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Assessing the Poverty and Distributional Impact of Alternative Rice Policies in the Philippines

Caesar Cororaton and Krista Danielle Yu

Selected Paper prepared for presentation at the International Agricultural Trade Research Consortium's (IATRC's) 2019 Annual Meeting: Recent Advances in Applied General Equilibrium Modeling: Relevance and Application to Agricultural Trade Analysis, December 8-10, 2019, Washington, DC.

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Virginia Tech / De La Salle University

2019 IATRC Annual Meeting
Hilton Washington DC
December 8-10, 2018

The Philippines: A Country in South East Asia



Map of the Philippines



Central Luzon –
Philippine Rice Granary
(19% of total
paddy production)

2018 Total paddy production:
19.1 million tons

Luzon: 58.3 %
Visayas: 18.3 %
Mindanao: 23.4%

The Philippines: Some Indicators

- 2012-2018 average annual real GDP growth: 6.5%
- Gross International reserves, November 2019: US\$86.4 billion (7.7 months of imports)
- Govt deficit/GDP ratio in 2018: 3.2%
- Year-on-Year inflation rate in November 2019: 1.3%
- Debt-to-GDP ratio in 2018: 41.9%
- GDP 2019 estimates
 - Nominal: US\$356.8 billion ; PPP: US\$1.03 trillion
- Per capita income 2019 estimates
 - Nominal: US\$3,294; PPP: US\$9,471
- **News as of November 8, 2019!!!** Poverty incidence dropped from 21.5% in 2015 to 16.6% in 2018; 5.9 million Filipinos lifted out of poverty in 3 years
- Population, 2015 census: 101 million
- Average annual population growth in 2010-2015: 1.7%

The Philippines Hosting the Ongoing 2019 SEA Games

30TH SEA GAMES PHILIPPINES 2019

MEDAL TALLY

COUNTRY				TOT
 PHI	122	89	95	306
 VIE	68	63	79	210
 INA	66	65	82	213
 THA	64	79	84	227
 SIN	43	34	51	128
 MAS	42	46	55	143
 MYA	3	16	41	60
 CAM	3	6	21	30
 BRU	2	5	6	13
 LAO	0	5	19	24
 TLS	0	0	1	1

Last updated: December 9, 5:10 p.m.

2019 Philippine Rice Tariffication (Republic Act 11203)

- Replace rice importation quota system with tariffs
 - 35 percent tariff if rice imported from within ASEAN
 - 40 percent tariff if within minimum access volume (MAV) of 350,000 metric tons imports from outside ASEAN
 - 180 percent tariff if above MAV and from non-ASEAN

Objective

- To analyze the potential effects of
 - RA 11203 – rice tariffication
 - Elimination of rice import quota without tariff replacement

