Tariffs and STEs in ASEAN Rice Trade: Impacts of Removing Trade Barriers Using a Partial Equilibrium Approach

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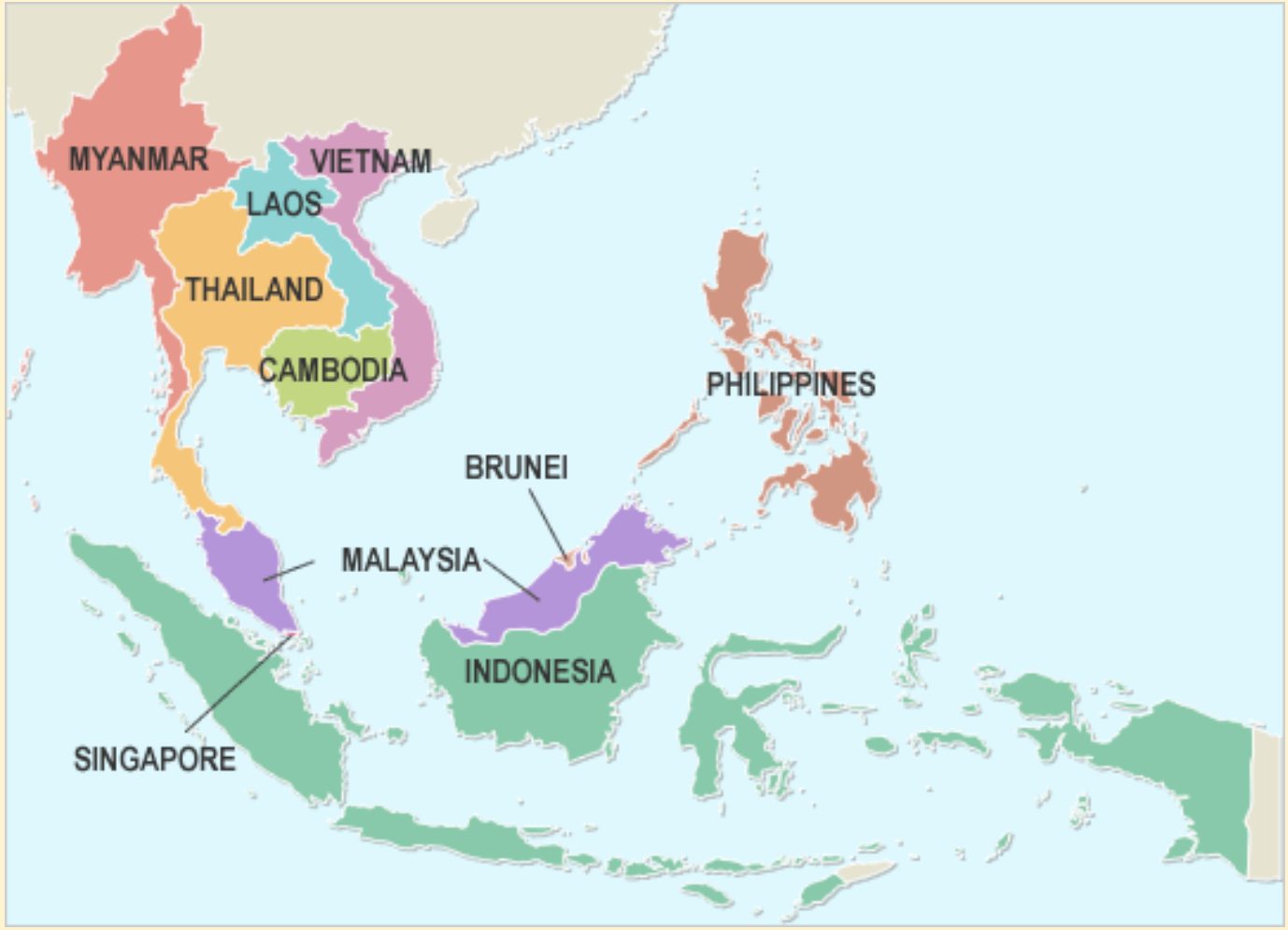
ASEAN


MYANMAR
VIETNAM
LAOS
THAILAND
CAMBODIA
PHILIPPINES
BRUNEI
MALAYSIA
INDONESIA
SINGAPORE

Introduction

- Price stabilization policies (PSPs) are pervasive in Southeast Asian countries, especially in large rice importers such as Indonesia, Malaysia and Philippines
- Justifications: self-sufficiency, food security, warding off world price market volatility (Dawe 2001; Timmer and Dawe 2007)
- PSPs are often implemented by restricting imports (through quotas and tariffs) (Dawe 2008) and through the operation of State-trading enterprises (STEs)

