Jeffrey Cheah Institute on Southeast Asia

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Sunway University, Malaysia

FTA UTILISATION AND IMPACT OF REGIONAL TRADE AGREEMENT ON TRADE OF ASEAN AND AUSTRALIA: AANZFTA

(ASEAN-Australia-New Zealand Free Trade Agreement)

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JCI-JSC Working Paper

JCI-JSC-WP-2019-02

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July 2019

ISBN: To be released.

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ABSTRACT

In this paper, we examine the impact of ASEAN-Australia-New Zealand Free Trade Agreement (AANZFTA) on Australian trade and in particular on imports from ASEAN member countries to Australia. This paper explicitly examines the FTA utilisation (AANZFTA) by ASEAN countries (10 ASEAN countries) at 6 digit-trade classification from 2012-2016 using Australian customs data. We implement the Hayakawa and Shiino (2018) model of FTA utilisation based on preferential tariff margin. The study accounts for both multilateral and bilateral FTAs across the countries in study. The result indicate that the preferential margin is positive indicating positive impact on FTA utilisation. However, the results also indicate that the utilisation rates of AANZFTA are low across the ASEAN countries as compared to bilateral FTAs in Malaysia, Thailand and Singapore. We also found exporting-effects in Indonesia, Malaysia, Philippines and Vietnam. The learning-effects of using FTAs are also strong in our study. We also found evidence of co-sharing rule in the FTA tends to increase the utilisation of FTAs.

Key words: preferential tariffs - trade liberalisation - preference erosion

JEL classification: F13, F15, F53

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FTA UTILISATION AND IMPACT OF REGIONAL TRADE AGREEMENT ON TRADE OF ASEAN AND AUSTRALIA: AANZFTA (ASEAN-AUSTRALIA-NEW ZEALAND FREE TRADE AGREEMENT)

Introduction

The ASEAN-Australia-New Zealand Free Trade Agreement (AANZFTA) is a free trade agreement that integrates ASEAN with Australia and New Zealand in the Asia Pacific region. It is an agreement in trade and services in the region that creates a free trade area of over 660 million people in the region, making it the 3rd largest trading block in the World. AANZFTA was signed at the 14th ASEAN Summit in Thailand in January 2010. AANZFTA is the first regional agreement signed by these countries and also the first such agreement that Australia and New Zealand signed jointly with other trading partners.

This study examines the impact of AANZFTA on trade between ASEAN and Australia. In particular, the study examines the impact of AANZFTA on Australian imports from ASEAN countries in terms of utilisation of AANZFTA. This paper explicitly examines the FTA utilisation (AANZFTA) by ASEAN countries (10 ASEAN countries) at 6 digit-trade classification from 2012-2016 using Australian customs data. We implement the Hayakawa and Shiino (2018) model of FTA utilisation based on preferential tariff margin. The study accounts for both multilateral and bilateral FTAs across the countries studied.

FTA utilisation has been measured in number of ways, such as the 'Utility Rate' which measures the share of trade values for FTA eligible products in total trade values (Candau et al., 2004). Other studies have looked at the number of trading firms that use free trade agreements in relation to the total number of trading firms (Hayakawa et al. 2013a). Despite these interpretations, the most common measure is the value of imports receiving preferential treatment as a share of total value of imports eligible for preferential treatment (Keck & Lendle 2012; Hayakwa et al 2013b; Kaufmann 2014).

Recent studies highlight low utilisation of regional FTAs by businesses – they have only been adopted by larger businesses (Tambunan and Chandra, 2014; Kawai and Wignaraja, 2010 and Chia, 2010). This raises important policy questions on the impact of FTAs on business activities and the overall trade policy within the ASEAN region.

