

Effects of Global Economic Slowdown on Rice Food Security in Asia

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Outline

- Introduction
- Objective
- The IRRI Global Rice Model
- Data and references
- Simulation scenarios
- Results
- Conclusions

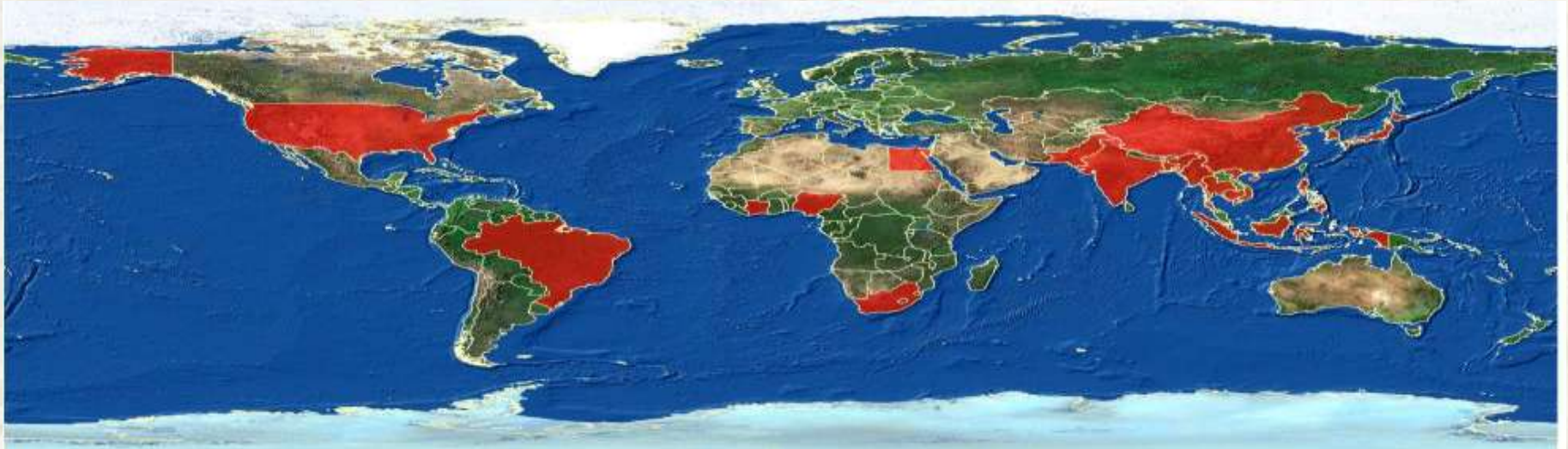
Introduction

- Strong concerns on food security in developing countries due to world economic downturn in 2009
- The economic slowdown may increase the demand for rice in developing countries (Mohanty, 2009)
- Low incomes imply less ability to afford the purchase of basic needs such as food (OECD-FAO, 2009)

Objective

To determine the effects of economic slowdown on rice consumption and production in Asia using the IRRI Global Rice Model (IGRM) in order to evaluate the implications of lower incomes and world oil prices

The IRRI Global Rice Model: Country Coverage



Asia- *Philippines, Thailand, Pakistan, Japan, Vietnam, Myanmar, Cambodia, Bangladesh, China, India, Indonesia, and South Korea*

Africa- *South Africa, Cote d'Ivoire, Nigeria, Egypt, Mozambique, Sudan and Kenya*

