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The role of institutions in international coconut trade: a gravity model approach

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Abstract:

There is hardly a debate surrounding the influence of institutional quality on a country's economy. In the last few decades, many studies have attempted to assess the effects of institutions on international trade. Yet, few studies have attempted to look at single commodities. We study the role of different institutional actors on global trade of coconuts products. The coconuts trade has its history from colonial roots and has recently been changed by the trend of branding coconuts as a healthy alternative to other oil fats. We utilize an extended gravity model to measure how institutions affect the trade performance of 26 coconut exporting countries to the top three coconut importing countries. We fail to find a significance when measuring the effect of the quality of domestic institutions on the coconut trade flow. At the same time, foreign institutions can have an influence through agreements such as the EU-ACP partnership.

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1. Introduction

Coconut is one of the most important agricultural commodities in the world. The palm is coined as the “tree of life” due to its multifaceted importance in the Asia-Pacific region (Green, 1991). The coconut trade industry has in the past been dominated by copra, which is used to produce coconut oil (Prades, Salum, & Pioch, 2016). Therefore, the international trade of coconuts has traditionally been dependent on the demand for coconut oil. Throughout the last few years, coconuts have increasingly been transformed into further processed products that require more complex processing. This emergent trend of coconut niche products will certainly alter the current production and trading system. In order for coconut producing countries and their farmers to benefit from these new opportunities, it is worth looking into the efforts and roles of individual political systems and international institutions.

Many factors contribute to the international trade competitiveness of coconuts. To date, little research has looked at the institutional and political set up in coconut producing countries as main influential factors. This paper seeks to look further in depth from different aspects to address the role of institutions on the global coconut trade.

The goal of this study is to look at the influence of institutions on the export performance of coconuts to the top three coconut importing regions: the United States, the 27 members of the European Union (EU27), and China. This study analyzes different institutional factors that influence the global coconut trade with an extended gravity model approach. Not only do we look at institutional quality in terms of domestic governance, our research adds to existing literature by also considering foreign institutions as one of our key variables. We expect both institutional variables to play a factor in the export performance of the 26 coconut producing countries in this study.

The structure of this paper is as follows. Section two gives a general background on coconuts and the coconut trade. Section three reviews past literature on the linkages among different institutions in international trade. Section four details the data collection method and the estimation strategy used in this study. Section five presents our results followed by a discussion. Finally, section seven concludes this paper.

2. Background

Coconuts grow in over 90 countries in the world (Sudalaimuthu, Senthilkumar, & Sivakumar, 2008) and has a role in the global agricultural trade and the lives of farmers involved in the production. The majority of coconut production in the world is concentrated in the coastal and island subtropical areas of Asia. The three largest producer countries in the world are Indonesia, the Philippines, and India (FAOSTAT, 2013). Outside of Asia, Brazil and Mexico also are major players in coconut production (FAOSTAT, 2013). Coconut farming is mostly done on small farms ranging from 0.5 to four hectares (Prades et al., 2016) and accounts for up to 90 percent of all coconut production (OECD/FAO, 2017). For this reason, the supply chains of coconut products play a major role for many smallholder farmers. The remaining coconut farms are results of colonial heritage when monoculture plantation were set up for the production of copra, which are dried kernels of coconut (Prades et al., 2016).

Coconut is traditionally consumed in three different ways: fresh, coconut oil and in desiccated forms. For many countries, such as the Philippines and Indonesia, coconut is a commodity that affects the daily lives of the local population. For example, coconut milk is an essential item in many Southeast Asian cuisines, and coconut water is a source of hydration for many locals in coconut producing regions (Foale, 2003).

The global coconut trade took off around the 1880s when oil industries in Europe began to use copra as a key ingredient for soap and margarine (Heersink, 1994). Ever since, copra and coconut oil became the dominant trading products from coconut. However, the demand for coconut oil has seen a drop throughout the last decades due to the increased competition for other non-animal oils, such as palm oil and soybean oil. In Indonesia, one of the main producing, consuming, and exporting countries of coconuts, consumption for coconut oil has been largely substituted for palm oil due to government interventions (Gaskell, 2015). For example, in 1965, coconut oil represented 98% of cooking oil in Indonesia, whereas in 2010, the numbers almost completely reversed with palm oil taking the share at 94%, while coconut oil fell to merely 3% (Gaskell, 2015). In recent years, high value coconut products are increasingly being marketed and exported both as healthy edible goods and ingredients for cosmetic products throughout the globe. Niche products from coconuts have started appearing in supermarkets and specialty shops. Products, such as extra virgin coconut oil, coconut water, coconut sugar, coconut flour, and even coconut tortilla have been launched. Whole Foods Market has named coconuts to be one of the top ten trends of 2017 (Whole Foods Market, 2016). Some argue that this boom is due to a growing global desire for healthy

benefits and alternatives (Whole Foods Market, 2016). For example, coconut milk is perceived as a healthy and dairy free alternative.