Several studies have highlighted the 'learning-effects' and 'scale-effects' of FTAs. Kawai and Wignaraja (2009) found that utilisation rates increased over time due to a learning process, whereby

firms took considerable time to learn and take advantage of new preferences from FTAs. Aside from time and a 'learning effect', Hayawaka et al. (2014) identify the margin effect, scale effect, and ROO effect to be the main determinants of FTA utilisation. The proliferation of FTAs as well as the subsequent erosion of preferences (reduced margins) is potentially one of the larger reasons for low utilisation rates, highlighted by very few Japanese firms making use of the Japan-Singapore FTA due to Singapore's near zero MFN rates. (Takahashi and Urata 2010). Studies have found that the effects of preference margin on utilisation rate ('margin effect') can vary considerably across importing countries. Hayakawa et al. (2014) found the coefficient of the margin effect to be around 0.01 in Korea whereas Keck and Lendle (2012) found it to be 0.1 in the USA, 2.2 in the EU, 1.1 in Canada and around 2.5 in Australia. The 'scale effect' is simply the correlation between a high volume of imports in the specific sector and the utilisation rate in that same sector. Most studies have concluded that the scale effect is positive, with elasticities varying across importing countries from around 0.03 to 0.07 (Keck and Lendle 2012; Hayakawa et al. 2014).

Finally, the ROO effect has possibly been the subject of the most studies in recent years, with the logic that more restrictive rules of origin will reduce the utilisation of free trade agreements. Kaufmann (2014) and Keck and Lendle (2012) amongst others predictably found the ROO effect to be significantly negative depending with coefficients, contingent on the exact measurement and analysis i.e. ROO index vs dummy variable approach. Hayakawa and Nuttawut (2015) further expanded on this research by finding that harmonisation of ROOs across different FTAs reduced costs and thereby increased utilisation rates.

Recent studies use customs level data at product and firm level to examine the effects of preferential margins on FTA utilisation. For example, in Hayakawa (2018), they observed a larger preferential margin between MFN rate and FTA tariff rate tend to have positive impact on the FTA utilisation rate. Recent studies also indicate positive impacts of FTA utilisation in Asia and ASEAN. Chang and Hayakawa (2014) note the positive effect of preferential margin on imports from China under the Economic Cooperation Framework Agreement for the Taiwanese firms. We also observe a positive impact on FTA utilisation in Korean imports from ASEAN under the ASEAN-Korea FTA (Hayakawa, Kim, and Lee, 2014) and the imports of Thailand under their FTAs (Hayakawa and Laksanapanyakul, 2018). A recent study by Hayakawa and Shiino (2018) highlights the impact of FTAs on imports of Japanese FTAs. For Indonesia, we also found positive impact of FTAs on imports of Indonesia FTAs (Narjoko, Rafitrandi, and Wicaksono, 2018).

The paper is organised as follows. Section 2 provides a brief overview of the trade relationship between ASEAN and Australia. In section 3, we provide a summary of the FTAs completed by Australia. In Section 4, we provide the FTA utilisation rate and the empirical model to examine the utilisation of FTA. The policy conclusion is given at Section 5.

TRADE AND INTEGRATION BETWEEN ASEAN AND AUSTRALIA: ASEAN-AUSTRALIA-NEW ZEALAND FTA (AANZFTA)

As major trading partners of ASEAN, Australia and New Zealand are closely connected with ASEAN both economically and politically. Figure 1 reports the exports of ASEAN to Australia and New Zealand during the period 2000-2015. ASEAN export to Australia and New Zealand export have increased steadily with annually growth rate of over 10% after the financial crisis in 2008. We also observe similar trends in imports between ASEAN and Australia. As given at Figure 2, we observe a rising trend in imports from Australia and New Zealand to ASEAN, particularly after the establishment of AANZFTA in 2010. The average annual growth rate of ASEAN import from Australia and New Zealand were 11% and 1.6% respectively during 2000-2008. In fact, we observe a strong rise in imports from Australia as compared to New Zealand after the implementation of AANZFTA. However, we also observe that imports from New Zealand increased to nearly 4% from 2010-2015. The rapid growth in trade between ASEAN and Australia and New Zealand has established solid economic foundations for further cooperation in trade and investment in terms of regional free trade agreements.