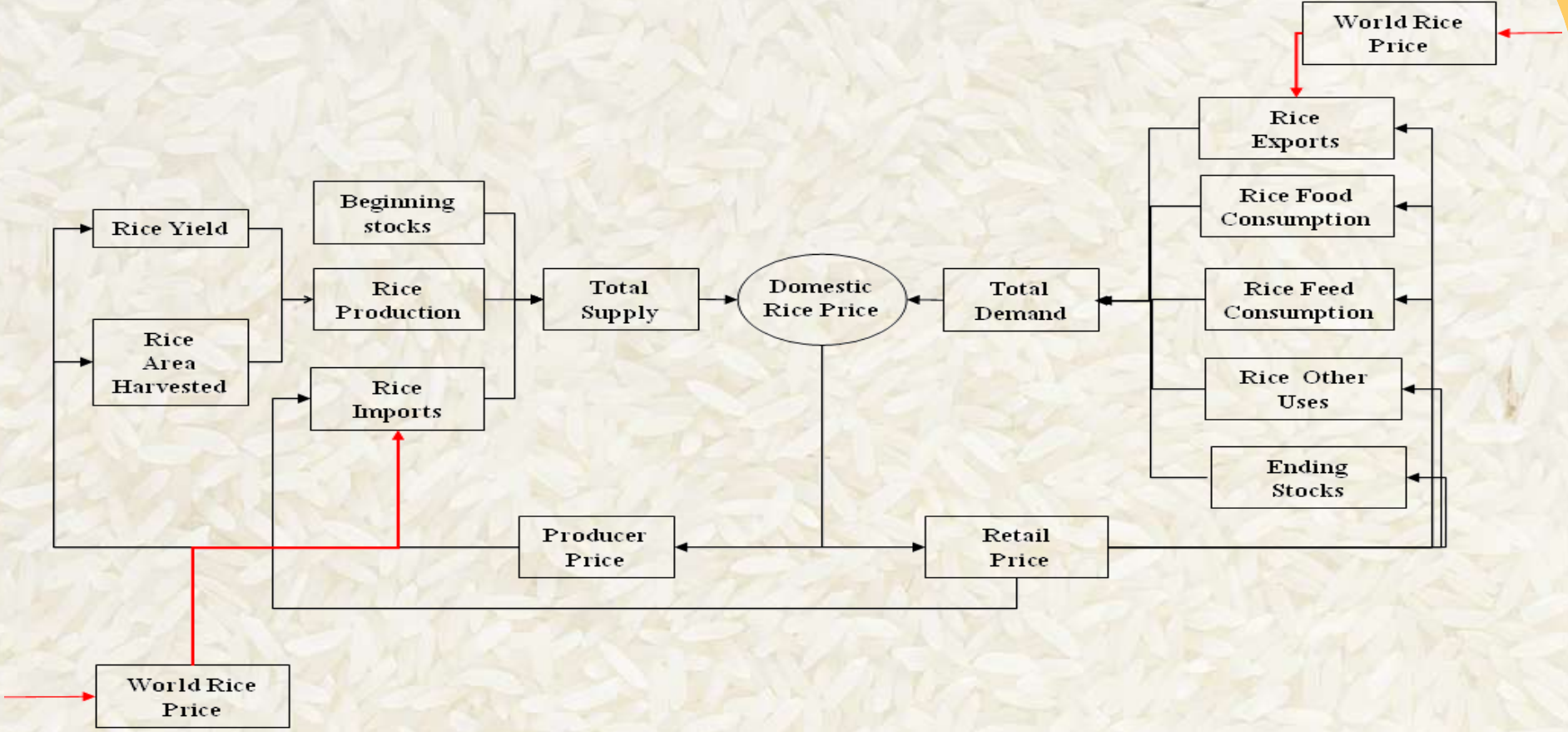
EU27- *Italy, Spain*

Latin America- *Brazil*

North America- *USA*

Regional Aggregates- *Other Asia, Other Africa, Other EU27, Other Latin America and Rest of the World*

