

Trade Facilitation in ASEAN: Evidence from Japanese Affiliates' Import Cargo Release Time

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Abstract

With the completion of substantial tariff elimination intra region, ASEAN policy makers' focus has shifted drastically towards trade facilitation. Meanwhile, for the private sector in ASEAN, effective trade facilitation measures are placed at the most important and anticipated measures among those wide-ranged initiatives taken by ASEAN. In line with the interest and expectation of private sectors in ASEAN, this study focuses on import related procedures in ASEAN member states, in particular, time taking for the import cargo release at the ports/airports. In contrast to a number of prior studies in this field those which focus on country-to-country comparison, the measurement of the impact of import facilitation, this paper will investigate how firm characteristics are related to import cargo release time. The estimates from the regression found that, among other characteristics, increase in 1) number of the employee, 2) age (a period after the establishment), and 3) share of exports in total sales will lead to the reduction of average time (in days) required for cargo release. Following the result, it is derived that ASEAN's policy implementation for customs facilitation should be more focused on supporting small and medium enterprises or newly established firms, encouraging effectual export promotion schemes, expanding intra-ASEAN trade, and the composition of them.

Keywords: ASEAN; Trade Facilitation; Release time; Customs clearance; Japanese affiliates

Introduction

While officially announcing the establishment of ASEAN Economic Community (AEC) at the end of 2015, ASEAN leaders adopted the AEC Blueprint 2025, which provides visions and broad directions of next phase of integration during the period from 2016 to 2025. Subsequently in August 2016, ASEAN Economic Ministers (AEMs), with recognizing the state of progress, announced the implementation and monitoring mechanisms for the AEC Blueprint 2025, and adopted nine strategic Action Plans covering major pillars of integrations. In the 'AEC 2025 Strategic Action Plans for Trade in Goods,' which stipulates a series of continuous trade liberalization measures, trade facilitation is a key area of focus for ASEAN member states. While AEMs have adopted the action plan in August 2016, they emphasized ASEAN's continued commitment to enhance trade facilitation through implementation of various initiatives such as simplifying or expediting the customs related procedures.

Reviewing the key achievements in the field of trade in goods through the last AEC Blueprint 2015 initiatives, the community's six earlier members - Brunei, the Philippines, Indonesia, Malaysia, Thailand, and Singapore - had practically abolished tariffs on almost all items, i.e., 99.2% of all products on average. The four later members - Cambodia, Lao PDR,

Myanmar, and Vietnam (CLMV) also eliminated tariffs for 90.8% of all products by 2015. Consequently, 96% of all items traded among the 10 ASEAN member states have come down to zero tariffs. This made ASEAN one of the world's most liberalized free trade areas. Furthermore, by 2018, the average percentages of tariff elimination in CLMV countries and ASEAN 10 countries will be 97.8% and 98.7%, respectively.

With the completion of substantial tariff elimination within ASEAN region, the discussion of trade facilitation has become even more important in today's trade liberalization, expansion, and development contexts in ASEAN. In other words, substantial achievements in tariff reduction shifted ASEAN policy makers' focus drastically towards trade facilitation. As stipulated in ASEAN Trade Facilitation Framework, which officially adopted in August 2016, "trade facilitation is a recognized driver of economic development and regional integration. It plays a key role with respect to the realization of establishing ASEAN as a single market and production base."

Meanwhile, in the private sectors in ASEAN, effective trade facilitation measures are placed at the most important and anticipated measures among those wide-ranged initiatives taken by ASEAN through AEC Blueprint. According to JETRO (2015), as shown in Table 1, 53.8% of Japanese affiliated firms operating in ASEAN expect "Simplified customs related procedures" to be achieved through AEC initiatives, which is the highest expectation.

Table 1: Expectations for the AEC among business sectors in ASEAN (%)

Rank	Answers (Multiple choices from 17 key measures under AEC Blueprint 2015)	2014 Survey	2015 Survey
1	Simplified customs related procedures (etc. Unified customs declaration documents, and introduction of a single-window system for import and export)	63.9	53.8
2	Mutual duty exemption among CLMV (Cambodia, Laos, Myanmar and Vietnam)	29.6	26.9
3	Avoidance of double taxation and correction of irregular withholding tax rates	32	25.8
4	Integration of interpretation and management concerning the rules of origin	28.2	25.6
5	Free movement of skilled labor	24.7	20.9
6	Infrastructure development in CLMV	15.9	20.9
7	Reduction of non-tariff barriers (license requirements and mandatory standards)	23.3	18.3
8	Relaxation of capital control in the service sector (ASEAN corporations at most 70%)	16	17.7
9	Introduction of harmonized standards, certification and labeling system for the ASEAN nations	20.9	15.7
10	Further deregulation of capital transfers (Financing by cross border, reinforcement of investment system by regional headquarters, etc.)	17.6	13.9