The AANZFTA agreement came into force in 2010 and has been implemented by all the signatory countries. The AANZFTA agreement maintains the open market and a new prospect for trade liberalisation. Amongst the existing ASEAN+1 FTAs, the AANZFTA is the most liberal with the commitment to eliminate more than 95 percent tariff lines (Isono and Fukunaga, 2013). Table 1 shows the tariff elimination target years under the ASEAN+1 FTAs. The FTA members in the tables correspond to Australia and New Zealand for AANZFTA, China for ACFTA, India for AIFTA, Japan for AJCEP, and Korea for AKFTA.

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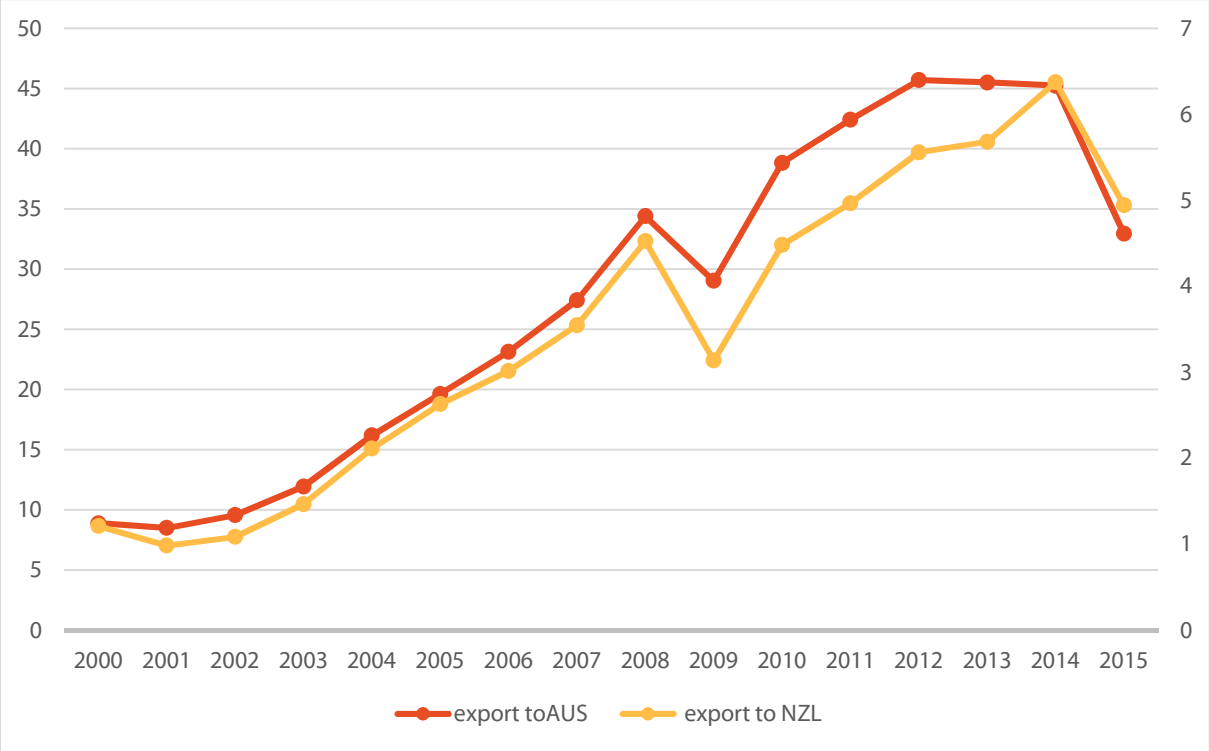