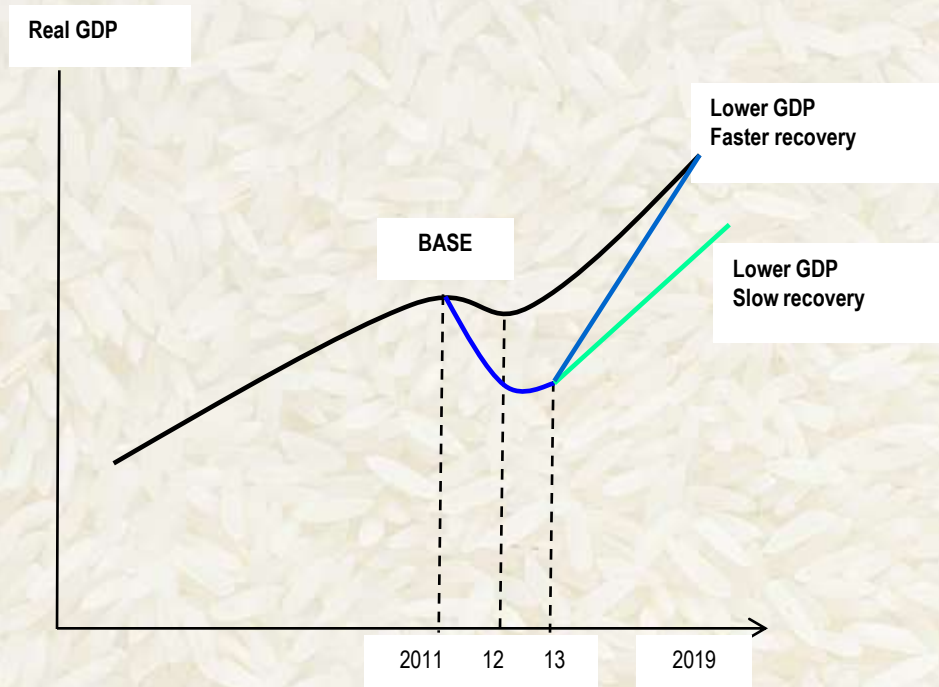
Representative Country Model



Data and References

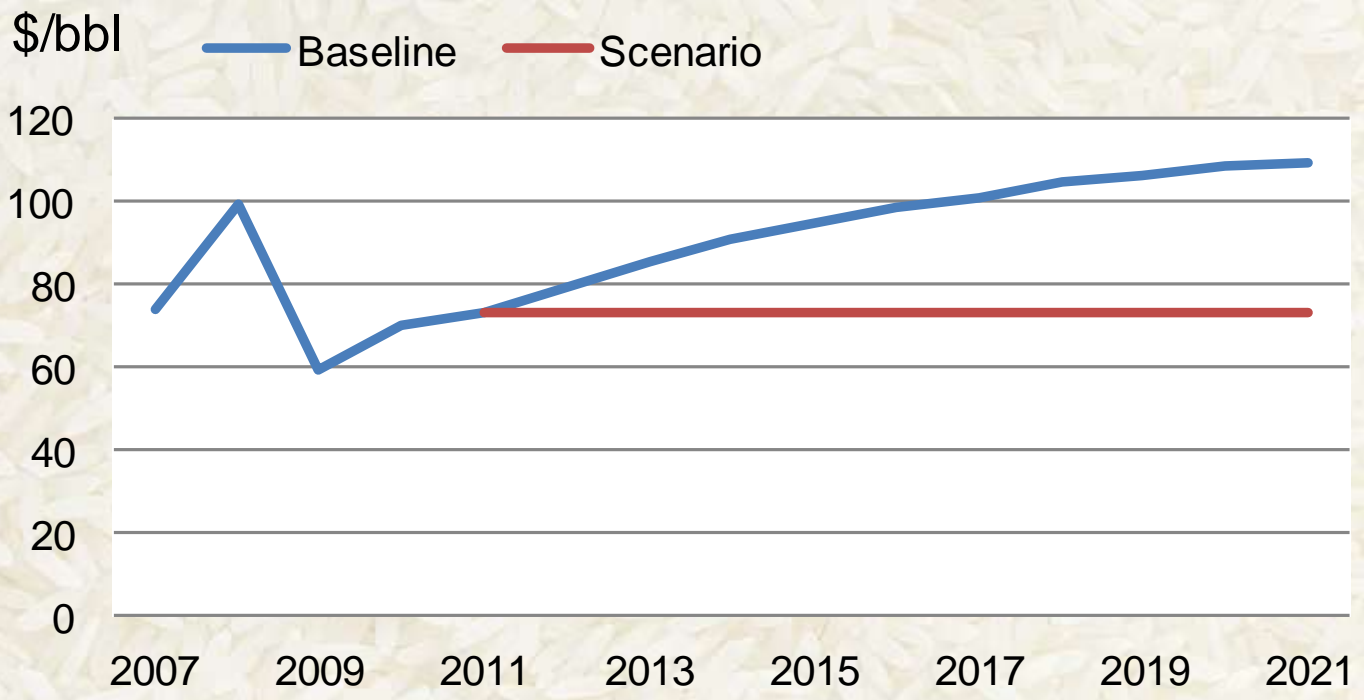
- Annual time series data on supply, demand, trade, prices, etc.
- Country statistical yearbooks; Ministry of Agriculture; USDA-FAS, PS&D and Attaché Reports; FAPRI; FAO; IMF