Source: JETRO Survey on Business Conditions of Japanese Companies in Asia and Oceania (Dec. 2014, Dec. 2015), Number of valid answers: 1987 for 2014 survey, 2067 for 2015 survey

In line with above expectation and interest of private sectors in ASEAN, this paper focus on import related procedures. In particular, time taking for the import cargo release at the ports/airports is examined. It may include the time for customs clearance, duty payment,

cargo handling, examination if applicable, procedural requirement for other government agencies, and inaction time. In contrast to a number of prior studies in this field that focus on country-to-country comparison, the measurement of the impact of import facilitation (reduction of time), or the investigation of the bottlenecks in each division of import procedure, this paper will investigate how firm characteristics are related to import cargo release time. In this paper, import cargo release time indicates the time (in number of days) from the arrival of goods to the port/airport to the release of them after clearance, in importing. Specifically, this paper will analyze for Japanese affiliates in Southeast Asian developing countries. To do that, this paper employs a unique dataset that was collected by the Japan External Trade Organization (JETRO).

The survey, named “Survey on Business Conditions of Japanese Companies in Asia and Oceania,” has been conducted since 1987 and has collected basic information on Japanese affiliates’ activities, such as the breakdown of their export destinations and procurement sources. In the survey for 2016, JETRO for the first time asked the average cargo release time in importing. Exploiting the answer to this question, this paper examines what kinds of Japanese affiliates experience the longer time in import procedure at the port/airport. In particular, we shed light on the firms’ characteristics such as size, years in operation, export ratio, partnership with indigenous firms, and investigates whether those characteristics correlates significantly with release time.

There are already a number of research reports and datasets that identify, monitor, and evaluate the performance of trade facilitation in ASEAN member states. Performance indicators include time needed for customs clearance, number of documents for export/import procedures, degree of electronization, number of license or restrictions, and cost in each stage of transactions. In this regard, international organizations represented by the World Bank, World Customs Organization (WCO), Asian Development Bank (ADB), or the United Nations, are notably prominent with its capacity of extensive country-wise data collection from relevant organizations. In line with those prior studies, this paper stands on the recognition of the impact of efficient trade facilitation on the improvement of business operations through cost and time reductions. According to ADB and UNESCAP (2013), intraregional trade could increase by over \$250 billion (or about 21%), assuming that trade facilitation reforms in port and customs efficiency, domestic regulations, and the e-business environment can bring countries in Asia and the Pacific with below-average trade performance closer to the regional average.

In addition, this paper related to at least two literatures. First, there are several studies that examine the effects of trade facilitation on performance indicators such as trade amount. Some studies have examined its effects on trade (Feenstra and Ma, 2014; Persson, 2013; Hornok and Koren, 2015). Country- or firm-level studies on the effects of customs clearance time on trade include Djankov, Freund, and Pham (2010); Freund and Rocha (2011); Portugal-Perez and Wilson (2012); Dollar, Hallward-Driemeier, and Mengistae (2006); Li and Wilson (2009); Shepherd (2013). As a result, these studies found a significantly negative effect of custom clearance time on trade. There are also some firm-level studies that use actual shipment dates to measure the time in customs clearance, as in this paper. While Martincus, Carballo, and Graziano (2015) investigate the effects of customs clearance time for export on firm-level export performances, the effects of customs clearance times for import on firm-level imports performances are examined in Carballo et al. (2016a; 2016b) and Fernandes et al. (2015). Similarly, Hayakawa et al. (2016) examine the effects of customs clearance time for import on firm-level export performances. These studies found negative effects on export or import

performances. Contrast to these studies, this paper investigates how release time is related to firm characteristics.

Second, Hillberry and Zhang (2015) empirically investigates how customs clearance time is related to country characteristics. More specifically, they examine the effects of country characteristics on customs clearing time. As a result, they found that of the 12 policy bundles, the good governance and impartiality indicator is most clearly related to customs clearance time. On the other hand, this paper sheds light on firm characteristics rather than on country characteristics. Thus, the findings from this study will provide some novel insights on how customs clearance time is determined.

The rest of this paper is organized as follows. After explaining our empirical framework in Section 2, Section 3 introduces our estimation results on the correlation of several variables of firm characteristics with release time. Last, Section 5 concludes the paper.

Empirical Framework

In this section, empirical framework to examine the role of firm characteristics in cargo release time in importing is explained. Sample affiliates are restricted to Japanese affiliates locating and operating in ASEAN member states who get engaged in importing. Therefore, this study select the explanatory variables from among variables that are available in our dataset and were examined in the firm-level studies on overseas affiliates (e.g., Hanson et al. 2005; Kimura and Kiyota, 2006; Kiyota et al., 2008). Specifically, this study estimate the following equation by the ordinary least square (OLS) method:

$$\begin{aligned} \ln Days_{ics} = & \beta_1 Parent_i + \beta_2 Consumer_i + \beta_3 Local_i + \beta_4 \ln Age_i + \beta_5 \ln Labor_i \\ & + \beta_6 LIntesity_i + \beta_7 Export_i + \gamma_1 Imp_ASEAN_i + \gamma_2 Imp_China_i \\ & + \gamma_3 Imp_Japan_i + \gamma_4 Imp_Asia_i + \gamma_5 Imp_Europe_i + \gamma_6 Imp_US_i + u_c + u_s \\ & + \epsilon_{ics}. \end{aligned}$$

$Days_{ics}$ indicates the average number of days for cargo release at the port/airport in importing reported by affiliate i in country c in sector s . We estimate the above equation for Days in sea and air transportation separately.