Figure 1: ASEAN to Export to Australia and New Zealand, 2000-2015

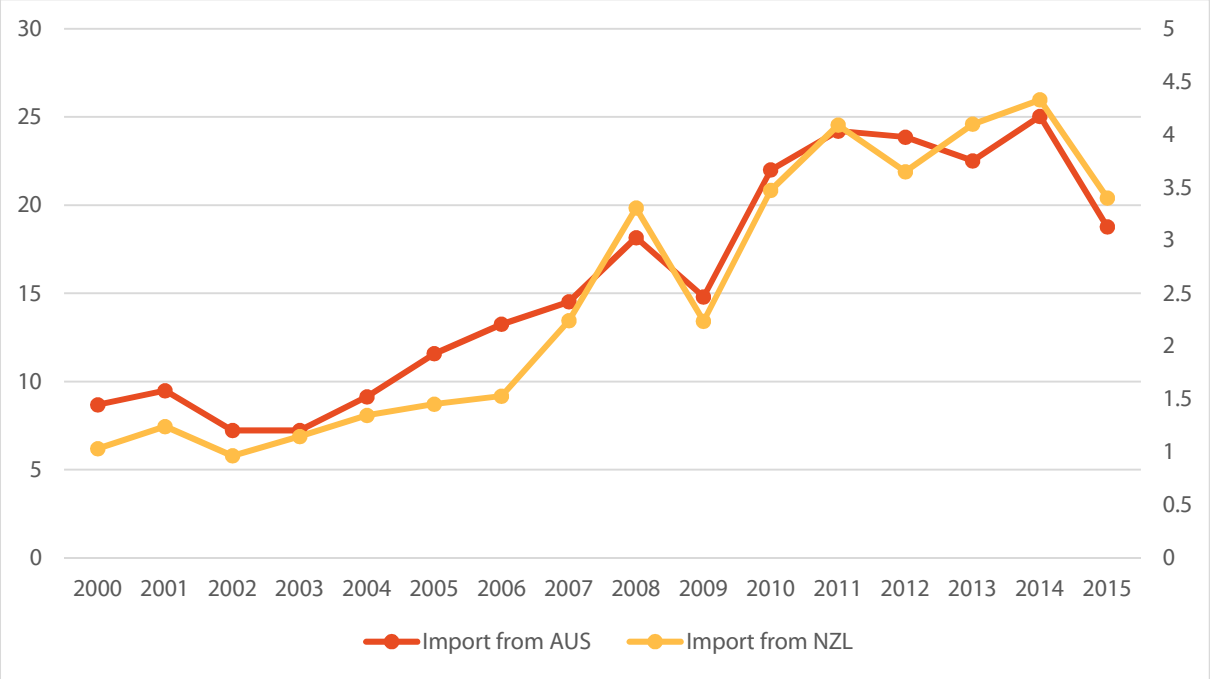

Figure 2: ASEAN Imports from Australia and New Zealand, 2000-2016

Source: ASEAN Secretariat; growth rate of Australia is given at the left-side and New-Zealand on the right-side of the vertical axis

	ASEAN-ANZ	ASEAN-China	ASEAN-India	ASEAN-Japan	ASEAN-Korea
BRN	99.2%	98.3%	85.3%	97.7%	99.2%
CAM	89.1%	89.9%	88.4%	85.7%	97.1%
IDN	93.7%	92.3%	48.7%	91.2%	91.2%
LAO	91.9%	97.6%	80.1%	86.9%	90.0%
MLS	97.4%	93.4%	79.8%	94.1%	95.5%
MYA	88.1%	*94.5%*	76.6%	85.2%	92.2%
PHI	95.1%	93.0%	80.9%	97.4%	99.0%
SGP	100.0%	100.0%	100.0%	100.0%	100.0%
THA	98.9%	93.5%	78.1%	96.8%	95.6%
VTN	94.8%	n.a.	79.5%	94.4%	89.4%
AUS	100.0%	-	-	-	-
CHN	-	94.1%	-	-	-
IND	-	-	78.8%	-	-
JPN	-	-	-	91.9%	-
KOR	-	-	-	-	90.5%
NZ	100.0%	-	-	-	-
Average	**95.7%**	**94.7%**	**79.6%**	**92.8%**	**94.5%**

Table 1. Tariff Elimination Coverage by Country under the ASEAN+1 FTAs

Source: Isono and Fukunaga (2013)
Notes: HS 6-digit base. Data on Viet Nam under the ASEAN-China are missing. Data on Myanmar under the ASEAN-China FTA are also missing for HS01-HS08.