Simulation Scenarios 1 & 2



- IGRM baseline projections: 2011-2021
- Similar with OECD-FAO (2009) simulation method

Simulation Scenario 3

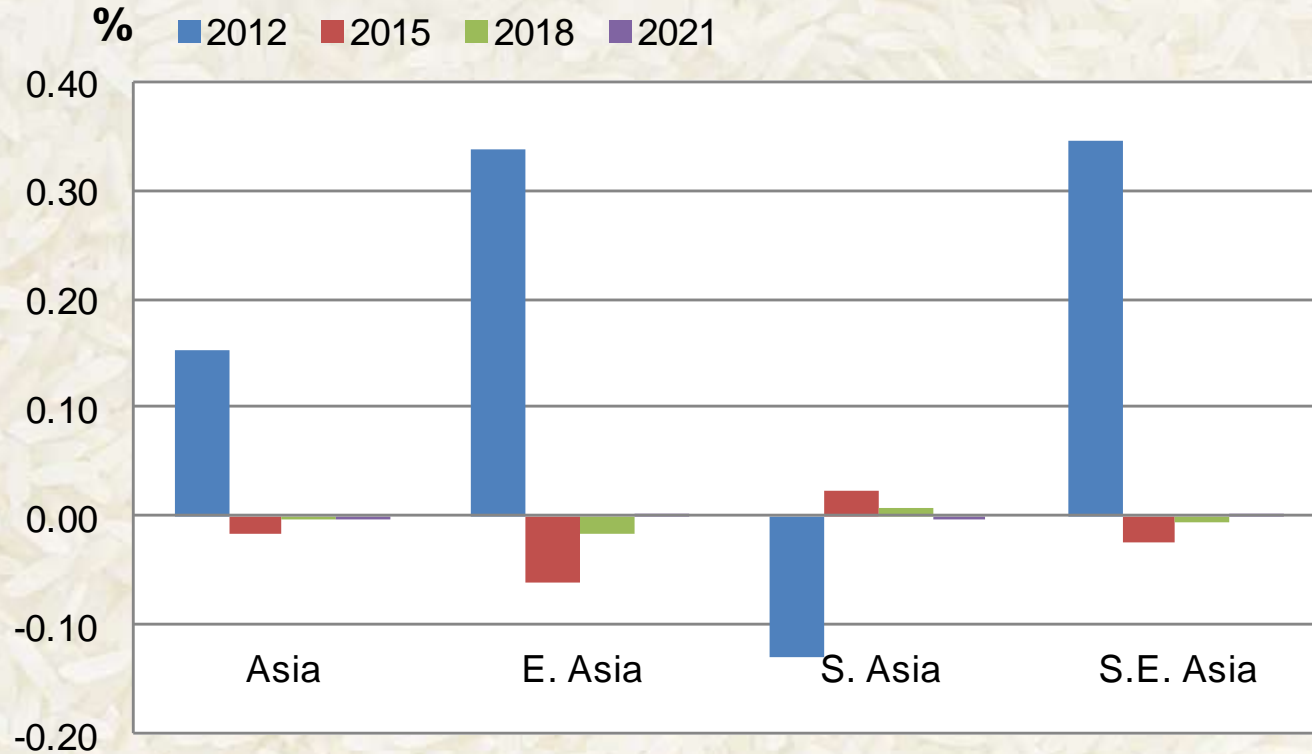


Estimated Income Elasticity of Demand for Rice and Fertilizer Price Elasticity

Region	Country	Income elasticity	Fertilizer price elasticity
East Asia	China	-0.14	-0.42
	Japan	-0.15	-0.24
	South Korea	-0.24	-0.43
South Asia	Bangladesh	0.14	-0.47
	India	-0.03	-0.44
	Pakistan	0.08	-0.42
Southeast Asia	Cambodia	0.13	-0.19
	Indonesia	-0.10	-0.40
	Myanmar	0.06	-0.44
	Philippines	0.20	-0.60
	Thailand	-0.05	-0.42
	Vietnam	-0.12	-0.42