This paper introduces various kinds of firm characteristics. $Parent_i$ is a dummy variable that taking the value one if affiliate i 's parent firm is a large-sized firm and zero otherwise. $Consumer_i$ is a dummy variable that taking the value one if affiliate i 's main customer is not firms but consumers and zero otherwise. $Local_i$ is a dummy variable that taking the value one if affiliate i is a joint venture with indigenous firms and zero otherwise. Age_i is affiliate i 's age, i.e., 2017 minus affiliate i 's entry year. $Labor_i$ is the number of employee in affiliate i . $Export_i$ is a share of exports in total sales. This paper also introduces various import dummy variables including Imp_{ASEAN_i} , Imp_{China_i} , Imp_{Japan_i} , Imp_{Asia_i} , Imp_{Europe_i} , and Imp_{US_i} , and each variable takes the value one if affiliate i have any import from ASEAN, China, Japan, the other Asian countries, Europe, and the U.S. and zero otherwise respectively. Last, country fixed effects (u_c) and sector fixed effects (u_s) are introduced.

The source of data used in this paper is the JETRO survey, "Survey on Business Conditions of Japanese Companies in Asia and Oceania." This survey has been conducted annually since 1987 to understand the current business activities of Japanese-affiliated companies operating in Asia and Oceania and to disseminate those findings widely. In this

paper, the survey data of the 30th survey conducted in October-November 2016 is used. In the 2016, questionnaires were sent to more than 10,000 Japanese affiliates operating in those regions, and 4,642 valid responses were received. JETRO is a quasi-governmental organization and survey participation is not mandatory. Nevertheless, the survey has a sufficiently high response rate of more than 40%. In 2016 survey, as shown in table 2, there are 2,582 respondents from nine ASEAN member states (Thailand, Malaysia, Singapore, Indonesia, the Philippines, Vietnam, Cambodia, Lao PDR, and Myanmar), 1,258 from Northeast Asia (China, Korea, Taiwan, and Hong Kong), 522 from South Asia (India, Bangladesh, Pakistan, and Sri Lanka), and around 280 from Oceania (Australia and New Zealand). Meanwhile, Respondents belong to 17 sectors of business as shown in Table 3 (11 in manufacturing sectors and 6 in non-manufacturing sectors), being aggregated from total 39 sub-sectors.

Table 2: Number of firms surveyed by locating country (firms)

	Firms surveyed	Firms responding		Category		Valid responses (%)
		Valid	(%)	Manufacturing	Non-Manufacturing	
Total	10,983	4,642	100	2,335	2,307	42.3
ASEAN	7,019	2,582	55.6	1,401	1,181	36.8
Thailand	2,176	695	15	395	300	31.9
Vietnam	1,285	639	13.8	409	230	49.7
Indonesia	1,001	359	7.7	222	137	35.9
Singapore	824	315	6.8	77	238	38.2
Malaysia	941	287	6.2	169	118	30.5
Philippines	357	103	2.2	60	43	28.9
Cambodia	248	91	2	38	53	36.7
Myanmar	144	74	1.6	20	54	51.4
Laos	43	19	0.4	11	8	44.2
Northeast Asia	2,507	1,258	27.1	594	664	50.2
China	1,379	604	13	388	216	43.8
Hong Kong /Macau	388	270	5.8	45	225	69.6
Taiwan	531	209	4.5	80	129	39.4
South Korea	209	175	3.8	81	94	83.7
Southwest Asia	994	522	11.3	262	260	52.5
India	795	411	8.9	203	208	51.7
Bangladesh	121	54	1.2	32	22	44.6
Pakistan	42	31	0.7	17	14	73.8
Sri Lanka	36	26	0.6	10	16	72.2
Oceania	463	280	6	78	202	60.5
Australia	317	202	4.4	56	146	63.7
New Zealand	146	78	1.7	22	56	53.4

Source: 2016 JETRO Survey on Business Conditions of Japanese Companies in Asia and Oceania

Table 3: Number of firms surveyed by Sector (Industrial Category) (firms)