FTA UTILISATION AND IMPACT ON AUSTRALIAN IMPORTS: AANZFTA

Data and Methodology

The Australian Customs Service collects detailed data on trade entering Australia by country of origin and preference code for each six-digit HS classification, and this information is made available at a cost from the Australian Bureau of Statistics. Preference margins are calculated with MFN and AANZFTA tariff schedules sourced from DFAT. Similarly, the ROO data is compiled from the Product Specific Rules of Origin for AANZFTA made available from DFAT. The constructed dataset covers all imports into Australia between 2012 and 2016 from the ten ASEAN countries that are part of the AANZFTA agreement. The summary statistics is given at Table 2.

Utilisation rates are calculated by the formula below.

$$AAANZFTA\ Utilisation\ Rate = \frac{Trade\ Value_{ijpst}}{Total\ Trade\ Value_{ijpt}} \qquad \text{eq (1)}$$

where *i* is the importing country (Australia), *j* is the exporting ASEAN country, *p* is the product defined by 6-digit HS code, S is the FTA Scheme which in this case is always preference code N for AANZFTA, and t is the year.

Preference Margins are calculated by the formula below:

$$AANZFTA\ Preference\ Margin = Average\ Tariff\ Rate_{ipst} - Average\ Tariff\ Rate_{ijpst}$$

eq (2)

where the variables remain the same and the scheme being Z, or the MFN rate, in the first case and N, for the AANZFTA rate, in the latter measurement. An average tariff rate is taken as tariff schedules are aggregated from HS-10 level to HS-6 to match the customs clearance data. Hayakawa and Nuttawut (2015) found that a preference margin taken from minimums, maximums, or means when aggregated has little effect on research outcomes.

	Mean	St. Dev	Min.	Max	Count
ASEAN Utilisation Rate	0.150	0.3188	0	1	54246
Preference Margin	0.029	0.0291	-0.05	0.1	54246
Imports	4036676.83	80021437.97	1000	7312718109	54246

Table 2: Summary Statistics of Custom Data
Source: Authors' calculation

Empirical Results

The empirical strategy is to follow from a simple framework to more complicated estimations. The model was examined in four different empirical variations from a simple OLS regression of utilisation against margins and imports, and gradually adding complexity until the full model as described above. The full results are given at Table 3.

Dependent variable: *u*	**(1)**	**(2)**	**(3)**	**(4)**
VARIABLES	**Simple Model**	**Country FE**	**Country/Year FE**	**Full Model**
Margin	2.954***	2.987***	2.924***	2.846***
	(0.0600)	(0.0573)	(0.0577)	(0.0587)
lnM	0.0180***	0.0186***	0.0183***	0.0186***
	(0.000572)	(0.000559)	(0.000559)	(0.000561)
Constant	-0.144***	-0.242***	-0.252***	-0.206***
	(0.00660)	(0.0232)	(0.0233)	(0.0257)
Observations	54,246	54,246	54,246	54,246
Country-Product Pairs	16,080	16,080	16,080	16,080
R-Squared	0.15	0.25	0.25	0.26
Exporter Dummies	NO	YES	YES	YES
Year FE	NO	No	YES	YES
ROO Dummies				YES

Table 3: Empirical Results of Preferential Margin of FTAs and Utilisation in AANZFTA

The results given at Table 3 are remarkably robust and tend to be in line with existing literature. An increase in preference margin of 10 percentage points would expected to be associated with an increase in the utilisation by around 29 percentage points. This coefficient is fairly similar to the result obtained by Keck and Lendle (2012) who, with a similar regression model, found it to be around 2.5 using data on Australian imports in 2008. The coefficient on lnM is slightly lower than those in Keck and Lendle (2012) which ranged from 0.03 to 0.08, but this may be due to a number of different reasons including differing time periods, FTA schemes, and methodology. The results imply that if imports were to double (increase by 100%) we would expect utilisation to increase by around 1.8 percentage points.

