are not always represented in the reference baskets of goods. As indicated in the variable of exchange rate for agricultural goods, the coefficient is negative for raw goods and positive for food (opposite somehow to CPI effects). A possible explanation is that raw goods are mainly commodities in nature and for instance have larger price elasticity reflected in more significant fluctuations in volume as a result of a change in prices and variations in exchange rates (Baiardi et al., 2015; Serrano & Pinilla, 2010). In commodities, competition tends to be more in prices and less in differentiation. Food, on the other hand, has lower price

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elasticity (generally) suggesting that higher exchange rates (appreciation of the currency) lead to larger flows of goods (price transfer to buyers not to producers.)

In line with the findings of (Wang & Reed, 2014) Indonesian food products (shrimp) are price elastic, a situation that causes pressure as main competitors face lower price elasticity as products are more differentiated and offer higher quality.

The variables capturing trade creation indicate a positive and significant value, meaning that having an agreement has positively supported exports to FTA partners, rather than lowering the rates of growth by being substituted by other partners. Trade creation impacts through exports are nearly four times larger in agricultural raw goods than in food, meaning that having FTA deals supports the exports of raw goods more than for food. Nevertheless, the dummy variable capturing non-FTA partners (*FTA2*) increased to a larger extent than those for FTA partners (*FTA1*), indicating both trade creation with partners and trade expansion with non-FTA trade partners. From 2007 to 2017, agricultural exports shifted from 71% share of exports initially to non-FTA partners, to only 34%. Exports to non-FTA (as a group) fell by 2.1% (CAGR) while exports to FTA partners increased 363.8% (CARG). In value terms, exports increased with both.

Table 2. GMM System Estimation Results (Exports)

Variabel	Exports				Imports		
	Agricultural	Agr_Raw	Food		Agricultural	Agr_Raw	Food
Lag Export	0,549***	0,616***	0,690***		0,519***	0,869***	0,177***
GDP*i*	-0,4766***	-0,865***	-0,213***		-0,585***	-2,269***	-2,052***
GDP*j*	0,166***	0,122***	0,101***		0,072**	0,055***	0,111**
Population*ij*	0,747***	1,204***	0,480***		0,847***	0,211***	2,094***
LPI*ij*	1,751***	2,047***	1,166***		2,701***	0,476***	4,448***
HDI*ij*	1,032***	5,199***	1,054***		2,891***	0,719	5,617***
Distance*ij*	-0,399***	-0,219***	-0,394***		0,003	-0,079***	0,315*
GCI*ii*	0,192***	6,452***	4,830***		0,442***	6,603***	9,456***
GCI*ij*	-0,457**	0,309**	-0,407*		-0,016	1,832***	1,451*
Tariff*ij*	0,347***	0,127**	0,534***		0,415***	0,327***	-0,319**
GII*ij*	-0,456***	-1,396***	-0,316**		0,228	-0,328*	0,803*
GI_{ij}	-0,038***	0,149***	-0,028***		0,088***	-0,162***	0,072***
CPI_{ij}	-0,385***	-1,027***	-1,527***		-0,396***	-0,342***	-0,579
$Exchange\ Rate_{ij}$	0,829*	-0,025**	0,032***		-0,030**	-0,023*	-0,240***
FTA1	1,109***	1,713***	0,480**		0,452***	0,242***	1,046***
FTA2	0,393***	2,013***	0,765***		0,299***	0,229***	0,334**
Constant						44,573***	
AR (1)	0,235	0,039	0,194		0,034	0,008	0,019
AR (2)	0,503	0,129	0,352		0,899	0,852	0,118
Sargan Test	0,002	0,000	0,005		0,688	0,129	0,941
Hansen Test	0,284	0,563	0,644		0,746	0,653	0,981
Hansen Test (GMM)	0,071	0,178	0,165		0,387	0,196	0,896
Hansen Test (Diff GMM)	0,999	0,997	0,996		0,950	0,989	0,954
Hansen (IV)	0,038	0,207	0,347		0,767	0,305	0,938
Hansen (Diff IV)	0,990	0,988	0,937		0,495	0,980	0,917
Prob > F	0,000	0,000	0,000		0,862	0,000	0,000

Notes. Regression estimation indicates ***, **, * significant level at 1%, 5%, 10%.