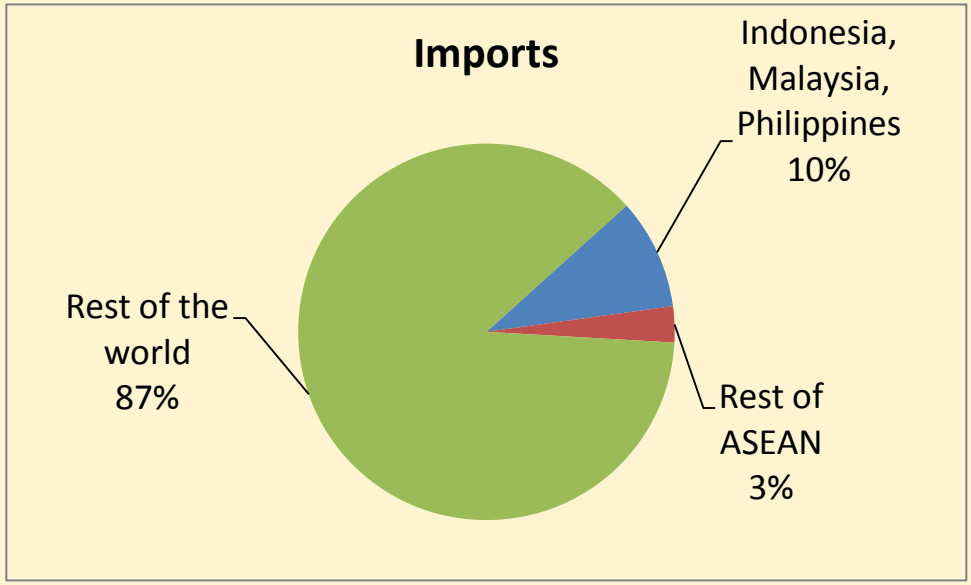
Research Questions

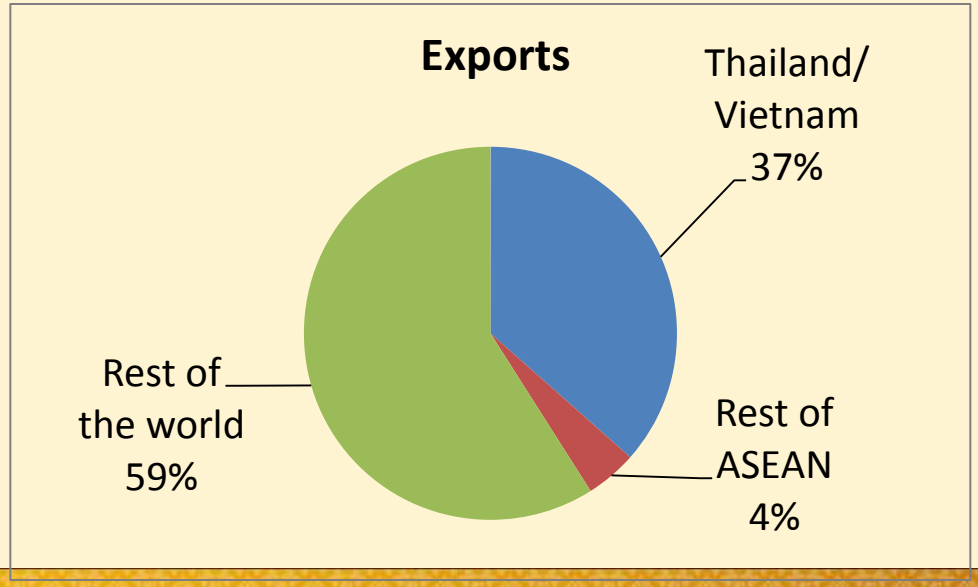
- If countries (Indonesia, Malaysia, Philippines) continue to stabilize domestic prices, how large is the impact of an STE on insulating domestic prices from the world prices?

- If STEs were removed, how large is the impact on the domestic and world market?

- If full trade liberalization is realized, how large is the impact on the domestic and world market?