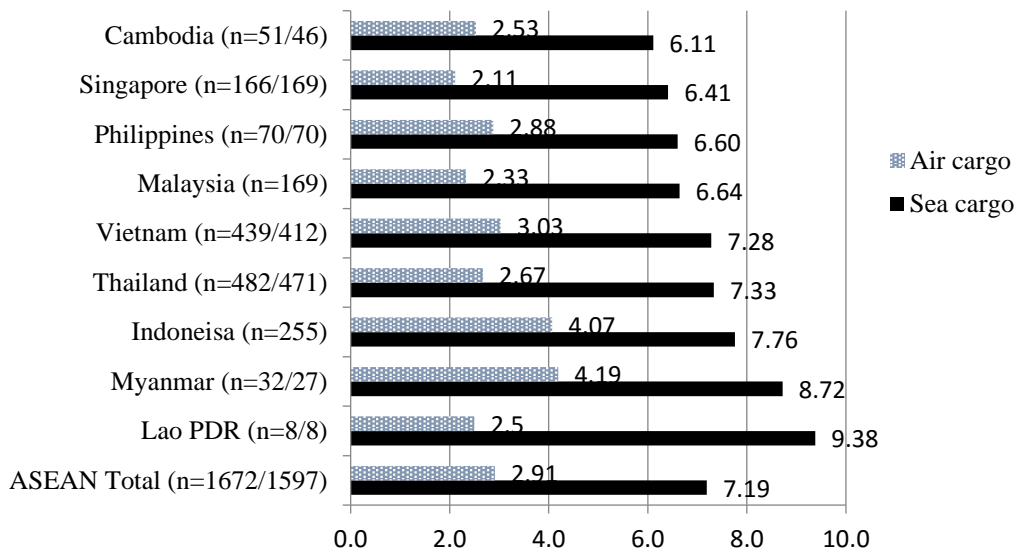
Sectors (industries)	Valid Responses	% in total
Manufacturing sector	2,335	50.3
Motor vehicles/Motorcycles	407	8.8
Electric machinery	379	8.2
Chemical/Pharmaceutical	344	7.4
Iron/Nonferrous metals/ Metals	335	7.2
General machinery	183	3.9
Food	150	3.2
Textiles	123	2.7
Precision machinery	91	2
Rubber/Leather	56	1.2
Wood/Pulp	46	1
Other manufacturing industries	221	4.8
Non-manufacturing sector	2,307	49.7
Wholesale/Retail	967	20.8
Transport	273	5.9
Construction	164	3.5
Communications/Software	143	3.1
Finance/Insurance	125	2.7
Other non-manufacturing industries	635	13.7

Source: 2016 JETRO Survey on Business Conditions of Japanese Companies in Asia and Oceania

Figures 1 and 2 show primary aggregation of the responses concerning the import cargo release time. Respondents were asked to enter the average days required from the arrival of cargo at the port or airport to receipt (clearing the customs) for both sea and air freight, with regard to the import of the items the respondents generally handles. From the primary result, we can find out average days for the cargo release compared by respondents' locating country or sectors of business.

In regard to the difference of the data by country, additional qualitative research through interviews suggests a need for an investigation on several possible factors correlating with cargo release time. For instance, in the case of Cambodia's shorter clearance time, interviews found out that it is mainly because majority of respondents are export oriented firms locating in Special Economic Zones (SEZs) where one stop service with own custom office is provided. Cargo release time in this regard is shorten as the customs at the port/airport just release goods and transfer to each SEZ without clearance or examination.