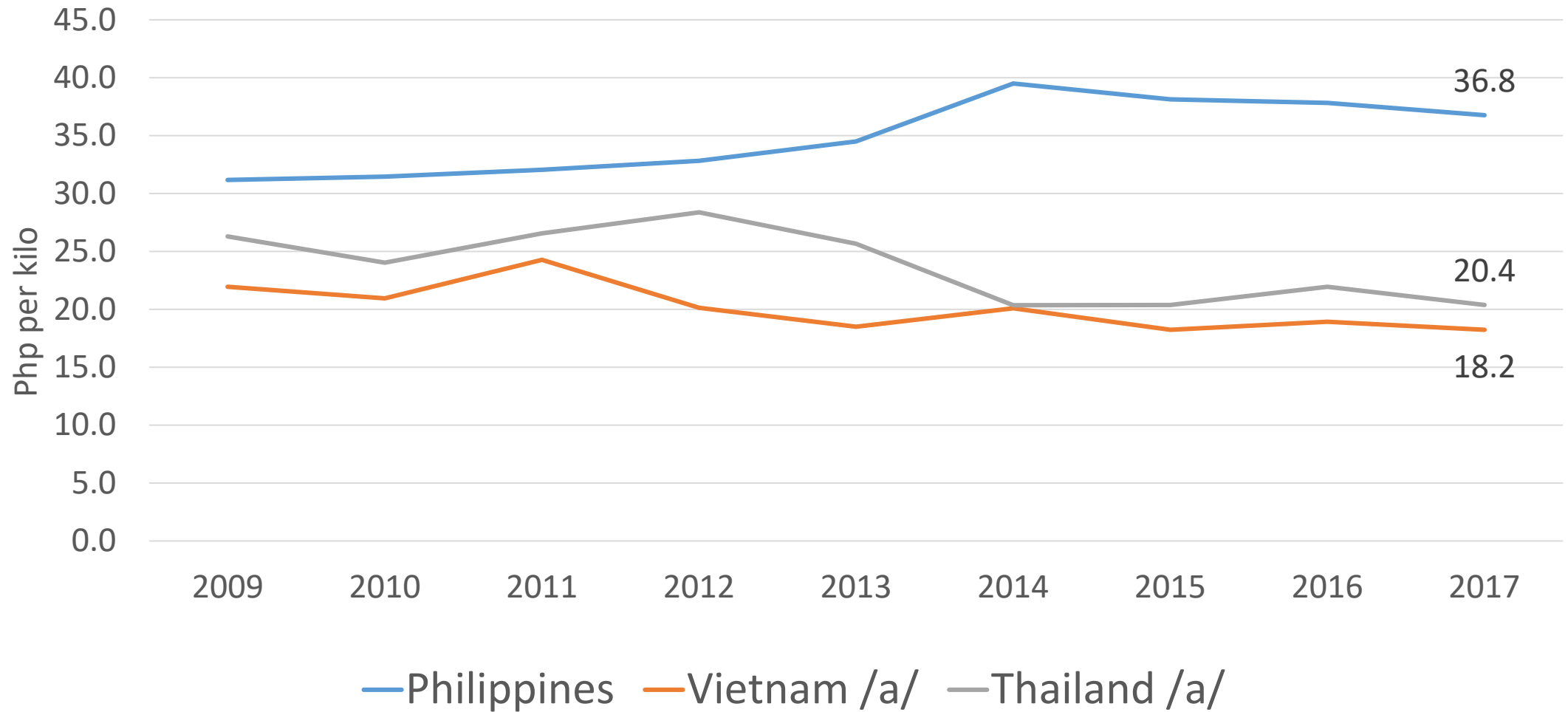
Philippine Rice Production, Imports & Consumption (million metric tons)

	Production				Imports/ Consumption, %
	Paddy	Rice	Imports	Consumption	
2017	19.3	12.5	2.5	15.0	16.6
2018	19.1	12.4	3.1	15.5	20.0

Philippine Rice Imports by Country in 2018

	Value	% of total
Country	US\$ million	Imports
Thailand	355.2	48.2
Vietnam	280.7	38.1
India	45.1	6.1
China	30.7	4.2
Pakistan	21.3	2.9
Myanmar	3.5	0.5
Cambodia	48.0	0.007
Spain	9.0	0.001
Italy	8.0	0.001

Comparative Prices of Rice (Wholesale price, Php/kg)



/a/ 25% broken; includes 20% transport cost

Estimation of Rice Quota Rent

Philippine price, Php/kg	PhP	38.83
- Average of Vietnam and Thailand prices, Php/kg		19.76
Price gap, Php/kg	PhP	19.07
* Imports, million kg		1,283
Value of imports at Philippine price, in million PhP	PhP	49,793
- Value of imports at Vietnam and Thailand prices, in million PhP		25,342
Estimate of quota rent, in million PhP	PhP	24,451
Estimate of quota rent, %		49.10

Rice and Poverty

(percentage of total expenditure)