Imports

The coefficients for imports reflect key aspects of Indonesian trade. Firstly, both demand and supply factors tend to support the expansion of imports, meaning that the more significant and the more sophisticated the Indonesian

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market, the larger the imports. The higher the capacity of exporters, the larger the imports in Indonesia as well. As noted, imports increase at a faster speed than exports most likely because both domestic demand increased as a result of higher incomes and as a result of a relocation of factors in the agricultural sector, shifting to different crops.

The coefficient for lagging imports in raw agro goods is four times larger than that of food products, meaning dependency from previous partners is important. The variable of GDP_i of the exporter is negative, possibly signaling a shift of imports to Indonesia formerly from developed countries to lower income nations, or signaling the large GDP growth of exporter countries where domestic goods compete with exports. The market of Indonesia captured by GDP_j and $Population_j$ reflects that the larger and stronger the purchasing power of Indonesians, the larger the importing of goods, particularly from food. Improvements in logistics (LPI), human capital (HDI), and competitiveness in Indonesia (GCI) also supports a greater amount of imports, particularly in food products. More sophisticated logistics in Indonesia supports not only larger exports from Indonesia to the World, but also larger exports from the World to Indonesia. Nevertheless, the coefficients indicate that the role of CPI, LPI and HDI on the exporters is more important than that on the importer, suggesting that improvements in logistics, competitiveness or human development in Indonesia help to promote exports in a larger proportion than imports.

Distance has a negative effect on raw materials but a positive effect on food. As noted earlier, food logistics required more advanced systems and lower transport times. The highest amount of imports of food come from advanced countries, located farther away, possibly explaining why the estimate for distance is positive within food products.

Tariffs have a positive effect on raw materials and a negative effect on food. Raw materials may have lower elasticity, also reflected in CPI and exchange rate variables, when dependency from specific sources limits the possibility of substitution. Food, by contrast, has larger adverse effects regarding tariffs, prices (CPI) and exchange rate, as increases may lead to higher prices and for instance, to lower demand for imports. Nevertheless, the effects of the variables, although negative, are inelastic as the coefficient is less than one. Tariffs or a weaker Rupia may discourage imports to some degree, but the effects of the tariffs or currency may be transferred to consumers at home (as demand for imports may likely continue).

The effects of the dummy variables to capture the outcomes of the agreements indicate a trade creation effect in imports, both from partners and non-partners. This implies that while imports from FTA partners have increased, perhaps it has not resulted in substitutions of goods from other regions (non-FTA), and for instance, Indonesia may not have achieved lower import prices. Trade from Non-FTA partners continues to increase even though no FTA deal was in place.

The magnitude of effects in FTA dummy variables shows that the effects of trade creation on agricultural raw goods exports are more extensive than trade creation through imports. On the other hand, the effect of trade creation is larger through imports in food (*FTA1* larger in imports than *FTA1* in exports) than that of exports. As exports and imports in Indonesia are larger within the food sector, rather raw goods, it is possible that the liberalization of the last two decades may have resulted in lower benefits for Indonesia. Imports have expanded at a faster speed than exports, trade is highly concentrated in specific commodities, and little substitution of cheaper goods from within the FTA partners seems to have occurred during the last decade.

Conclusions

This study estimates trade creation/diversion/ expansion within agricultural exports from Indonesia, covering the period of 2007 to 2017, where several Free Trade Agreements were implemented. The study includes variables

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from the demand and supply side to help to capture determinants of exports and imports by implementing a Generalized Method of Movements System (GMM-SYS). Demand variables explain a significant share of the growth of exports; larger incomes (GDP), larger markets (population), and more sophistication (HDI, LPI, GCI) is positively associated with more exports. The results suggest that the large expansion of agricultural trade for Indonesia is supported by income and population growth, in line with Serrano and Pinilla (2010), as well as by demand of trade partners. Distance plays a negative role, in line with the theory suggesting stronger possibilities to expand trade with regional partners than with those from other regions.