Figure 1: Average days for cargo release by locating country

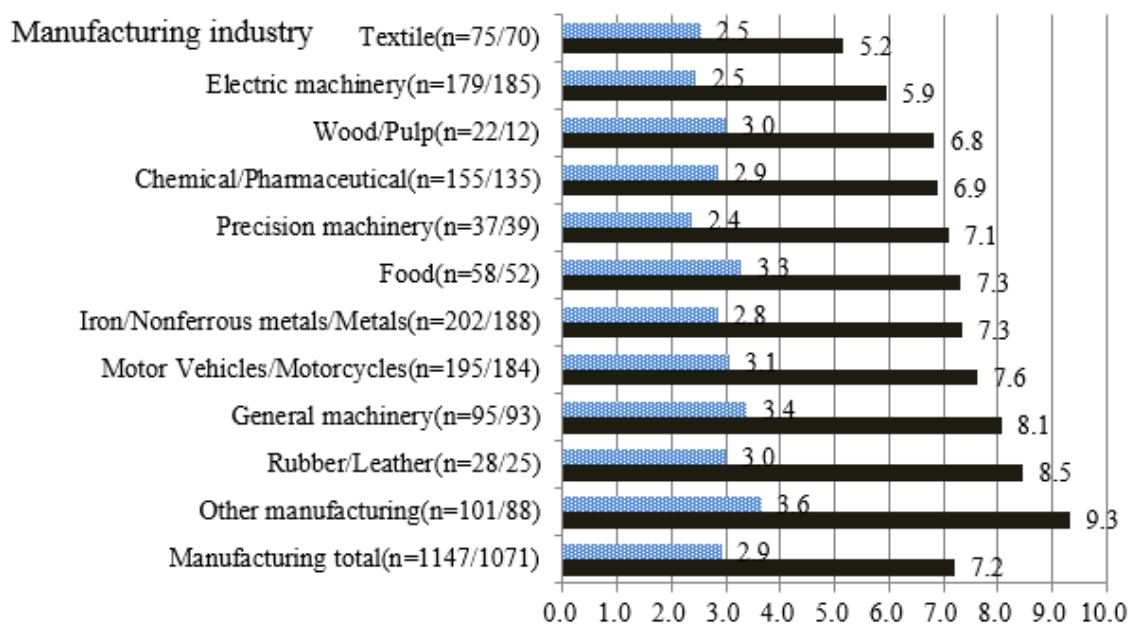


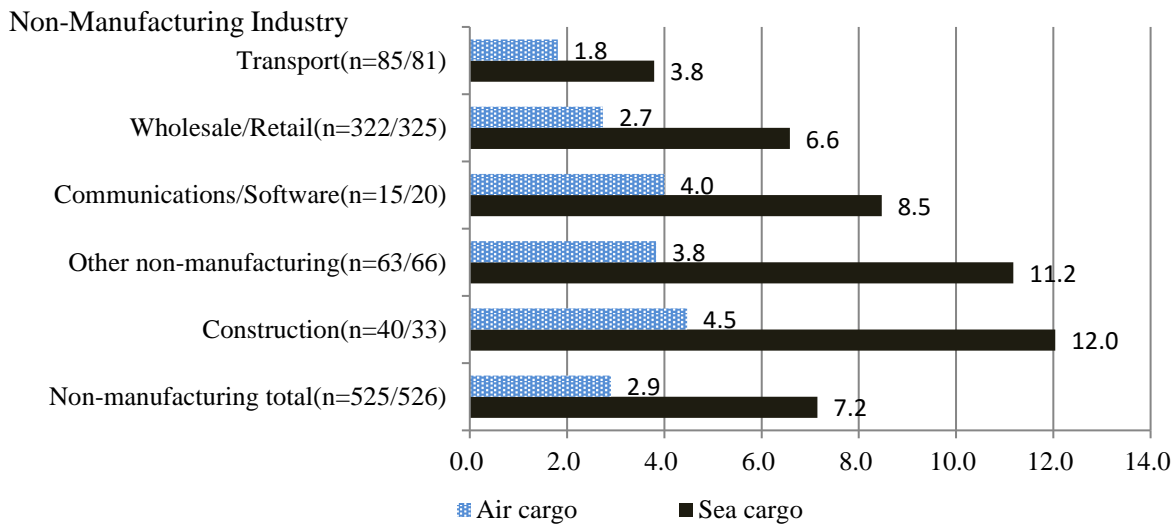
Note: n indicates number of valid responses (for sea cargo/air cargo)

Source: Author, based on the result from 2016 JETRO Survey on Business Conditions of Japanese Companies in Asia and Oceania, JETRO (December, 2016)

With taking those distributions of data by locating country or by sector of the respondents, correlation of several firm characteristics with cargo release time will be estimated simply without country fixed effects (u_c) nor sector fixed effects (u_s), with each one of them, and with both of them.

Figure 2: Average days for cargo release by sectors





Source: Author, based on the result from 2016 JETRO Survey on Business Conditions of Japanese Companies in Asia and Oceania, JETRO (December, 2016)

Empirical Results

The estimates from the regression indicates that three variables of affiliates' characteristics, which are 1) number of employees in the affiliate ($Labor_i$), 2) age of the affiliate (Age_i), and 3) share of exports in total sales ($Export_i$) of the affiliate, significantly correlate with the affiliates' average number of days for cargo release in importing. In addition, as for sea transport cargo, affiliates with certain imports from ASEAN (Imp_{ASEAN_i}) show significance in correlation with the number of days for cargo release.

On the other hand, the results do not show significant correlation of other variables such as $Parent_i$ (whether the affiliate i 's parent firm is a large-sized firm or SMEs), $Consumer_i$ (whether affiliate i 's main customer is other firms or general consumers), $Local_i$ (whether affiliate i is a joint venture with indigenous firms or not), or Imp_{China_i} , Imp_{Japan_i} , Imp_{Asia_i} , Imp_{Europe_i} , and Imp_{US_i} (whether affiliate i respectively have any import from China, Japan, the other Asian countries, Europe, and the U.S, or not) with the affiliates' average number of days for cargo release in importing.

The first column (I) of Tables 5 and 6, with both of them neither include country fixed effect nor sector fixed effect, shows that the above three variables are negatively correlated with the average number of days for cargo release in either case of maritime transport or air transport. More specifically, increase in 1) number of the employee in the affiliate, 2) age (a period after the establishment) of the affiliate, and 3) share of exports in total sales will help the reduction of average time (in days) required for cargo release in the following correlations.