Rice imports and exports of selected countries, 2013





Source: USDA-PSD, 2014

ASEAN Free Trade Agreement

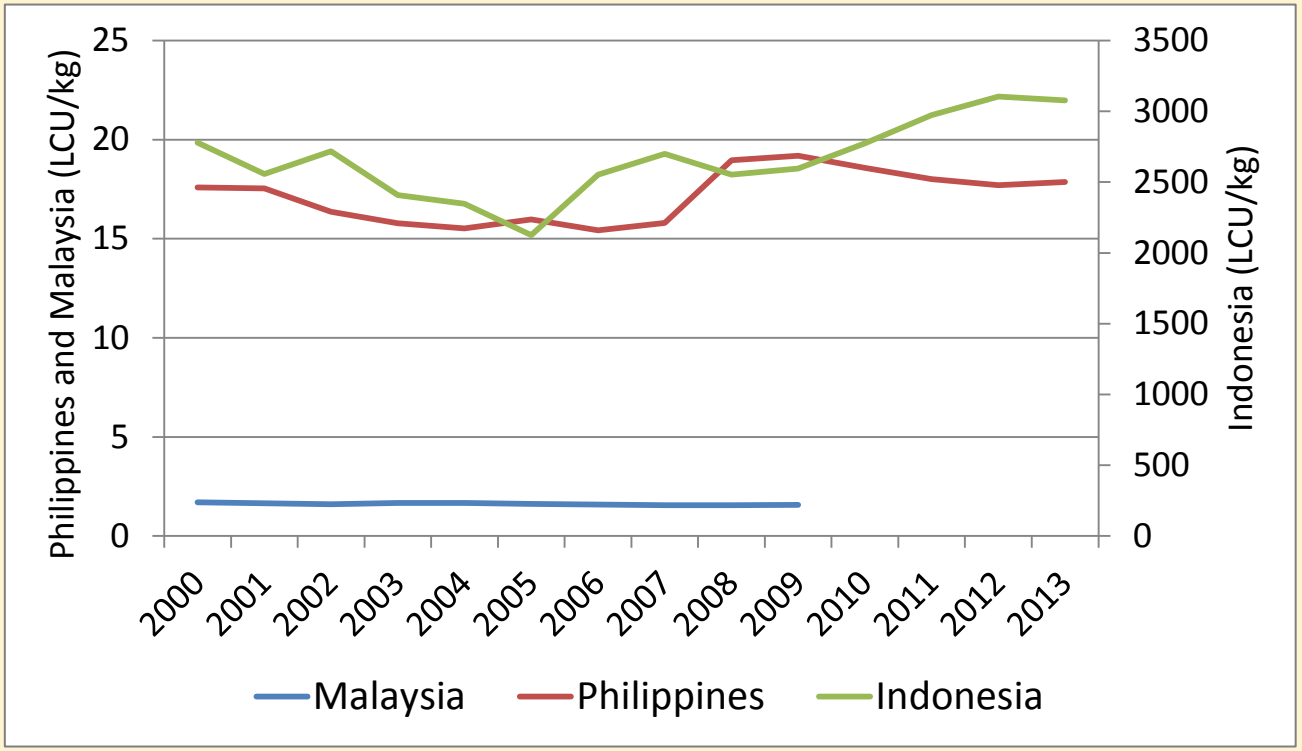
AFTA rice tariff schedule, 2000-2015 (%)

Country	2010	2011	2012	2013	2014	2015
Brunei	0	0	0	0	0	0
Cambodia	5	5	5	0	0	0
Indonesia	**30**	**30**	**30**	**30**	**30**	**25**
Laos	5	5	5	0	0	0
Malaysia	**20**	**20**	**20**	**20**	**20**	**20**
Myanmar	SL	SL	SL	5	5	5
Philippines	**40**	**40**	**40**	**40**	**40**	**35**
Singapore	0	0	0	0	0	0
Thailand	0	0	0	0	0	0
Vietnam	5	5	5	5	0	0