Prices and exchange rates play a role, nevertheless, at different degrees for each group of products. Both raw goods and food are price elastic, suggesting that periods of price volatility, a collapse in agricultural prices, or exchange rate could affect exports of agricultural goods; this would affect food to a larger extent through prices, and raw goods through exchange rates and prices.

Supply factors are essential to escalating exports, as LPI, HDI and GCI are positively related to larger exports, suggesting the importance of infrastructure development, human capital and a more competitive sector for larger exports. Trade cost has adverse effects (distance). However, higher sophistication in transportation and logistics seems to counterbalance the negative effects, suggesting a continued effort to improve logistics performance. Better transportation also leads to more significant exports of food, putting pressure on both domestic players and the balance of trade. However, improvements in LPI, HDI and competitiveness is also associated with more massive imports (at a lower extent than exports).

Liberalization of markets through FTA agreements supported trade creation with FTA partners, at a higher degree in raw materials than in food. Trade creation in imports is larger than that of exports within the food sector, meaning that liberalization has played a role in increasing exports but has also brought more considerable competition, while not necessarily lower import prices. The coefficient for non-FTA partners suggests export expansion to non-FTA partners, even at a higher degree than with FTA members, meaning that the role played by demand may be larger than the effects of having FTA agreements in place.

In line with the findings of Baiardi et al., (2015), industrial and trade policy to support further processing in agricultural goods may allow Indonesia to lower substitutability in global markets, to be less exposed to price fluctuations (less price elastic demand), to increase market power and to raise exports. Further processing, a shift towards a price setter rather than a price taker, requires increasing quality standards and more market orientation to successfully adapt goods to global markets and further specialize (differentiation).

References

Anderson, J. E., & Van Wincoop, E. (2003). Gravity with gravitas: a solution to the border puzzle. *American Economic Review*, 93(1), 170-192. https://doi.org/10.1257/000282803321455214

Anderson, K., Rausser, G. & Swinnen, J. (2014). Agricultural policy: a global view. Encyclopedia of Agriculture and Food Systems 179–194. https://doi.org/10.1016/B978-0-444-52512-3.00120-0

Anderson, J. E., & Yotov, Y. V. (2016). Terms of trade and global efficiency effects of free trade agreements, 1990-2002. *Journal of International Economics*, 99, 279-298. https://doi.org/10.1016/j.jinteco.2015.10.006

Ando, M., & Urata, S. (2007). The Impacts of East Asia FTA: A CGE Model Simulation Study. *Journal of International Economic Studies*, vol 11(2). https://doi.org/10.11644/KIEP.JEAI.2007.11.2.170

Asteriou, D., Masatci, K., & Pılbeam, K. (2016). Exchange rate volatility and international trade: International evidence from the MINT countries. *Economic Modelling*, 58, 133-140. https://doi.org/10.1016/j.econmod.2016.05.006

Athukorala, P.-C., & Jayasuriya, S. (2003). Food Safety Issues, Trade and WTO Rules: A Developing Country Perspective. *The World Economy*, 26(9), 1395-1416. https://doi.org/10.1046/j.1467-9701.2003.00576.x

Baek, J. (2014). Exchange rate effects on Korea-US bilateral trade: A new look. *Research in Economics*, 68(3), 214-221. https://doi.org/10.1016/j.rie.2014.05.002

Bahmani-Oskooee, M., & Aftab, M. (2017). On the asymmetric effects of exchange rate volatility on trade flows: New evidence from US-Malaysia trade at the industry level. *Economic Modelling*, 63, 86-103. https://doi.org/10.1016/j.econmod.2017.02.004

Baiardi, D., Bianchi, C., & Lorenzini, E. (2015). Food Competition in World Markets: Some Evidence from a Panel Data Analysis of Top Exporting Countries. *Journal of Agricultural Economics*, 66(2), 358-391. https://doi.org/10.1111/1477-9552.12094