- 1) The double increase of the number of employees decreases cargo release days by 4.1% for sea transport and by 3.7% for air transport.
- 2) The double increase of affiliates' age decreases cargo release days by 8.8% for sea transport and by 9.6% for air transport.
- 3) If the share of export in total sales increases by 0.1 point (10 percentage points), number of days for cargo release is expected to be reduced by 3.3%

($=10*(\exp(0.2842)-1)$) for sea transport and by 1.8% ($=10*(\exp(0.1685)-1)$) for air transport.

In addition, only for the case of sea cargo, the result shows that

- 4) If the affiliate has positive imports from ASEAN (Imp_{ASEAN_i}), the number of days for cargo release is expected to be shorter by 11.6% ($=100*(\exp(0.1097)-1)$) in comparing with affiliates which do not have any imports from ASEAN

On the other hand, if we see other column (II) and (III) of the same tables, which show the estimates with inclusive of Sector fixed effect (but without Country fixed effect) and with Country fixed effect (but without Sector fixed effect) accordingly, above three variables, namely (1) number of the employee in the affiliate ($Labor_i$), (2) age of the affiliate (Age_i), and (3) share of exports in total sales ($Export_i$) similarly show significance in correlation with number of days for cargo release.

With inclusive of country fixed effect and sector fixed effect in the same time, as shown in the column (IV) of the same tables, we can still see significance in correlation of aforesaid three variables 1) to 3) with number of days for cargo release explained as follows.

- 1) The double increase of the number of employees decreases cargo release days by 4.6% for sea transport and by 4.4% for air transport.
- 2) The double increase of affiliates' age decreases cargo release days by 9.4% for sea transport and by 7.5% for air transport.
- 3) If the share of export in total sales increases by 0.1 point (10 percentage points), number of days for cargo release is expected to be reduced by 2.7% ($=10*(\exp(0.2421)-1)$) for sea transport (but no significant correlation was shown for air transport cargo).
- 4) If the affiliate has imports from ASEAN (Imp_{ASEAN_i}), the number of days for cargo release in sea transportation is expected to be shorter by 11.2% ($=100*(\exp(0.1064)-1)$) in comparing with affiliates which do not have any import from ASEAN

Above result investigates that 1) Larger firms in terms of numbers of the employee, 2) Older firms in terms of years after establishment, 3) Export oriented firms in terms of the share of exports in total sales, and 4) Firms having import relations with other ASEAN member states are experiencing relatively shorter time in cargo release at the port. Accordingly, it is derived that ASEAN's policy implementation for customs facilitation should be more focused on supporting small and medium enterprises (SMEs) or newly established firms, encouraging effectual export promotion schemes, and expanding intra-ASEAN trade, and the composition of them.

Table 4: Basic statistics of the estimation samples in Tables 5 and 6

Variable	Obs.	Mean	Std. Dev.	Min	Max
Days (Air)	1,002	0.851	0.646	-1.609	3.401
Days (Sea)	1,077	1.629	0.786	0	4.500
Parent	1,077	0.441	0.497	0	1
Local	1,077	0.130	0.336	0	1
ln Labor	1,077	5.061	1.640	0	10.541
ln Age	1,077	2.492	0.810	0	4.477
Customer	1,077	0.082	0.274	0	1
Imp_Japan	1,077	0.873	0.333	0	1
Imp_ASEAN	1,077	0.438	0.496	0	1
Imp_China	1,077	0.375	0.484	0	1
Imp_Asia	1,077	0.282	0.450	0	1
Imp_US	1,077	0.051	0.220	0	1
Imp_Europe	1,077	0.072	0.259	0	1
Export	1,077	0.541	0.406	0	1

Table 5: Effect of firm characteristics on cargo release time (for sea transport cargo)

	(I)	(II)	(III)	(IV)
Parent	-0.0454 [0.0526]	-0.0607 [0.0550]	-0.0464 [0.0533]	-0.0603 [0.0556]
Local	0.0503 [0.0729]	0.0569 [0.0743]	0.0162 [0.0743]	0.0255 [0.0755]
ln Labor	-0.0409** [0.0180]	-0.0382** [0.0193]	-0.0473** [0.0191]	-0.0459** [0.0205]
ln Age	-0.0882*** [0.0327]	-0.0863** [0.0340]	-0.1015*** [0.0385]	-0.0940** [0.0394]
Customer	0.1196 [0.0864]	0.128 [0.0910]	0.1282 [0.0867]	0.1386 [0.0913]
Imp_Japan	-0.0161 [0.0705]	-0.03 [0.0729]	-0.018 [0.0714]	-0.0339 [0.0737]
Imp_ASEAN	-0.1097** [0.0504]	-0.1029** [0.0516]	-0.1125** [0.0517]	-0.1064** [0.0529]

	(I)	(II)	(III)	(IV)
Imp_China	-0.0577 [0.0516]	-0.0418 [0.0548]	-0.0501 [0.0516]	-0.0337 [0.0548]
Imp_Asia	0.0162 [0.0528]	0.0538 [0.0544]	0.0058 [0.0528]	0.0417 [0.0545]
Imp_US	0.1823 [0.1108]	0.1394 [0.1136]	0.1667 [0.1111]	0.1342 [0.1139]
Imp_Europe	-0.0917 [0.0941]	-0.1024 [0.0962]	-0.0667 [0.0943]	-0.0784 [0.0963]
Export	-0.2842*** [0.0618]	-0.2802*** [0.0661]	-0.2501*** [0.0649]	-0.2421*** [0.0688]
Sector FE	NO	YES	NO	YES
Country FE	NO	NO	YES	YES
Number of observations	1,077	1,077	1,077	1,077
R-squared	0.074	0.0949	0.0882	0.1084

Notes: ***, **, and * represent significance at the 1%, 5%, and 10% statistical levels, respectively. Standard errors are in brackets.