	Poor			Non-Poor		
	2009	2012	2015	2009	2012	2015
Philippines						
Total food	52.0	61.0	62.4	43.0	45.6	47.6
Cereals	25.7	25.6	28.2	13.1	12.2	14.8
Rice	22.5	19.0	20.2	11.3	9.0	10.9
Rural						
Total food	51.0	57.8		43.1	46.0	
Cereals	25.9	22.1		15.2	10.8	
Rice	22.7	16.0		14.1	7.0	
Urban						
Total food	56.1	61.8		42.9	45.1	
Cereals	24.9	26.5		11.2	13.8	
Rice	21.8	20.0		8.7	10.0	

Sources: 2009, 2012 and 2015 Family Income and Expenditure Survey

Economic Models Used

- CGE
 - 40-sector Philippine CGE model calibrated using 2015 SAM
 - 9 agriculture (paddy, etc.) ; 15 industry (rice milling, etc.); 16 service
 - 4 factors (skilled labor, unskilled, capital, and land)
 - Households: decile
 - Land-use
- Poverty microsimulation
 - Employment/unemployment – bootstrapping
 - 2015 Family Income and Expenditure Survey
 - FGT poverty indices (P0, P1, P2) and GINI coefficient

Tariff Rate Quota

D. van der Mensbrugghe, J. C. Beghin, and D. Mitchell (2003)

- In-quota imports (zero premium if imports less in-quota imports)

$$m_i^{in} \leq m_i^q \text{ with } r_i^{m-p} \geq 0$$

where: m_i^{in} (in-quota imports); m_i^q (quota); r_i^{m-p} (tariff premium)

- Tariff premium (if imports exceed quota, premium is strictly equal to difference between out-quota and in-quota rates)

$$r_i^{m-in} + r_i^{m-p} \leq r_i^{m-o} \text{ with } m_i^o \geq 0$$

where: r_i^{m-in} (in-quota tariff); r_i^{m-o} (out-quota tariff)

- Out-of-quota imports is residual

$$m_i = m_i^{in} + m_i^o$$

Tariff Rate Quota

- 3 cases:
 - Quota not binding – premium rate 0, therefore rent is 0
 - Quota binding, but imports equal to quota - premium is endogenous and the rents equal quota level times premium rate
 - Imports $>$ quota - premium is the difference in the two rates. Holders quotas can import at the lower in-quota rate but sell at the higher out-of-quota; take the revenues generated by the difference

Potential Economic Effects of RA11203

	Elimination of Rice Quota	
Relative to base	Without tariff replacement	With tariffs in RA 11203
% change in paddy production	-5.90	-0.45
% change in paddy prices	-2.92	-0.22
Change in value of paddy production (Php billion)	-35.13	-2.74
% change in volume of rice imports	92.70	8.06
% change in rice import price	-28.57	-3.43
Change in value of rice imports (Php billion)	27.74	3.21
% change in volume of rice consumption	2.77	0.40
% change in domestic price of rice	-8.89	-0.72
Change in value of rice consumption (Php billion)	-40.72	-2.06
Overall inflation rate	-1.14	-0.09
Inflation rate by decile income group:		
Decile 1	-2.51	-0.18
Decile 2	-2.39	-0.18
Decile 3	-2.15	-0.16
Decile 4	-1.90	-0.14
Decile 5	-1.64	-0.12
Decile 6	-1.44	-0.11
Decile 7	-1.26	-0.10
Decile 8	-1.09	-0.08
Decile 9	-0.93	-0.07
Decile 10	-0.69	-0.06
Change in government tariff revenue (P billion)	-1.25	18.92
Number of poor lifted out of poverty	409,956	38,060

Summary

- Full rice liberalization
 - Rice imports increase 92.7%
 - Local paddy production declines 5.9%, prices by 2.9%, value by Php35 billion
 - Rice price declines; inflation declines specially in lower income decile
 - Rice consumption increases due to higher inflow of cheaper rice imports
 - Number of poor moving out of poverty: about 400 thousand
- RA 11203
 - Similar effects but significantly smaller change from base
 - Government revenue increases, more than enough to offset the loss in paddy farm income
- Rice Competitiveness Enhancement Program
 - Financial aid to farmers
 - Farm modernization programs to counter the negative impacts RA 11203 on paddy farmers