Despite the importance of coconut in the agricultural market today, very little research has looked at the trade and economics of the coconut market, as well as its institutional surroundings.

While there is increasing literature that addresses the role and influence of institutions on bilateral trade, research addressing a specific commodity's trade is few to come. This paper seeks to build upon the already established set of literature by addressing the role of institutions and policies into the international trade of one single commodity, coconuts.

3. Literature review

Domestic governance and international institutional influences play an important role in the development of high value agricultural supply chains. Studies have consistently shown that institutional quality is positively associated with trade (Álvarez, Barbero, Rodríguez-Pose, & Zofío, 2018; Anderson & Marcouiller, 2002; Francois & Manchin, 2013; Meon & Sekkat, 2008). In addition, trade policies implemented by major importing countries can also encourage the trade of high value products. With the signing of the Cotonou Agreements, the development cooperation established between the European Union's (EU) and a group of African, Caribbean, and Pacific (ACP) countries, both sides aimed to encourage growth and integrate ACP countries into the global economy (Busse, 2010). We expect this cooperation between the EU and ACP countries to play a major part in the coconut trade, since almost all of the Pacific countries that take part of this agreement produce and export coconuts. Lastly, religion can also be considered as an indicator of institution, as there has been increasing literature on religion and economic activity (Lewer & Van Den Berg, 2007).

This study looks at the influence of institutions on the export performance of coconuts to the top three coconut importing regions: the United States, the EU 27, and China. As a first step we need to consider the definition of the key concept of 'institutions' and review the literature that deals with linkages to international global trade.

Definitions of institutions are diverse and disputable. Many associate institutions to the notion of domestic governance. Some authors have used the two terms interchangeably (Kaufmann & Kraay, 2008). Institutions can be broadly defined "the rules of the game in society" (North, 1990, p. 3). At the same time, institutions do not only refer to domestic politics and governance. Hodgson (2006) states that institutions make up the things

associated with our social lives. This is linked to the notion that much of our day to day communications and activities with others are formed by implicit rules (Hodgson, 2006). Williamson (2000) differentiates the levels of institutions into four classifications. The first level involves informal institutions, customs, traditions, and norms; second is the institutional environment that sets up the formal rules of society. Thirdly, the governance structure sets up the way the game is played. And the last level refers to the rules for resource allocation and employment (Williamson, 2000).

Good and sound institutions can enable an environment that encourages economic activities, incentives, growth and development (Butkiewicz & Yanikkaya, 2006). North (1991) argues that as trade moves further away from a village level, both market size and transaction costs rise extensively. In this sense, efforts are needed in order to enforce and negotiate the contracts (North, 1991).

The literature that address institutional quality on agricultural trade and efficiency is vast (Dollar & Kraay, 2003; Bojnec & Fertő, 2009). Studies using different institutional indicators show positive influences for the economy. Lio and Liu (2008) find that better governance can foster increased agricultural outputs given equal levels of agricultural inputs, educational level, and climate conditions. Furthermore, agricultural efficiency in developing countries can be enhanced when the government has strengthened respect for institutional framework (Lio & Hu, 2009; Lio & Liu, 2008). Meon and Sekkat (2008) find that governance indicators are positively associated with exports of manufactured goods, although not every dimension of institutional factors has the same effect on trade. Yu (2010) finds that democratization can lead to a three to four percent growth in bilateral trade. Further research by Anderson and Marcouiller (2002) find that institutional quality is positively associated with bilateral trade flows. Research by Francois and Manchin (2013) imply that institutional quality of both the exporting and importing country matter in trade. In a more recent study, Álvarez et al., (2018) reconfirm that increased institution quality foster trade and that countries trade more easily due to better institutions.