Although the simple model sheds light onto the 'margin effect' and the 'scale effect', the full results of model four allow us to find insights into exporting country impacts, the 'learning effect', and the 'ROO Effect' as reported in the Tables 4 and 5.

With all other effects held constant, Indonesia, Philippines, Vietnam, and Malaysia appear to be the biggest users of the AANZFTA free trade agreement with an average utilisation rate of around 10-20 percentage points higher than Brunei. The remaining member countries have utilisation rates that do not differ significantly from Brunei. These results generally align with the raw utilisation rates, with the exception of Cambodia who had the third highest raw utilisation rate[1] but does not have a significantly positive 'country effect'.

Dependent Variable=*u* **COUNTRY VARIABLES**	**(4)** **Full Model**
Country of Origin = 2, Cambodia	0.0248 (0.0256)
Country of Origin = 3, Indonesia	0.197*** (0.0230)
Country of Origin = 4, Laos	0.0208 (0.0314)
Country of Origin = 5, Malaysia	0.107*** (0.0230)
Country of Origin = 6, Myanmar, Republic of	0.0223 (0.0261)
Country of Origin = 7, Philippines	0.169*** (0.0233)
Country of Origin = 8, Singapore	-0.0141 (0.0230)
Country of Origin = 9, Thailand	-0.0289 (0.0230)
Country of Origin = 10, Viet Nam	0.160*** (0.0231)

Table 4: Impact of AANZFTA and Utilisation by Country
*BASE COUNTRY IS BRUNEI. Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1*

[1] From previous work on AANZFTA utilisation rates.

Dependent Variable=*u* YEAR VARIABLES	(4) Full Model
Year = 2, 2013	0.0178*** (0.00232)
Year = 3, 2014	0.0210*** (0.00232)
Year = 4, 2015	0.0206*** (0.00233)
Year = 5, 2016	0.0339*** (0.00233)

Table 5: Impact of AANZFTA and Utilisation over time (Learning Effects): 2013 – 2016
*BASE YEAR IS 2012. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1*

Taken in isolation and holding all other variables constant, the results above clearly show the 'learning effect' in practice. One year after full membership in the AANZFTA, utilisation rates were expected to be around 1.7 percentage points higher and by 2016 this 'learning effect' had increased to around 3.4 percentage points.

The ROO effects have possibly been the subject of the most study in recent years with the idea that more restrictive rules of origin will reduce the utilisation of free trade agreements. Kaufmann (2014) and Keck and Lendle (2012) amongst others predictably found the ROO effect to be significantly negative depending on the exact measurements in terms of ROO index as compared to the dummy variable approach. Hayakawa and Nuttawut (2015) further expanded on this research by finding that harmonisation of ROOs across different FTAs reduced costs and thereby increased utilisation rates.

Recent studies by Medalla and Rosellon (2012) and Medalla (2011) highlight the difficulty of convergence of the ROOs across different FTAs in ASEAN in terms of global production value-chain activities. Without identifying specific information on the ROO and the production processes, it is difficult to categorise one rule to be less restrictive than the other. However, Medalla and Rosellon (2012) highlight the following observations: (a) the lower the required minimum in the Regional Value Content (RVC), the less restrictive is the ROO; (b) the higher the digit level of product classification in Change in Tariff Classification (CTC), the less restrictive is the ROO; and (c) the more Special Product Requirements (SPRs), the more restrictive is the ROO.