Baier, S. L., & Bergstrand, J. H. (2004). Economic determinants of free trade agreements. *Journal of International Economics*, 64(1), 29-63. https://doi.org/10.1016/S0022-1996(03)00079-5

Baier, S. L., & Bergstrand, J. H. (2007). Do free trade agreements actually increase members' international trade? *Journal of International Economics*, 71(1), 72-95. https://doi.org/10.1016/j.jinteco.2006.02.005

Baier, S. L., Yotov, Y. V., & Zylkin, T. (2019). On the widely differing effects of free trade agreements: Lessons from twenty years of trade integration. *Journal of International Economics*, 116, 206-226. https://doi.org/10.1016/j.jinteco.2018.11.002

Baltagi, B. (2008). Econometric analysis of panel data. John Wiley & Sons.

Bergstrand, J. H., Larch, M., & Yotov, Y. V. (2015). Economic integration agreements, border effects, and distance elasticities in the gravity equation. *European Economic Review*, 78, 307-327. https://doi.org/10.1016/j.euroecorev.2015.06.003

Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, 87(1), 115-143. https://doi.org/10.1016/S0304-4076(98)00009-8

Campi, M., & Dueñas, M. (2019). Intellectual property rights, trade agreements, and international trade. *Research Policy*, 48(3), 531-545. https://doi.org/10.1016/j.respol.2018.09.011

Carrere, C. (2006). Revisiting the effects of regional trade agreements on trade flows with proper specification of the gravity model. *European Economic Review*, 50(2), 223-247. https://doi.org/10.1016/j.euroecorev.2004.06.001

Cieślik, A., Michalek, J., & Mycielski, J. (2016). Globalization, international trade, and human development: a case of Central and Eastern Europe. Czech Journal of Social Sciences, Business and Economics, 5(2), 6-15.

Dai, M., Yotov, Y. V., & Zylkin, T. (2014). On the trade-diversion effects of free trade agreements. *Economics Letters*, 122(2), 321-325. https://doi.org/10.1016/j.econlet.2013.12.024

De Benedictis, L., De Santis, R., & Vicarelli, C. (2005). Hub-and-Spoke or else? Free trade agreements in the'enlarged'European Union. *The European Journal of Comparative Economics*, 2(2), 245-261. https://doi.org/10.2139/ssrn.728409

Erkan, M. (2015). Economic Freedom and Innovation. *International Journal of Science and Research*, 4(7), 1806-1809.

Esquivias, M. A. (2017). The Change of Comparative Advantage of Agricultural Activities in East Java Within the Context of Asean Economic Integration. *AGRIS On-Line Papers in Economics and Informatics*, 9(1), 33-47. https://doi.org/10.7160/aol.2017.090103

Feenstra, R. C. (2015). Advanced international trade: theory and evidence. Princeton University press.

Fugazza, M., & Maur, J.-C. (2008). Non-tariff barriers in CGE models: How useful for policy? *Journal of Policy Modeling*, 30(3), 475-490. https://doi.org/10.1016/j.jpolmod.2007.10.001

Gani, A. (2017). The Logistics Performance Effect in International Trade. *The Asian Journal of Shipping and Logistics*, 33(4), 279-288. https://doi.org/10.1016/j.ajsl.2017.12.012

Ghosh, S., & Yamarik, S. (2004). Does trade creation measure up? A reexamination of the effects of regional trading arrangements. *Economics Letters*, 82(2), 213-219. https://doi.org/10.1016/j.econlet.2003.06.001

Gujarati, D. N., & Porter, D. (2009). Basic Econometrics McGraw-Hill International Edition.

Hayakawa, K., Ito, T. and Kimura, F., 2016. Trade Creation Effects of Regional Trade Agreements: Tariff Reduction versus Non-tariff Barrier Removal. *Review of Development Economics*, 20(1), pp.317-326.

Hegerty, S.W. (2016). Commodity-Price Volatility and Macroeconomic Spillovers: Evidence from Nine Emerging Markets. *The North American Journal of Economics and Finance,* 35, 23–37. https://doi.org/10.1016/j.najef.2015.10.014.