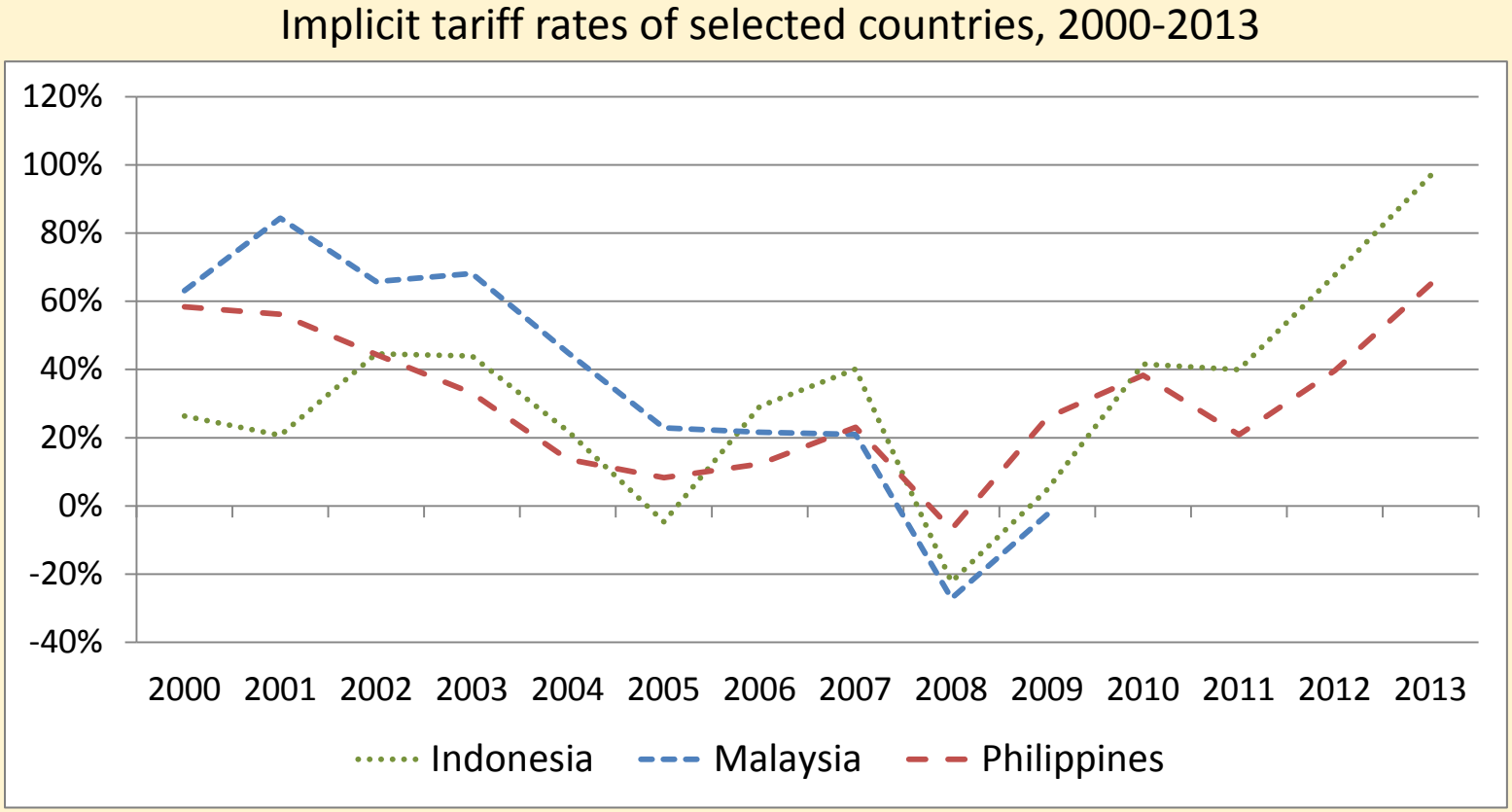
Source: ATIGA, (ASEAN, 2009)

Price stabilization policy

Real retail prices of selected countries, 2000-2013



Implicit tariff



ASEAN-5 model specifications

- A modified version of the International Global Rice Model (IGRM), which is developed and maintained by the International Rice Research Institute (IRRI).
- IGRM is a partial equilibrium model covering 31 major rice producing, consuming and trade countries and regions
- A system of supply and demand equations solved through world prices (Vietnamese 5% broken)

Supply	**Demand**
Milled production	Consumption
Beginning stocks	Ending stocks
Imports	Exports

Net trade = Supply – Demand (Indonesia, Philippines, Malaysia and some others)

Net trade = f(World price, Retail price) (some others - IGRM specifications)

Marketing clearing condition: Vietnam's Net Exports=ROW's Total Net Imports

ASEAN-5 model modifications

- **World hybrid price:**
  - before 2008: Thai 5% broken rice price
  - from 2008 onward: Viet 5% broken rice price

- **Baseline:** assuming the continuation of price stabilization policies by fixing retail prices in real terms at the most current price levels.

