

Annex for: Crop Failure, Price Regulation, and Emergency Imports of Japan's Rice Sector in 1993

We performed sensitivity analyses to illustrate effects of two important assumptions. One is the assumption about elasticity of substitution and transformation in the CES and CET functions. The other is the assumption about the target price index relative to which the supply price of paddy rice is regulated. To evaluate the first point, we performed the same simulations with 50% higher and lower elasticity of substitution and transformation than that used in the main text. To evaluate the second point, we carried out the same simulations with alternative relative price regulation targets: a consumer price index (CPI) and a factor price index. (Both of them are Laspeyres quantity indices.) The following tables tell us that none of these differences in assumptions would bring about either any qualitative or significantly large quantitative differences to the simulation results shown in Tables II, III, and IV of the main text.

Annex I: Sensitivity Analyses for Tables II and III

Case A: Fixed Supply Price of Paddy Rice Relative to a WPI

	<u>Scenario R</u>			<u>Scenario U</u>		
	Shifts in Elasticity			Shifts in Elasticity		
	0%	-50%	+50%	0%	-50%	+50%
Output (Paddy Rice) in %						
RIC	-25.0	-25.0	-25.0	-11.1	-11.1	-11.1
OAG	-1.2	-1.0	-1.3	-0.5	-0.4	-0.5
PCR	-27.5	-27.5	-27.5	-12.2	-12.2	-12.2
OFD	-1.2	-1.1	-1.3	-0.5	-0.5	-0.5
MAN	0.1	0.1	0.2	0.0	0.0	0.0
SRV	0.2	0.2	0.2	0.0	0.0	0.0
Output Prices (including Rents) in %						
RIC	77.2	77.4	76.9	24.1	24.1	24.1
OAG	1.1	1.3	1.0	0.3	0.3	0.2
PCR	73.8	74.0	73.5	23.0	23.0	23.0
OFD	2.0	2.1	1.9	0.6	0.6	0.5
MAN	0.2	0.2	0.2	0.0	0.0	0.0
SRV	0.3	0.3	0.3	0.0	0.0	0.0
Consumption in %						
RIC	-43.2	-43.2	-43.1	-19.4	-19.4	-19.4
OAG	-0.2	-0.3	-0.1	-0.2	-0.2	-0.2
PCR	-42.0	-42.1	-41.9	-18.7	-18.7	-18.7
OFD	-1.1	-1.2	-1.1	-0.5	-0.5	-0.5
MAN	0.5	0.5	0.5	0.0	0.0	0.0
SRV	0.5	0.5	0.5	0.0	0.0	0.0
Land and Capital Prices in Paddy Rice Sector in %						
	-35.0	-35.0	-35.1	15.7	15.8	15.7
Welfare						
EV (US\$ mil.)	-7421.0	-7798.0	-7119.4	-6455.5	-6484.1	-6395.1
EV/GDP (%)	-0.22	-0.23	-0.21	-0.19	-0.19	-0.19

Case B: Fixed Supply Price of Paddy Rice Relative to a CPI

	<u>Scenario R</u>			<u>Scenario U</u>		
	Shifts in Elasticity			Shifts in Elasticity		
	0%	-50%	+50%	0%	-50%	+50%
Output (Paddy Rice) in %						
RIC	-25.0	-25.0	-25.0	-10.8	-10.8	-10.8
OAG	-1.2	-1.0	-1.3	-0.4	-0.4	-0.5
PCR	-27.5	-27.5	-27.5	-11.9	-11.9	-11.9
OFD	-1.2	-1.1	-1.3	-0.5	-0.5	-0.5
MAN	0.1	0.1	0.2	0.0	0.0	0.0
SRV	0.2	0.2	0.2	0.0	0.0	0.0
Output Prices (including Rents) in %						
RIC	77.2	77.5	76.9	23.3	23.4	23.3
OAG	1.1	1.3	1.0	0.2	0.3	0.2
PCR	73.8	74.0	73.5	22.3	22.3	22.3
OFD	2.0	2.1	1.9	0.5	0.5	0.5
MAN	0.2	0.2	0.2	0.0	0.0	0.0
SRV	0.3	0.3	0.3	0.0	0.0	0.0
Consumption in %						
RIC	-43.2	-43.2	-43.1	-18.9	-18.9	-18.9
OAG	-0.2	-0.3	-0.1	-0.2	-0.2	-0.2
PCR	-42.0	-42.1	-41.9	-18.2	-18.2	-18.2
OFD	-1.1	-1.2	-1.1	-0.5	-0.5	-0.5
MAN	0.5	0.5	0.5	0.0	0.0	0.0
SRV	0.5	0.5	0.5	0.0	0.0	0.0
Land and Capital Prices in Paddy Rice Sector in %						
	-36.0	-36.0	-36.0	15.2	15.3	15.2
Welfare						
EV (US\$ mil.)	-7279.6	-7660.8	-6976.2	-6267.0	-6294.7	-6208.6
EV/GDP (%)	-0.22	-0.23	-0.21	-0.19	-0.19	-0.19