Hoekman, B., & Nicita, A. (2010). Assessing the Doha Round: Market access, transactions costs and aid for trade facilitation. *The Journal of International Trade & Economic Development*, 19(1), 65-79. https://doi.org/10.1080/09638190903327476

Jongwanich, J. (2009). The impact of food safety standards on processed food exports from developing countries. *Food Policy*, 34(5), 447-457. https://doi.org/10.1016/j.foodpol.2009.05.004

Kohl, T. (2014). Do we really know that trade agreements increase trade*? Review of World Economics*, 150(3), 443-469. https://doi.org/10.1007/s10290-014-0188-3

Kohl, T., Brakman, S., & Garretsen, H. (2016). Do Trade Agreements Stimulate International Trade Differently? Evidence from 296 Trade Agreements. *The World Economy*, 39(1), 97-131. https://doi.org/10.1111/twec.12272

Korinek, J., & Melatos, M. (2009). Trade impacts of selected regional trade agreements in agriculture. Retrieved from http://www.oecd-ilibrary.org/trade/trade-impacts-of-selected-regional-trade-agreements-in-agriculture_225010121752

Kuncic, A. (2013). Trade and institutions: do not forget institutional distance. *Research Paper, University of Ljubljana*. Retrieved from https://cerge-ei.cz/pdf/gdn/rrc/RRCXII_51_paper_02.pdf

Lee, J.W. and Oh, J., 2019. ASEAN or plus alpha? The effectiveness of regional economic cooperation. *Asia Pacific Management Review*. https://doi.org/10.1016/j.apmrv.2019.07.001

Lin, C.-H. (2018). Impact of tariff rates on the probability of trade relationship survival: Evidence from ASEAN+ 6 manufactured goods. *Pacific Economic Review*. 1-18. https://doi.org/10.1111/1468-0106.12260

Llatja, A. (2015). Competitiveness and its influence in the trade balance a study for the Western Balkan. *European Scientific Journal,* 11(10), 187-193.

Magerman, G., Studnicka, Z., & Van Hove, J. (2016). Distance and Border Effects in International Trade: A Comparison of Estimation Methods. *Economics: The Open-Access, Open-Assessment E-Journal*. https://doi.org/10.5018/economics-ejournal.ja.2016-18

Martinez-Zarzoso, I., Felicitas, N.-L. D., & Horsewood, N. (2009). Are regional trading agreements beneficial?: Static and dynamic panel gravity models. *The North American Journal of Economics and Finance*, 20(1), 46-65. https://doi.org/10.1016/j.najef.2008.10.001

Mustafa, G., Rizov, M., & Kernohan, D. (2017). Growth, human development, and trade: The Asian experience. *Economic Modelling*, 61, 93-101. https://doi.org/10.1016/j.econmod.2016.12.007

Padilla, M. A.; Handoyo, R. D.; Sugiharti, L.; Muryani, M. 2019. Production networks under The ASEAN Plus Six. A good deal or a threat?, Entrepreneurship and Sustainability Issues 7(1): 81-91. https://doi.org/10.9770/jesi.2019.7.1(7)

Pieters, H., & Swinnen, J. (2016). Trading-off volatility and distortions? Food policy during price spikes. *Food Policy*, 61, 27-39. https://doi.org/10.1016/j.foodpol.2016.01.004

Powers, W. M. (2007). Endogenous Liberalization and Sectoral Trade. Office of Economics Working Paper, No. 2007-06-B (Washington, DC: United States International Trade Commission)

Sasaki, H. (2015). International trade and industrialization with negative population growth. *Macroeconomic Dynamics*, 19(08), 1647-1658. https://doi.org/10.1017/S1365100514000030

Saslavsky, D., & Shepherd, B. (2014). Facilitating international production networks: the role of trade logistics. *The Journal of International Trade & Economic Development*, 23(7), 979-999. https://doi.org/10.1080/09638199.2013.811534