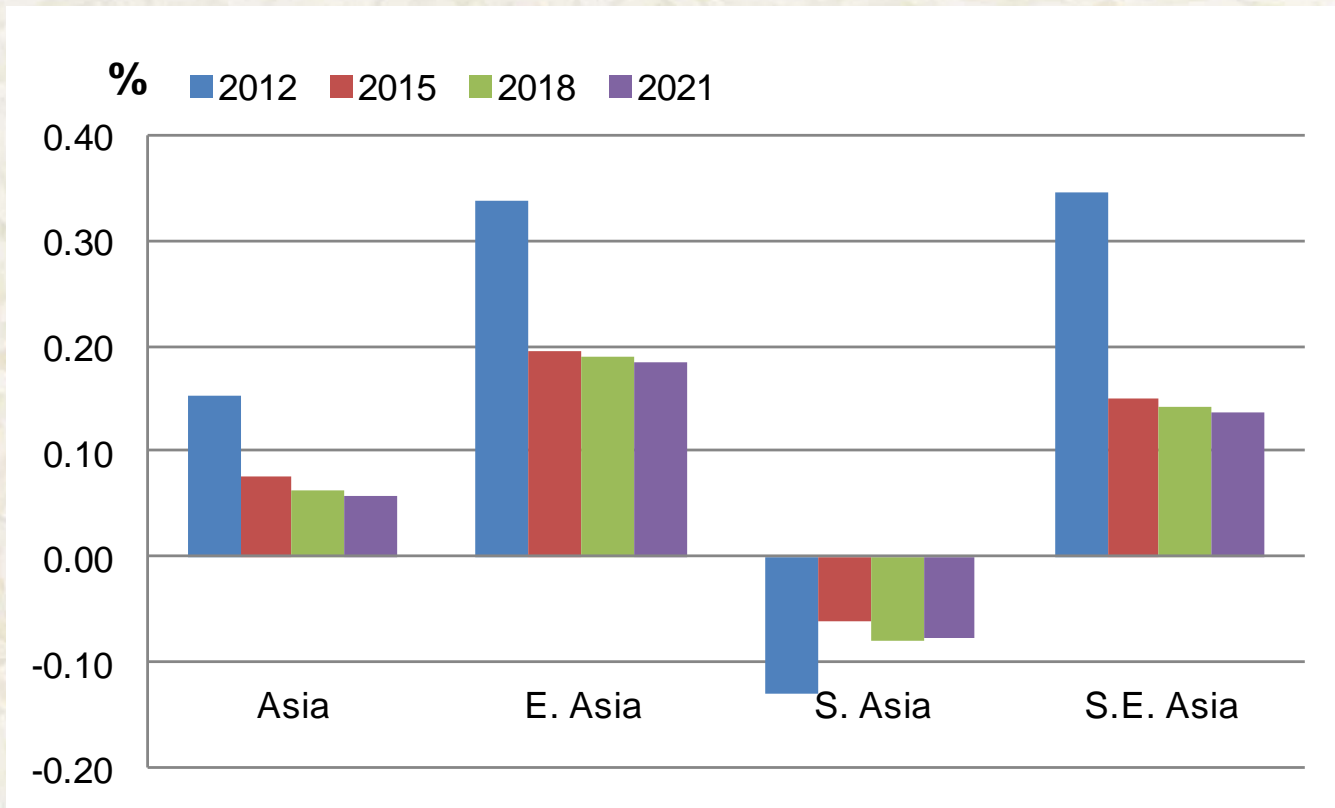
Results

Changes in rice consumption: lower GDP - faster recovery



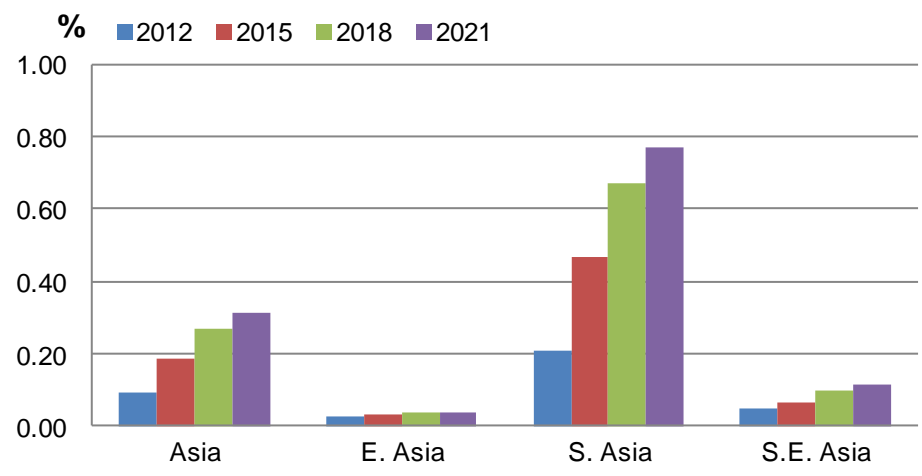
Results

Changes in rice consumption: lower GDP - slow recovery

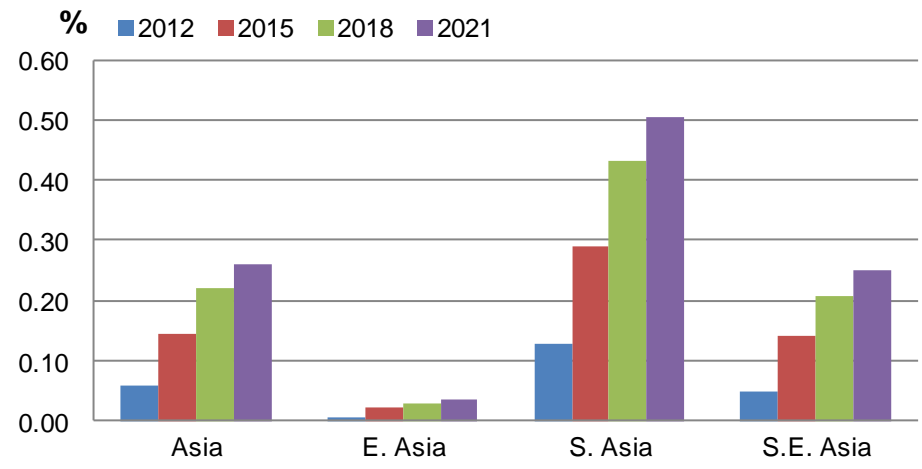


Results: Lower world oil prices

Changes in Production



Changes in Consumption



Conclusions

- Rice demand in Asia slightly increases with lower incomes
- Faster recovery from depressed income levels tends to offset the likely increasing effect of economic slowdown on rice demand
- If economic slowdown persists, the increase in rice demand as whole is relatively modest but tends to become more pronounced over time
- Lower oil prices insignificantly increases rice production and consumption