Case C: Fixed Supply Price of Paddy Rice Relative to a Factor Price Index

	<u>Scenario R</u>			<u>Scenario U</u>		
	Shifts in Elasticity			Shifts in Elasticity		
	0%	-50%	+50%	0%	-50%	+50%
Output (Paddy Rice) in %						
RIC	-25.0	-25.0	-25.0	-11.3	-11.3	-11.3
OAG	-1.2	-1.0	-1.3	-0.5	-0.4	-0.5
PCR	-27.5	-27.5	-27.5	-12.4	-12.4	-12.4
OFD	-1.2	-1.1	-1.3	-0.5	-0.5	-0.6
MAN	0.1	0.1	0.2	0.0	0.0	0.0
SRV	0.2	0.2	0.2	0.0	0.0	0.0
Output Prices (including Rents) in %						
RIC	77.2	77.4	76.9	24.5	24.6	24.5
OAG	1.1	1.3	1.0	0.3	0.3	0.2
PCR	73.7	74.0	73.5	23.4	23.4	23.4
OFD	2.0	2.1	1.9	0.6	0.6	0.6
MAN	0.2	0.2	0.2	0.0	0.0	0.0
SRV	0.3	0.3	0.3	0.0	0.0	0.0
Consumption in %						
RIC	-43.2	-43.2	-43.1	-19.7	-19.7	-19.7
OAG	-0.2	-0.3	-0.1	-0.2	-0.2	-0.2
PCR	-42.0	-42.1	-41.9	-19.0	-19.0	-18.9
OFD	-1.1	-1.2	-1.1	-0.5	-0.5	-0.5
MAN	0.5	0.5	0.5	0.0	0.0	0.0
SRV	0.5	0.5	0.5	0.0	0.0	0.0
Land and Capital Prices in Paddy Rice Sector in %						
	-34.5	-34.5	-34.5	16.0	16.1	16.0
Welfare						
EV (US\$ mil.)	-7503.4	-7877.8	-7203.2	-6564.9	-6594.1	-6503.3
EV/GDP (%)	-0.22	-0.23	-0.21	-0.20	-0.20	-0.19

Annex II: Sensitivity Analyses for Table IV

	<u>Scenario M</u>								
	Case A (WPI)			Case B (CPI)			Case C (Factor Price)		
	Shifts in Elasticity			Shifts in Elasticity			Shifts in Elasticity		
	0%	-50%	+50%	0%	-50%	+50%	0%	-50%	+50%
Output (Paddy Rice) in %									
AUS	25.7	28.4	23.8	25.7	28.4	23.8	25.7	28.4	23.8
JPN	-25.2	-25.2	-25.2	-25.0	-25.0	-25.0	-25.3	-25.3	-25.3
CHN	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
THA	3.2	3.6	2.9	3.2	3.6	2.9	3.2	3.6	2.9
KOR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEA	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1
SAS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
USA	9.4	10.7	8.4	9.4	10.7	8.4	9.4	10.7	8.4
ROW	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Consumption (Processed Rice) in %									
AUS	-1.3	-1.4	-1.1	-1.3	-1.4	-1.1	-1.3	-1.4	-1.1
JPN	-29.5	-29.5	-29.4	-29.1	-29.2	-29.1	-29.7	-29.8	-29.7
CHN	-0.2	-0.2	-0.3	-0.2	-0.2	-0.3	-0.2	-0.2	-0.3
THA	-5.1	-5.9	-4.5	-5.1	-5.9	-4.5	-5.1	-5.9	-4.5
KOR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEA	-0.2	-0.1	-0.2	-0.2	-0.1	-0.2	-0.2	-0.1	-0.2
SAS	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.0
USA	-0.9	-1.0	-0.8	-0.9	-1.0	-0.8	-0.9	-1.0	-0.8
ROW	-0.2	-0.1	-0.2	-0.2	-0.1	-0.2	-0.2	-0.1	-0.2
Welfare (EV) in US\$ mil.									
AUS	20.8	22.7	19.8	20.7	22.7	19.6	20.9	22.8	19.9
JPN	-3611.1	-3934.1	-3400.2	-3445.9	-3767.7	-3237.1	-3709.2	-4033.4	-3496.9
CHN	28.6	54.0	20.5	28.5	54.1	20.4	28.7	54.0	20.6
THA	99.8	149.8	80.1	99.7	149.9	79.9	99.9	149.9	80.3
KOR	5.6	15.5	2.3	5.6	15.6	2.3	5.6	15.5	2.3
SEA	25.6	37.4	22.5	25.5	37.6	22.2	25.8	37.3	22.7
SAS	8.7	10.7	7.9	8.7	10.7	7.9	8.7	10.7	7.9
USA	94.8	115.8	92.1	94.3	116.0	91.4	95.2	115.8	92.6
ROW	-29.7	-2.7	-46.4	-29.6	-2.4	-46.2	-29.7	-2.7	-46.4