Good institutional quality is capable of reducing transaction costs in trade (North, 1991). Groot et al. (2004) confirms that increased institutional quality is able to decrease ambiguity regarding the enforcement of contracts and the governance of overall economics. This process can directly reduce transaction costs. Institutional homogeneity, on the other hand, could potentially familiarize procedures involved during the process of exchange (Groot et al., 2004). Others also find that international trade increases as a result of lower transaction costs when there is institutional homogeneity (Bojnec & Fertő, 2009). Differences in institutional

quality between two trading countries can reduce trade flows due to higher transaction costs between the two sides (Mendonça, Lirio, Braga, & Silva, 2014).

Part of this study also looks at trade effect of the development cooperation between the EU and ACP countries. International institutions can also play a role in encouraging trade. In his estimation, Rose (2005) finds that both membership in the OECD and regional trade agreements are positively associated with trade flows. Similarly, Baier and Bergstrand (2007) find that Free Trade Agreements (FTAs) do indeed increase trade. Of the 26 coconut producing countries assessed in our research, 12 are part of the EU-ACP cooperation, which began with the Lome Conventions, and has now been extended to the Cotonou Agreements. According to Fontagné, Laborde, and Mitaritonna (2009), this agreement matters more for ACP countries since much of their exports are contingent on the EU due to historical links.

Only a handful of research has looked at the influence of religions on global trade. Helble (2006) finds that similarities in religion could decrease transactions costs between two trading countries due to increased trustworthiness. The author also has an interesting finding in that trade activities differ according to the branch of religious belief (Helble, 2006).

This study explores the effects of institutions on the trade performance of coconuts products. We intend to fill the knowledge gap on the relationship between institutional qualities and the trade of one commodity. With key findings from this research, we hope to open the door for further research within this realm in the future and to provide sound policy recommendations.

4. Data and methodology

We use an extended version of the gravity model to for our estimations. The gravity model has become increasing popular throughout the last decade for research on trade due to its intuition, theoretical foundations, realistic equilibrium environment and flexible structure, and strong predictions (Yotov, Larch, Monteiro, & Piermartini, 2016). Tinbergen first introduced the gravity model in 1962 in order to measure bilateral trade. Anderson then laid out the theoretical foundations for by introducing the Constant Elasticity of Substitution (CES) expenditures (1979).

In an attempt to accurately estimate the gravity model for coconut exports and institutions, we gathered data from various sources. The dependent variables for this research rely on bilateral coconut trade data from the United Nations Commodity Trade (UNComtrade), which we obtained through the World Integrated Trading System (WITS). We use import data from 26

of the main coconut producing countries to the United States, EU 27, and China measured as value in US Dollars. Import data is said to be more reliable since governments have higher incentives to track import data due to tax purposes from imports (Francois & Manchin, 2013). Since coconuts are traded in many formats, we have aggregated the following trade data based on the Harmonized System (HS) 1988/1992 classification: 080110 (Coconuts, fresh or dried), 151311 (Crude coconut oil and fractions), 151319 (Coconut copra oil, excluding crude oil). Table one shows the 26 major coconut producing countries in 2016 and their production yields in tons that we assess in this study.

Table 1: Main coconut producing countries in 2016 with production yield in tons

| | |
|-----------------------------|------------|
| Indonesia | 17.722.429 |
| Philippines | 13.825.080 |
| India | 11.127.898 |
| Brazil | 2.649.246 |
| Sri Lanka | 2.520.095 |
| Vietnam | 1.469.960 |
| Papua New Guinea | 1.191.438 |
| Mexico | 1.157.481 |
| Thailand | 815.406 |
| United Republic of Tanzania | 555.836 |
| Myanmar | 531.730 |
| Malaysia | 504.773 |
| Ghana | 380.380 |
| Dominican Republic | 374.474 |
| Solomon Islands | 341.876 |
| Vanuatu | 336.988 |
| China | 316.579 |
| Nigeria | 283.744 |
| Jamaica | 255.411 |
| Mozambique | 248.394 |
| Fiji | 206.393 |
| Samoa | 179.602 |
| Venezuela | 157.391 |
| Cote d'Ivoire | 142.923 |