Table 6: Effect of firm characteristics on cargo release time (for air transport cargo)

	(I)	(II)	(III)	(IV)
Parent	0.0161 [0.0449]	-0.0133 [0.0467]	0.0177 [0.0447]	-0.0166 [0.0464]
Local	0.1407** [0.0638]	0.1206* [0.0649]	0.071 [0.0637]	0.0657 [0.0645]
ln Labor	-0.0372** [0.0152]	-0.0252 [0.0162]	-0.0596*** [0.0160]	-0.0444*** [0.0170]
ln Age	-0.0959*** [0.0282]	-0.0983*** [0.0291]	-0.0667** [0.0323]	-0.0747** [0.0329]
Customer	0.0769 [0.0761]	0.1164 [0.0797]	0.0778 [0.0746]	0.1228 [0.0783]
Imp_Japan	-0.0271 [0.0643]	-0.0396 [0.0662]	-0.0571 [0.0633]	-0.0737 [0.0652]
Imp_ASEAN	-0.044 [0.0434]	-0.0392 [0.0442]	-0.0576 [0.0436]	-0.0584 [0.0444]
Imp_China	-0.0235	0.0158	-0.0063	0.0269

	(I)	(II)	(III)	(IV)
Imp_Asia	[0.0444] -0.0229	[0.0471] -0.0148	[0.0434] -0.044	[0.0461] -0.0393
Imp_US	[0.0455] 0.1203	[0.0464] 0.0949	[0.0444] 0.0928	[0.0454] 0.0783
Imp_Europe	[0.0982] -0.0724	[0.0999] -0.107	[0.0960] -0.0414	[0.0977] -0.0699
Export	[0.0814] -0.1685***	[0.0834] -0.1237**	[0.0798] -0.1137**	[0.0817] -0.0723
	[0.0534]	[0.0568]	[0.0551]	[0.0581]
Sector FE	NO	YES	NO	YES
Country FE	NO	NO	YES	YES
Number of observations	1,002	1,002	1,002	1,002
R-squared	0.0647	0.0973	0.1222	0.1503

Notes: ***, **, and * represent significance at the 1%, 5%, and 10% statistical levels, respectively. Standard errors are in brackets.

Evaluation and Policy Recommendations

There are many conceivable reasons for the empirical result in section 3. Concerning the factors which significantly affect cargo release time, this section pinpoints the priority issues for policymakers in ASEAN to focus their effort of specific measures on, and suggests the recommendations for future challenges.

First, as for the size and age of the firms, Small and Medium Enterprises (SMEs) tend to have difficulties to engage international trade business and related procedures. Limited numbers of dedicated staff or limited resources force them burden higher costs and more time in getting regulatory related information or handling cumbersome paper works. Several customs facilitation schemes such as Authorized Economic Operators (AEO), Green-lanes, or selected traders scheme which give preferences in clearance with lesser examination of the cargo, operate in favor of large-sized companies. As those schemes usually have certain criteria of past import record, tax payment, appropriate workplace or facilities, and internal assessment/management systems. This is similar situation to the difficulties of newly established firms with limited resources of skilled staffs and practical experiences.

Priority challenge to resolve the disparity between SMEs and Large firms, newly established firms and older firms is the improvement of access to relevant information. WTO (2016) indicated that SMEs needs to face the cost of gathering information. Lack of knowledge about regulations could result in the product not complying with the importing country regulations, which, in turn, could cause the firm to face the costs of the product's rejection at the border of the target country. The problem or difficulty for SMEs in the absence of timely and up-to-date information are identified in several proposals made by ASEAN-based business

councils such as ASEAN Business Advisory Council (ABAC), ASEAN-EU Business council, or Federation of Japanese Chambers of Commerce and Industry in ASEAN (FJCCIA). In this regard, ASEAN Trade Repository (ATR) and National Trade Repository (NTR) of each ASEAN member state, mentioned as “trade facilitation platform” in the ASEAN Strategic action plan for Trade in goods, will play a key role to enable easier access to information. Further challenge to enhance the ATR’s function as an information platform as well as more user-friendly interface of each NTR should be pursued. Through the ATR and NTRs, public can freely access tariff, regulatory and procedural information for trade.