- **Implicit tariffs** are derived as the difference between equilibrium world prices and retail prices

$$t_{implicit} = [P_{retail}/((P_{world} + \text{Transportation cost})*1.1)]-1$$

- **"STE tariffs"** are defined as the difference between the overall implicit tariffs and AFTA tariffs

$$t_{STE} = t_{implicit} - t_{AFTA}$$

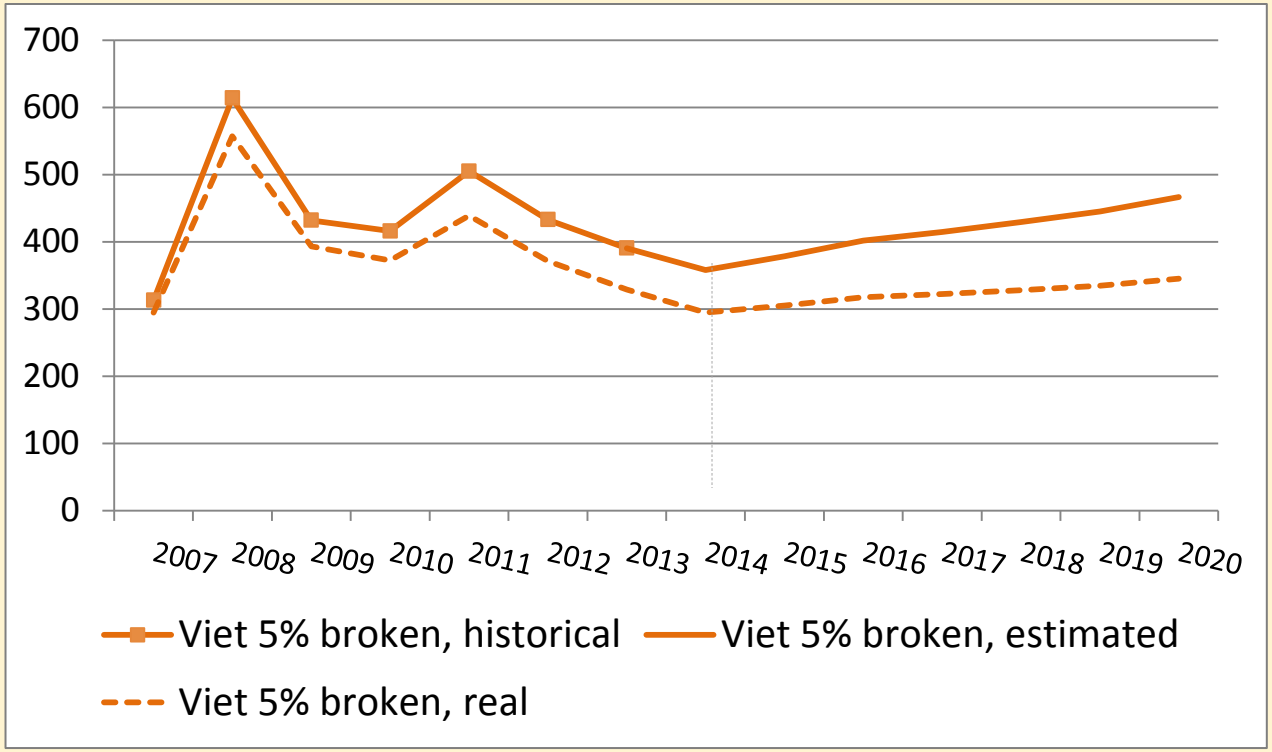
Baseline - Tariffs

Implicit, AFTA and STE tariffs under assumed stabilized prices, 2014-2020

Country	Tariff	2014	2015	2016	2017	2018	2019	2020	Average
Indonesia	*Implicit tariff*	*129%*	*126%*	*123%*	*124%*	*124%*	*124%*	*121%*	***124%***
	AFTA tariff	30%	25%	25%	25%	25%	25%	25%	**26%**
	STE tariff	99%	101%	98%	99%	99%	99%	96%	**99%**
Malaysia	*Implicit tariff*	*54%*	*52%*	*49%*	*50%*	*50%*	*49%*	*46%*	***50%***
	AFTA tariff	20%	20%	20%	20%	20%	20%	20%	**20%**
	STE tariff	34%	32%	29%	30%	30%	29%	26%	**30%**
Philippines	*Implicit tariff*	*87%*	*85%*	*83%*	*85%*	*87%*	*88%*	*87%*	***86%***
	AFTA tariff	40%	35%	35%	35%	35%	35%	35%	**36%**
	STE tariff	47%	50%	48%	50%	52%	53%	52%	**50%**