Schaak, H. (2015). The Impact of Free Trade Agreements on International Agricultural Trade: A Gravity Application on the Dairy Product Trade and the ASEAN-China-FTA. 55th Annual Meeting of the Gesellschaft für Wirtschafts- und Sozialwissenschaften des Landbaus (GEWISOLA), Gießen, Germany, September 23 – 25, 2015. http://dx.doi.org/10.22004/ag.econ.211619

Serrano, R., & Pinilla, V. (2010). Causes of world trade growth in agricultural and food products, 1951-2000: a demand function approach. *Applied Economics*, 42(27), 3503-3518. https://doi.org/10.1080/00036840802167368

Shepherd, B., 2019. Mega-regional trade agreements and Asia: An application of structural gravity to goods, services, and value chains. *Journal of the Japanese and International Economies*, *51*, pp.32-42. https://doi.org/10.1016/j.jjie.2018.10.004

Sugiharti, L., Esquivias, M.A. and Setyorani, B., 2020. The impact of exchange rate volatility on Indonesia's top exports to the five main export markets. *Heliyon*, *6*(1), p.e03141. https://doi.org/10.1016/j.heliyon.2019.e03141.

Sun, Z.L. and Xian-de, L.I., 2018. The trade margins of Chinese agricultural exports to ASEAN and their determinants. Journal of Integrative Agriculture, 17(10), pp.2356-2367. https://doi.org/10.1016/S2095-3119(18)62084-2

Szalanczi, A., & Trinh, M. (2017). Trade Creation and Trade Diversion Effects of ASEAN-Japan Comprehensive Economic Partnership (AJCEP).

Urata, S., & Okabe, M. (2010). Trade creation and diversion effects of regional trade agreements on commodity trade. Discussion Papers, 10007.

Urata, S., & Okabe, M. (2014). Trade Creation and Diversion Effects of Regional Trade Agreements: A Product-level Analysis. *The World Economy*, 37(2), 267-289. https://doi.org/10.1111/twec.12099

Villoria, N.B. (2019). The Food Trade System: Structural Features and Policy Foundations. *Encyclopedia of Food Security and Sustainability*, 1, 64–73. Oxford: Elsevier. https://doi.org/10.1016/B978-0-08-100596-5.21965-3.

Viner, J. (1950). The Customs Union Issue. Carnegie Endowment for International Peace. New York.

Wang, X., & Reed, M. (2014). Estimation of US demand for imported shrimp by country: a two-stage differential production approach. Selected Paper, SAEA 2014 Annual Meeting, Dallas, TX. http://dx.doi.org/10.22004/ag.econ.162459

Yang, S., & Martinez-Zarzoso, I. (2014). A panel data analysis of trade creation and trade diversion effects: The case of ASEAN-China Free Trade Area. *China Economic Review*, 29, 138-151. https://doi.org/10.1016/j.chieco.2014.04.002

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Lilik SUGIHARTI a former head of the Department of Economics, Faculty of Business and Economics, Universitas Airlangga, Surabaya, Indonesia. A former head of the Laboratorium of Research and Development LPEP of the Departement of Economics at Airlangga Research interests: poverty; international economics; industrialization. Holds a Ph.D in Economics by Universitas Brawijaya, Indonesia.
ORCID ID : http://orcid.org/0000-0001-5156-7929

Rudi PURWONO is the vice Dean for Academic affairs of the Faculty of Economics and Business at Universitas Airlangga, Surabaya. An independent commissioner of the Provintial Development Bank of East Java in Indonesia. His expertise is within Monetary Economics and International Economics. He serves as an advisor for National and Provincial Institutions in Indonesia, both for Government or Private. Holds a Ph.D in Economics by Universitas Indonesia.
ORCID ID: https://orcid.org/0000-0002-4902-0745

Miguel Angel ESQUIVIAS is a full time researcher at the Departement of Economics at Universitas Airlangga, Surabaya, Indonesia. Research interests: international economics; regional development; innovation and small firms; industrialization. Consultant at the FTA Project, Ministry of Trade, Republic of Indonesia. Holds a Ph.D in Economics by Universitas Airlangga.
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