Source: FAOSTAT

We utilized several other sources in order to obtain the necessary data for our estimation. We draw upon a commonly used indicator in literature that represents institutions, the WB's Good Governance Indicators from the years 1996 to 2016. The WB only published the indicators bi-yearly from 1996 to 2002; and from there, on an annual basis. The WB's good governance index is one of the most recognized and referenced indicators in research. It is based on

hundreds of variables created by 33 international organizations (Kaufmann, Kraay, & Mastruzzi, 2009). The six indicators are scaled from -2.5 to 2.5. The higher indicators are said to correspond with better governance. The indicators include: (1) voice and accountability; (2) political stability and absence of violence; (3) government effectiveness; (4) regulatory quality; (5) rule of law; and (6) absence of corruption (Kaufmann et al., 2009). Authors have used difference methods to represent these six indicators. Some uses all six variables as separate measures (Álvarez et al., 2018; Lio & Hu, 2009; Méon & Weill, 2005). De Groot et al., (2004) construct dummy variables based on whether the institutional measure is positively or negatively defined. For the purpose of this study, we averaged the six indicators into one single value. The governance indicators come, of course, with contingencies and criticisms. Thomas (2010) asserts that the concepts of each indicator are not clearly defined. Furthermore, the definitions are not based on any theory, nor are they consistent with existing literature (Thomas, 2010). Langbein and Knack (2010) further the argument by contending the difficulty in distinguishing one indicator from another, since each indicator is represented by different concepts. Nevertheless, we still find that the WB's index to be an appropriate assessment for the purposes of this study.

The EU-ACP cooperation is treated as an institutional variable as well. As a part of the Cotonou Agreement, not only does this cooperation provide free trade agreements, they also take into account the promotion of economic growth and development, and the integration of the ACP countries in the global economy (Busse, 2010).

The remaining gravity model variables, which include distance between the importing and exporting countries, Gross Domestic Products (GDPs), common language, common religion, and the EU-ACP development cooperation come from the Centre d'Etudes Prospectives et d'Informations Internationales (CEPII). Most studies using the gravity model also include the border variable of "contiguity." But since most of the exporting countries noted in this study do not border any of the importing countries, except China, we have decided to exclude this variable. The EU is treated as one importing entity in this study since a large portion of coconuts and coconut products are exported to one European country, the Netherlands, and then re-exported to other countries within the EU 27. Hence, the Netherlands is treated as the destination in terms of measuring bilateral distances. The GDP of the EU 27 is an average of the GDP of the respective 27 countries. An exporting country is said to share a common official language with the EU 27 if it shares one of its official languages with at least one country in the EU 27.

4.1 The gravity model

Since the introduction of the gravity model, there have been many alterations to adapt to the many encountered problems. The model in its basic form takes into consideration the geographical distance between the exporting and importing countries, and the GDP of both countries to represent the trade costs between the two (Shepherd, 2013). The model has been modified to fit in problems such as multilateral resistance (Anderson & Van Wincoop, 2003) and zero trade flows (Helpman, Melitz, & Rubinstein, 2008; Santos Silva & Tenreyro, 2006).

Zero trade records pose a problem when measuring international trade, and there is no ideal way to combat this issue. According to Anderson (2011), data showing zero in bilateral trade can mean two things. First, it represents an actual zero; or, two, it shows trade that is under a certain threshold above zero. In this study, when no trade flows are reported, we report the value as zero.

In our first gravity model we first implement the moderations proposed by Anderson and van Wincoop (2003) by adding exporter and importer time fixed effects. The fixed effects takes into account possible multilateral resistances and/or other characteristics that are not observed over time per exporter and importer in the basic model (Anderson & Van Wincoop, 2003). We assess the model with a one year lag after Álvarez et al. (2018). This is because institutional qualities and other variables are unlikely to affect trade in that same year.

The Ordinary Least Squared (OLS) gravity model with fixed effects is specified as:

$$\ln X_{ij,t-1} = \beta_0 + \beta_1 \ln DIST_{ij} + \beta_2 \ln GDP_{it-1} + \beta_3 \ln GDP_{jt-1} + \beta_4 LANG_{ij} + \beta_5 EUACP_{ijt-1} + \beta_6 Religion_{ijt-1} + \beta_7 INST_{it-1} + \mu_{it} + v_{jt} + \epsilon_{ijt} \quad (1)$$

An obvious limitation to the traditional Ordinary Least Square (OLS) regression is that the model cannot take into account zero trade flows. These observations are omitted from the sample estimates when the logarithms of the trade values are taken. To account for this measurement problem, we adapt the Pseudo-Poisson Maximum Likelihood (PPML) estimation method proposed by Santos Silva and Tenreyro (2006) for our second gravity estimation. Santos Silva and Tenreyro (2006) compare the results of this method with OLS estimates and find that the latter overestimates certain variables, such as colonial ties and geographical distance. They explained the differences between the two estimations as a result of heteroscedasticity (Santos Silva & Tenreyro, 2006). Our PPML equation is specified as:

$$X_{ij,t-1} = \exp(\beta_0 + \beta_1 \ln DIST_{ij} + \beta_2 \ln GDP_{it-1} + \beta_3 \ln GDP_{jt-1} + \beta_4 LANG_{ijt-1} + \beta_5 EUACP_{ijt-1} + \beta_6 Religion_{ijt-1} + \beta_7 INST_{it-1} + \mu_{it} + v_{jt}) \epsilon_{ijt} \quad (2)$$

Table two describes each of the variables and their definition as specified in our models.