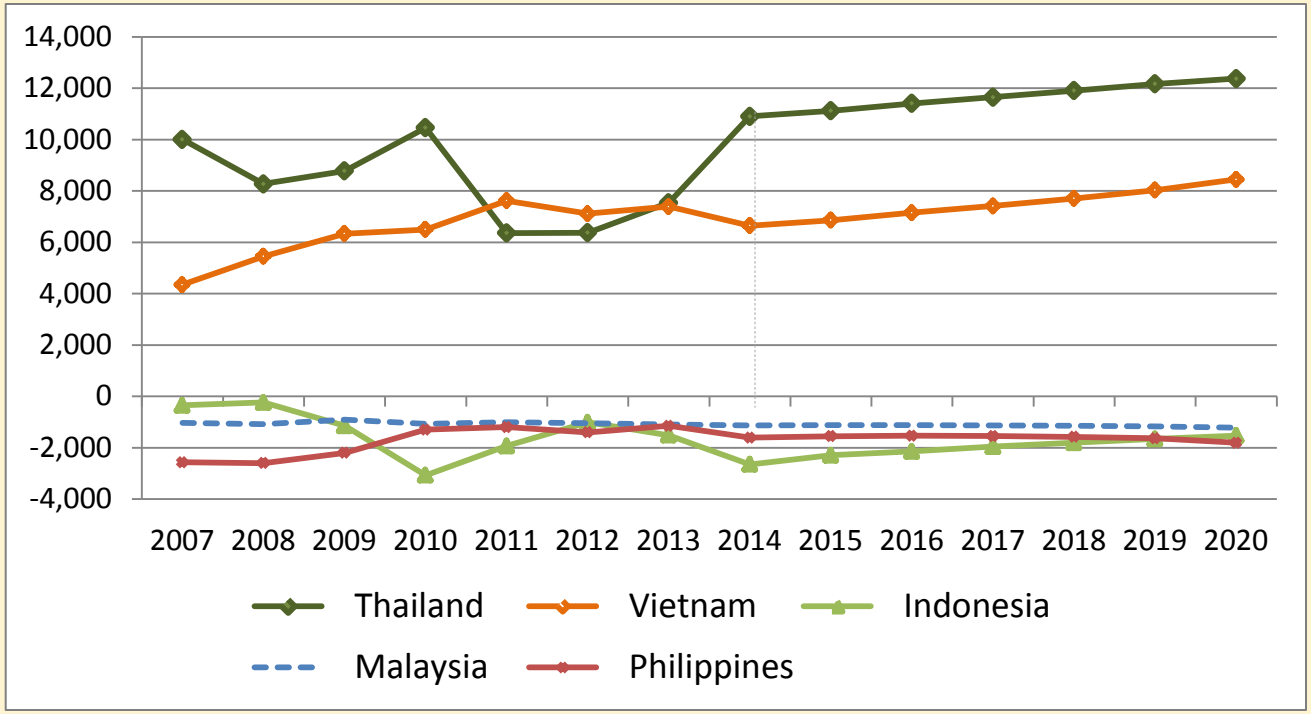
Baseline – World price projections

World reference prices, historical and projected to 2020 (US$/ton)



