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The Impact of Food Safety Standard on Indonesia's Coffee Exports

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Abstract

Stringent regulation on food safety standard may arise from particular importers, country specific bodies and world standard organization. The effects on trades are complex due to lack of harmonization in standards. This paper examines how country specific regulations affect on trade in comparison to world-wide complied regulation on food safety standard. Exploring panel data on Indonesia's coffee trades to 10 major importing countries from 2002-2011 using gravity model, our results suggest that, although GDP and Production variables are still important factors, regulation on *Ochratoxin* which is complied by most importing countries has a significant impacts on Indonesia's coffee trades in comparison to country specific regulations, in this case *Carbaryl* implied by Japan. Additionally, country specific effect on trades can be minimized by bilateral negotiation.

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Keywords: food safety; coffee standard; panel data; gravity model

1. Introduction

Coffee is an important commodity in the world economy accounting for approximately US$21.6 billion trade of coffee for the year 2011/12 and reached a record of a total 109.4 million bags, an increase of 4.5% in relation to 2010/11. In relation to world total coffee production, Indonesia is in the third position of coffee producer in the world reported in crop year 2012/2013 [1]. By total crop area 1,340,000 ha Indonesia produces both Arabica (21%) and Robusta (79%) coffees. Domestic consumption is estimated at 38% and the remaining 62% are exported Approximately 98% of the total export are Robusta coffees [2].

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One major challenge for Indonesia's coffee is to meet quality standard which caused several cases of export rejection recently. However, no data regarding SPS notifications [3] on Indonesia coffee was found therefore it can be suggested that the magnitude of violations on food safety regulation is minor, or, it can also be meant as a lack of support of Indonesian Government to defend its trade. Presumably, the risk of rejection is mainly burdened on both exporters and importers.

Normally buyers demand higher quality of coffee and they only accept coffees which are able to conform such specific quality. This un-favorable change in the quality standard may arise from individual importer or country specific regulation. The typical change in this quality standard is frequent and normally become more stringent. As a result, any changes in individual importer quality standard or country specific regulation will have significant effects on Indonesia's export of coffee.

One of the major changes in food policy including in coffee trade is *Ochratoxin* A or OTA. OTA on coffee became more sensitive topic since Europe, one of the largest coffee importers, set the limit of OTA for roasted and soluble coffee in the middle 2005. Since then, the awareness of OTA on coffee world widely spread and became the main concern of world food safety regulator such as FAO (Codex). Another similar change but rather more specific case for Indonesia is Japan Positive List of Regulation on Food Safety in 2006. Specific here means the impacts are only experienced by Indonesian coffee exporters and farmers. In this regulation, Japan published specific lists of various permitted limit of pesticide on food and set "uniform limit" for any pesticides which do not included in the specific list and one of them is *Carbaryl*. Both of food policy changes in Europe and Japan are argued to have impacts on Indonesia's coffee export because Europe and Japan are the major coffee importers from Indonesia.

It has been seven years since European Commission adopted regulation on *Ochratoxin* A and Japan published positive list on food safety standard including the maximum residual level of *Carbaryl*. Do the implementations or changes in the food safety regulations have impacts on Indonesia's coffee exports? In order to address the question and to achieve the objective, this paper is structured as follow. Section 2 describes an overview of Indonesia's coffee production and export during 2002-2011. An overview on OTA and Maximum Residual Level (MRL) including *Carbaryl* on coffee from ten major Indonesia's coffee importers will be presented in section 3. Section 4 discusses the empirical model which gravity model is applied and data sources. Section 5 will discuss the estimation methods and the result. Finally, conclusions and some policy implications are suggested in last section.

2. Indonesia's Coffee Production and Export

Coffee is cultivated across Indonesia's major islands from west part to the east. Sumatra contributes 74.2% of the total productions where it is located in South Sumatra (21.4%), Lampung (12.6%), Aceh (8.7%), Bengkulu (7.4%). The remaining is located in Sulawesi (9.0%), Java (8.3% with 7.2% is in East Java), Nusa Tenggara (5.8%), Kalimantan (2.0%), and Maluku and Papua (0.6%) [4].

During 2002-2011 crop year calendars, the total production of Coffee in Indonesia was approximately 650 thousand tons. The stagnant growth of crop areas, less attention this crop compare to oil palm and rubber and lack of support in plant rejuvenation are several causes on this productivity. The level of share world production is stable at 8-9% prior 2010, but the number fell to 7.65% in 2011. Similar features are found in export volumes. It is estimated around 300-500 thousand tons were shipped to the world accounting for 50-60% of total productions.

Table 1. Production and Export Profiles of Indonesia's coffee (2002-2011)

Year	Production (000 tons)[a]	Shared world production (%)[b]	Share world export volume (%)
2002	682.0	8.66	5.88
2003	663.6	9.24	6.02
2004	647.4	8.40	6.03
2005	640.4	8.83	7.76
2006	682.2	8.56	6.26
2007	676.5	8.24	4.69
2008	698.0	8.40	6.57
2009	682.6	8.35	7.20
2010	684.1	8.29	6.00
2011	634.0	7.65	4.54

Note: a. Data on production are collected from FAO (*www.faostat.org*). b. Data on export are collected from Trade Map