Table 2: List of variables in the gravity model and their definitions

| Variables | Definitions |
|------------------|---|
| $X_{ij,t}$ | Bilateral trade between countries i and j |
| β_0 | Unknown intercept |
| $\ln DIST_{ij}$ | Distance between the capital city of countries i and j |
| $\ln GDP_{it}$ | GDP of country i |
| $\ln GDP_{jt}$ | GDP of country j |
| $LANG_{ij}$ | Dummy variable to indicate whether countries i and j share a common official language |
| $EUACP_{ij}$ | Dummy variable to indicate whether country i is part of EU-ACP agreement |
| $Religion_{ij}$ | Religious similarities between country i and country j |
| $INST_i$ | Average of the six World Bank Good Governance indicators |
| μ_{it-1} | Exporter time fixed effects with a lag of one year |
| v_{jt-1} | Importer time fixed effects with a lag of one year |
| ϵ_{ijt} | Error term, unobserved factors that change over time |

5. Results

This section shows the estimation results of our research question. We first show the summary statistics of the variables included, as described in table two.

Table 3: Summary statistics of all variables

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|--------------|-------|-----------|-----------|-----------|----------|
| tradevalue~d | 1,638 | 25229.53 | 93434.66 | 0 | 838256.5 |
| lnDIST | 1,638 | 9.048137 | .5551362 | 6.925665 | 9.754743 |
| lnGDPi | 1,613 | 23.94734 | 2.860164 | 17.96025 | 30.52139 |
| lnGDPj | 1,638 | 28.62621 | 1.439171 | 26.52115 | 30.55418 |
| EUACP | 1,638 | .1770452 | .3818235 | 0 | 1 |
| LANG | 1,638 | .4346764 | .4958659 | 0 | 1 |
| Religion | 1,638 | .1279751 | .1476431 | 0 | .417452 |
| INST | 1,443 | -.3474561 | .4842916 | -1.751642 | .6085286 |

Table three presents the summary statistics on all the included variables in this study. We can observe that the mean value of the exporting countries falls greatly below that of the three

major importing countries. Close to 20% of exporting countries take part of the ACP-EU agreement. Nearly half of exporting countries share at least one common official language with the importing regions, whereas not much religious similarities are present between the trading partners. Our results from the OLS and PPML model are presented in table four.

Table 4: OLS and PPML results

The role of institutions on global coconut trade

| | (1) OLS | (2) PPML |
|----------------------|---------------------|----------------------|
| lnDIST | -0.416** (-3.05) | -0.384*** (-3.50) |
| lnGDPi | 0.549* (2.16) | 0.0729 (0.32) |
| lnGDPj | 0.303 (1.62) | 0.242*** (3.52) |
| 1=ACP to EU | 2.271*** (8.43) | 1.663*** (8.91) |
| 1=Common official ~n | 0.0166 (0.09) | 0.669*** (4.79) |
| 1=Common religion | -1.049 (-1.01) | -1.677** (-2.99) |
| INST | 0.427 (1.01) | 0.185 (0.79) |
| Constant | -16.15* (-2.21) | -1.558 (-0.34) |
| Observations | 1420 | 1420 |

t statistics in parentheses

* p<0.05, ** p<0.01, *** p<0.001

Column one shows results from an OLS gravity model and column two gives results from the PPML gravity model, respectively. At first glance, we see that significance levels for the PPML model are more numerous than those in the OLS. The OLS model produces a higher estimate when measuring the ACP to EU relationship effect while understating the effect of common official language and religious similarities. Interestingly, the OLS model produces a

much higher estimate of the effect of the exporter's GDP, while the PPML model's effect size on the importer's GDP is smaller, yet significant.

The results show some consistencies to past literature and the gravity intuition. Distance between two destinations has a negative influence on import value into the three importing destinations, with the OLS model slimly overstating the distance effect. Only the OLS model yields significance on the GDP of exporters. Our PPML results also indicate that common official language plays a role in coconut exports. This confirms the findings of Álvarez et al. (2018) and Santos Silva and Tenreyro (2006).