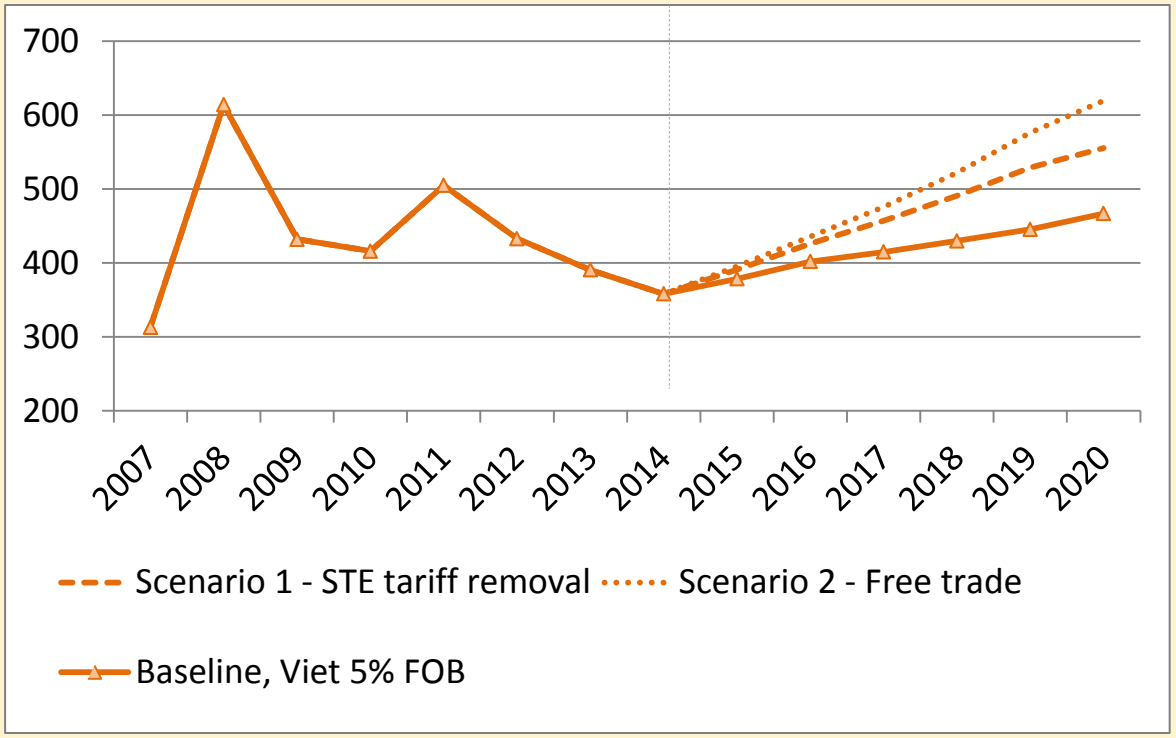
Baseline projections: Net trade

Historical and projected net trade, 2007-2020 (1000MT)



Scenario results

Impacts of tariff reduction on world reference prices ($/MT)



Scenario 1:
-"STE tariffs" are gradually removed starting from 2015 and phased out in 2020.

- AFTA tariffs remain at the baseline level.

Scenario 2: both AFTA tariffs and "STE tariffs" are gradually removed starting from 2015 and phased out in 2020.

Impacts on prices

Retail price and world price differences relative to the baseline in 2020

Country	Unit	2013	Change in 2020			
		Level	STE tariff reduction		Free trade	
			Level	Percent	Level	Percent
Malaysia	LCU/KG	2.0	-0.1	-3.3%	-0.3	-10.7%
Philippines	LCU/KG	33.7	-7.3	-15.6%	-14.5	-30.8%
Indonesia	LCU/KG	8,408.4	-3,963.5	-34.0%	-4,859	-41.7%
Thailand	LCU/KG	14.9	3.0	18.6%	5.2	32.0%
Vietnam	LCU/KG	7,316.5	2,587.4	21.5%	4,459.6	37.0%
Viet 5% Broken Price	US$/MT	390.6	88.6	19.0%	152.7	32.7%

Impacts on net trade

Net trade differences relative to the baseline in 2020 (1000MT)

Country	2013	Change in 2020			
	Level	STE tariff reduction		Free trade	
		Level	Percent	Level	Percent
Malaysia	1,099.4	67.3	5.5%	163.3	13.4%
Philippines	1,149.4	1,085.6	60.1%	2,351.9	130.1%
Indonesia	1,518.5	1,639.0	107.3%	2,097.6	137.3%
Thailand	7,536.9	1,83.8	1.5%	336.4	2.7%
Vietnam	7,390.0	484.5	5.7%	771.4	9.1%

Conclusion

- Under a price stabilization mechanism, STEs are estimated to cause a larger impact on insulating domestic prices than the AFTA tariffs, notably in Indonesia and Philippines.

- The removal of STEs in Indonesia, Malaysia and Philippines decreases domestic prices by as much as 34% and increases the world price by 19% compared to the baseline.

- Under full trade liberalization, domestic prices decrease further, and imports more than double in Philippines and Indonesia. However, low domestic prices may create strong pressures on governments, making this scenario politically unrealistic.

- Partial liberalization seems viable but some level of subsidies for farmers is necessary to protect them from low prices.


Thank you for your attention!
Questions and Comments?
University of Missouri