The study by Medalla (2011) creates the ROO restrictiveness index and ranked ROOs in terms of its restrictiveness to FTA utilisation. The study highlights the following:

(a) CTSH (Change in Tariff Sub-Headings) is less restrictive than CTH (Change in Trade Headings), RVC (40) and SP. In turn, CTH, RVC (40) and SPR is less restrictive than CC (Change in Classification) (5) and WO (Wholly Obtained) (6): CTSH (3) <CTH (0.4), RVC (0.4), SP (0.4) < CC (5) <WO (6);

(b) co-equal sharing rules that allow exporters to choose one or the other rule are less restrictive; and

(c) more restrictive is the requirement to comply with more than one rule (plus rather than either/or) that requires to adopt both rules.

The paper examines the impact of ROOs on FTA utilisation based on the above. The empirical results by types of ROOs and FTA utilisation are given at Table 6. We also summarise the results of our study at Table 7 with the ROO Restrictiveness Index given by Medella (2011) in the parenthesis.

Dependent Variable=*u* ROO VARIABLES	(4) Full Model
ROO = 2, CC or SP	-0.0437*** (0.0133)
ROO = 3, CC+SP	-0.00965 (0.0200)
ROO = 4, CTH	0.0176 (0.0217)
ROO = 5, CTH or SP	-0.0511*** (0.0187)
ROO = 6, RVC	-0.125*** (0.0176)
ROO = 7, RVC + CTSH	0.0157 (0.0580)
ROO = 8, RVC or CC	-0.0524*** (0.0125)
ROO = 9, RVC or CC or SP	0.106*** (0.0292)
ROO = 10, RVC or CTH	-0.0260** (0.0117)
ROO = 11, RVC or CTH or RVC + CTSH	-0.0840*** (0.0137)
ROO = 12, RVC or CTH or SP	0.117*** (0.0253)
ROO = 13, RVC or CTSH	-0.0719*** (0.0123)
ROO = 14, RVC or CTSH or SP	-0.110 (0.0702)
ROO = 15, RVC or SP	-0.0670* (0.0402)
ROO = 16, SP	-0.0201 (0.0347)
ROO = 17, WO	-0.0811*** (0.0183)
ROO = 18, WO or SP	-0.0974*** (0.0270)

Table 6: Impact of AANZFTA and Utilisation by Types of ROOs
*BASE ROO is CC. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1*

Low (<0.06)	Medium (>0.06<0.08)	High (>0.08)
CC or SP* [3.7]	RVC+CTSH* [4.9]	RVC* [4.0]
CC+SP [6.5]	RVC or SP* [3.6]	WO* [6]
CTH [4]		WO or SP* [6]
CTH or SP* [3.6]		RVC or CTH or RVC + CTSH* [5.5]
RVC+CTSH [4.9]		RVC or CTSH or SP [3.5]
RVC or CC* [3.7]		
RVC or CC or SP** [3.5]		
RVC or CTH or SP* [3.5]		
RVC or CTH* [3.7]		

Table 7: ROOs and Level of Restrictions
Parenthesis includes Medalla (2011) ROO Restrictiveness Index.
- indicates 5% statistical significance*

We take the cut-off of the coefficient of less than 0.06 as very low ROO restrictiveness, between 0.06 to 0.08 as medium level of restrictiveness and coefficients greater than 0.08 as very restrictive.[2] The results of our study support the observations made at Medalla (2011). Firstly, we observe that co-equal sharing rules are less restrictive when compared to compliance with more than one rule. In our study, the co-equal sharing rules that allow the exporters to choose one rule or the other tend to have a positive impact on the FTA utilisation. For example, the option to choose the RVC or CTH or SP is statistically significant and have a positive impact on FTA utilisation. We also observe that the option to choose one of the following rules, RVC or CC or SP, is also statistically significant with positive impact on FTA utilisation. However, we observe the option to choose RVC or CSTH or SP is negative but not statistically significant. Secondly, we also observe that WO (wholly obtained) has a higher level of restrictiveness as compare to CTH (Change in Tariff Headings). However, we also observe that RVC and WO is restrictive without any co-equal sharing rule. In fact, we observe that WO is highly restrictive as verified by Medalla (2011) but it becomes less restrictive with a co-sharing rule. Thirdly, we found that compliance to more than one rule tends to be very restrictive as was similarly concluded in Medalla (2011). For example, our results indicate that the compliance of both RVC or CTH or RVC+CTSH is very restrictive for businesses to adopt the FTA.