One interesting finding at first glance is that religion has a negative influence on trade values. This is interesting given past findings that suggest similarities in religion could decrease transactions costs between two trading countries due to increased trustworthiness (Helbe, 2006). The common religion dummy variable shows a sizable effect in the PPML model with at a 1% significance level. The estimation also demonstrates a big influencing factor from the EU-ACP cooperation variable. Conversely, the main variable that we are interested in this study, the institutional indicator, did not yield significance in the model, with the PPML model showing very little effect.

6. Discussion

The results in our study show both consistencies and contradictions with findings of past literatures. The main institutional variable of our interest, the average governance indicator, does not yield a high significance nor effect, as many past studies suggest. This finding varies from past research who has noted that better institutional quality does indeed positively influence trade flows (Álvarez et al., 2018; Francois & Manchin, 2013). One of the few studies that have similarities to this result states that even though institutional quality does play a role on fostering trade, the effect is minimal in comparison to other influential factors (Álvarez et al., 2018).

There are many possible explanations for our finding. First, one can contend that the WB's governance indicators are themselves flawed and with contingencies. Thomas (2010) argues that there are reasons to question the construct validity of these measures. Second, one could also question the validity with our method of averaging the six governance indicators rather than measuring each indicator separately. Third, a glance at the average of the six indicators among all of the exporting countries included in this study shows that the scores do not vary

extensively. The majority of these countries come from tropical regions, and none is considered a high-income country. Why the similarities in domestic institutions in these tropical countries is beyond the capacity of this study, but it certainly can hint at one of the reasons of this insignificant result. A fourth possible explanation could be that at least for exports to the EU-27, the agreement and cooperation between the EU and ACP countries have encouraged exports from countries that do not have good institutional qualities. As Slocum-Bradley and Bradley (2010) explain, it could be that one of the goals of this trade cooperation is to foster “good governance” as an outcome rather than a process. Therefore, it could be that EU countries want to foster better institutional qualities amongst the ACP countries by fostering trade. This, of course, is not only targeted at coconut products, but it does, however, play a major factor since 12 of these 26 coconut countries have signed the Cotonou Agreement with the EU. Finally, since coconut is a commodity that only grows in specific geographical regions and climate, importing countries have limited options with whom they could trade. As Álvarez et al. (2018) argue, importing countries are more and more taking on trade with a “realpolitik” approach. Hinting that when it comes to raw commodities, which in our case are coconuts, institutional quality of exporting countries play a lesser role in trade flows (Álvarez et al., 2018).

The policy implications from the results of this study are tricky to assess as they imply that domestic governance does not seem to matter for the trade of coconuts. However, it would be too early to conclude this result without further investigation into the actual drivers behind the global coconut trade.

7. Conclusion

We study the effect and influence of institutions on the international trade performance of coconuts by using the both the OLS and PPML gravity model. Literature linking institutions to a single commodity is rare. We considered the WB’s good governance indicators as a measure of institutions. Furthermore, the ACP-EU agreement is also taken into consideration as an indicator for foreign institutions. While our results show some consistencies with the literature, we fail to find evidence that domestic institutional quality affects coconut trade. However, the EU-ACP indicator yielded a strong correlation with high significance. This is still a work in progress, and our current results suggest that worse institutional quality does not necessary lead to a negative consequence in trade performance.

This research is limited in some ways since data on coconut is not as comprehensive as some of other staple or high value commodities. In addition, as already mentioned, coconuts are traded in many different formats, we only considered three classifications of coconut items as those data are more complete. This makes it difficult to obtain one complete aggregate figure. Many coconut producing countries also have small economies; thereby, the small amount of trade can make it hard to measure the real effects of institutional levels. Both the traditional coconut oil trade and current coconut niche product with high value addition trends will most likely continue well into the future. One could speculate the amount of available data and research in this field as time goes on. Also, there are many other institutional indicators out there as well as the different methodologies in utilizing them. It would be interesting to compare at a later stage whether there is a difference when using other institutional indicators. It is also possible that institutions may affect the composition of trade, for example whether the more value added products are traded more than less value added ones, or vice versa. These will be the next steps to further our research on institutional quality and the global coconut trade.

This research aimed to explore the institutional effects on coconut trade. Our preliminary results imply that development cooperation drives coconut trade rather than domestic governance. This study provides an interesting and novel insight to encourage further literature in trade that focus more only a handful of commodities as to the reasons that causes bilateral trade.

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