In addition, as relatively medium-to long-term challenge for ASEAN policymaker to focus the target sector more effectively, is the engagement and collaboration with private sector. ASEAN policymakers should collaborate with representative Business Councils/business associations to promote key messages on SMEs, and conduct regular dialogues with private sectors at the regional level to collect the useful input from target sector. Each council or association should also encourage and deepen its own mechanism of identifying actual barriers for SMEs, proposing direct claims to the targeted member states, as well as the securing of dialogue opportunities with relevant ASEAN sectoral bodies on the matters.

Second, based on the empirical result showing that export oriented firms are experiencing relatively shorter time in import cargo release, increasing the export ratio of ASEAN firms by sector focused promotion schemes can be considered as an efficient policy measure which contribute to trade increase as well as customs facilitation.

One of those considerable reasons for the difference in cargo release time by export ratio, is export promotion zones or facilities schemes including Special Economic Zones, Export Processing Zone, Bonded Warehouse, Free Zone or any other zonal incentives where locating companies can be provided with one-stop services centers with customs offices facilities as well as application and issuance of licensing, permission, administrative procedures in each zone. Generally, raw materials or parts to be used for the export production can be brought into the zone with free import duty or bonded treatment with simplified and expedited customs procedures. Accordingly, further challenge by each member state to facilitate and expand those zonal incentives and one-stop services will contribute overall trade facilitation.

As for the regional initiatives for export promotion or expansion, with the strategy of “Integration into the Global Economy” being a 4th pillar of former AEC Blueprint 2015, ASEAN have progressively concluded the ASEAN+1 FTAs with key trading partners in Asia Pacific region. However, there are several challenges still left for ASEAN policy makers as rules and procedures for the implementation of FTAs/EPAs are so complicated, that practical issues and problems commonly happens at the site of business in every member states. According to a questionnaire survey conducted by JETRO Bangkok in February 2016 at Bangkok, 48% out of 139 valid responses pointed out “Troublesome procedure for Certificate of Origin (CO) issuance” as problems/difficulties for utilization of the FTA in Export. Then followed by “Handling of different Rules of Origin by each FTA/EPA” (32%) and “Description Requirement on CO such as FOB price indication” (27%). For encouraging exporter to utilize existing ASEAN-centralized FTAs, the unification in each different Rules of Origin and operational certification procedures under ASEAN Trade in Goods Agreement (ATIGA) and ASEAN+1 FTAs is the priority challenge for policy makers.

Last factor of the empirical result is the import relations with other ASEAN member states which contributes to the reduction of the cargo release time. This also provides several

implications for ASEAN policymakers. Because lesser time for import cargo release in intra-ASEAN trade, in comparison with inter-ASEAN trade, simply means that AEC's trade facilitation initiative has been making certain tangible outcomes. Those initiatives are, for instance, launch of trade information portal such as ATR/NTRs, computerization of the customs documents and procedures in each member state under ASEAN Single Window (ASW) initiatives, implementation of the unified tariff nomenclature based on the ASEAN Harmonized Tariff Nomenclature (AHTN), cooperation in customs valuation and classification among ASEAN Customs officers, etc. In view of customs facilitation, among others, the launching of the ASW is a key measure as it has a function of one-stop service for every clearance and port-related procedure and include on-line connection to every involved port, ministry and government agency, and a paperless electronic data linkage system. ASW also leads development to diminish the room for human intervention which may cause individual officers' discretionary judgment. As a first step towards the implementation of ASW, 10 member states should commit own customs clearance procedures to be under e-system, together with e-payment system for custom duties, and e-application of Certificate of Origin to utilize ATIGA.

Establishment of AEO programs, stated as "key strategic measures" for trade facilitation in AEC Blueprint 2025 (A.1.10.iii) is another key measure to be pursued by each member state. It should be further followed by a challenge of mutual recognition among all member states. For the practical implementation of the AEO programs, criteria and conditions for SMEs to apply and to be approved with AEO status should be relatively flexible and relaxed, considering the aforesaid disadvantages against SMEs.

Conclusion

This paper empirically investigated how firm characteristics are related to import cargo release time in sea and air transportations. We found that 1) larger firms in terms of the number of employees, 2) older firms in terms of years after establishment, 3) export oriented firms in terms of the share of exports in total sales, and 4) firms having import relations with other ASEAN member states experience relatively shorter time in custom clearance procedure. These results imply that ASEAN's policy implementation for customs facilitation should be more focused on supporting small and medium enterprises or newly established firms, encouraging effectual export promotion schemes, expanding intra-ASEAN trade, and the composition of them. Priority measures to be taken by ASEAN policymakers include, improvement of information access by web-portal, engagement and collaboration with private sector through dialogues, encouragement of export incentives by each member state, unification in each different Rules of Origin of effective FTAs, computerization of the customs documents and procedures towards gradual ASW formation, and establishment and mutual recognition of AEO program among member states. Those measures should be mutually challenged through state-level and ASEAN regional-level initiatives.

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