The results of our paper highlights that the utilisation of FTAs is based on operational and administrative aspects of ROOs that are not captured in the rules and types of ROOs adopted. This might be the case of co-sharing rule with RVC or CSTH or SP, which is negative but not statistically significant. Businesses tend to use FTAs that have simple rules and which are easier to coordinate their export activities with, at the lowest transaction cost. This is important in terms of utilisation of FTAs and adoption costs of FTAs that are not captured in the current study.

[2] The cut-offs are determined a bit arbitrarily as a means of understanding the utilisation of FTAs. The variation of the cut-offs did not have much impact on the results obtained in our paper.

POLICY CONCLUSION

In this paper, we examined the impact of ASEAN-Australia-New Zealand Free Trade Agreement (AANZFTA) on Australian trade and in particular on imports from ASEAN member countries to Australia. We explicitly examined the FTA utilisation (AANZFTA) by ASEAN countries (10 ASEAN countries) at 6 digit-trade classification from 2012-2016 using Australian customs data. We also empirically implemented the Hayakawa and Shiino (2018) model of FTA utilisation based on preferential tariff margin. The study accounts for both multilateral and bilateral FTAs across the countries in study.

The results indicate that the preferential margin is positive, indicating positive impact on FTA utilisation. However, the results also indicate that the utilisation rates of AANZFTA are low across ASEAN countries as compared to bilateral FTAs in Malaysia, Thailand and Singapore. We also found exporting effects in Indonesia, Malaysia, Philippines and Vietnam. The learning effects of using FTAs are also strong in our study.

The results of low FTA utilisation rate in AANZFTA are concerning as ASEAN is emerging as one of the key trade and investment partners of Australia. AANZFTA will be renegotiated in 2018 and the new FTAs that Australia has completed over the past 5 years could signal improvements in the renegotiated AANZFTA that could increase its preferential margin and hence the utilisation rate.

Rules of origin is now applied specifically to each product line. The amendment introduces the Regional Value Content as the new method for determining whether a particular good is originating from the relevant country. This new policy reduces costs and complications and is generally in line with the rules of origin under AANZFTA. The procedures for claiming preferential treatment will also have to be modernised. Traders will now be able to self-certify that their goods meet the rules of origin. These procedures will also provide exporters with flexibility to continue to have goods certified by a third party. The results of our study highlight that co-equal sharing rule has greater impact on FTA utilisation as with Medalla (2011) and Medalla and Rosellon (2012).

Studies examining the ROOs have to examine the impact of other administrative issues in terms of compliance and higher transaction costs in applications for special concessions under the FTAs. This directly affects the utilisation of FTAs by businesses. This is not captured in the above studies and could be an important area of extension of the current study.

Further, utilisation of FTAs and returns on FTAs are not based on business usage of FTAs but on the greater impact on trade and investment, access to markets, and addressing behind-border issues. For example, improving the access for businesses to bid for government procurement contracts across member countries has a positive impact on FTA utilisation. The impact of FTAs on investment is higher when companies are not required to appoint to senior management a natural person of particular nationality, which also increases the utilisation of FTAs. These are important issues to be addressed in future studies on utilisation of FTAs.

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ACKNOWLEDGEMENTS

We would like to thank ERIA (Economic Research Institute for ASEAN and East Asia) for the financial support for the project. We could also like to thank the ERIA workshop participants for making constructive comments on the earlier draft.

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