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COMMITTEE ON COMMODITY PROBLEMS

JOINT MEETING OF THE FOURTH SESSION OF THE SUB-GROUP ON BANANAS AND THE FIFTH SESSION OF THE SUB-GROUP ON TROPICAL FRUITS

Rome, 9 – 11 December 2009

DEMAND RESPONSES TO PRICES, INCOME AND OTHER FACTORS IN THE CHINESE BANANA AND SELECTED TROPICAL FRUITS MARKETS – FIELD SURVEY RESULTS

I. PRICE ELASTICITY FOR SELECTED TROPICAL FRUITS IN CHINA

1. Given that there is no complete data series of tropical fruits in China, a series of price for apple, banana, orange, pear and pineapples were constructed by combining the available national average prices from 1987 to 1997 with several available provincial prices from 1998 to 2008. A strong assumption that all spatial price differences would remain unchanged in the two periods was made so that the national average price data series could be extended to 2008. As mango consumption relied largely on imports, the unit value of mongo import was used as a proxy of the price. Table 1 summarizes the real price data (deflated with consumer price index (CPI)) for these fruits.

2. The price data along with average national consumption and income were used for estimating a Linear Approximate AIDS model (LA/AIDS). The parameters estimated from the model are, then, used to compute elasticities, which are presented in table 2. The own-price elasticities of banana, mango and pineapple were all less than unity, which was consistent with estimates in many other countries because fruits accounted for a relative small portion in the total food budget and fruits are necessary goods. However, even though 1 percent change in price resulted in less than 1 percent reduction in demand, Chinese consumers responded to change in price more sensitive. The own price elasticity of banana and mongo were estimated to be around 0.8, which were about twice of estimates in many other countries.

3. The estimated cross-price elasticities show that bananas and pineapples were compliments since their cross-price elasticities was negative and statistically significant. All other peers (banana/mongo, banana/apple, banana/pears and mango/pineapples) were substitutes owing to the

positive cross-price elasticities. All three tropical fruits were substitutes for the conventional fruits (apple and pears) in China. However, their relationships were not significant as some cross-price elasticities were less than 0.1 and some were not statistically significant.

Table 1. Price of selected fruits in China 1987 - 2008 (Rmb/tonne and deflated by CPI)

	Apples	Bananas	Mangoes	Oranges	Pears	Pineapples
1987	1 080	1 245	8 062	642	645	576
1988	1 010	1 119	8 256	690	694	515
1989	1 038	1 057	8 115	722	702	571
1990	953	961	7 567	694	647	496
1991	860	857	6 733	722	714	454
1992	786	824	8 267	670	663	356
1993	700	736	6 871	501	570	246
1994	732	630	5 270	531	576	242
1995	613	609	4 085	369	502	239
1996	795	708	3 358	445	509	309
1997	862	815	2 763	315	552	388
1998	792	1 005	2 940	355	598	412
1999	968	1 025	4 092	397	728	449
2000	834	1 033	5 018	315	785	577
2001	891	828	5 764	399	660	654
2002	1 053	835	4 819	450	903	723
2003	1 010	840	4 462	362	778	640
2004	1 035	871	4 121	383	823	592
2005	1 048	808	3 148	359	771	670
2006	1 330	905	3 304	389	835	857
2007	1 412	942	3 254	397	820	904
2008	1 305	744	2 634	326	716	780

Table 2. Estimated price elasticity

	Banana	Mango	Pineapples
Banana	**-0.798**	0.685	-0.258
Mango	0.167	**-0.806**	0.061
Pineapples	-0.364	0.063	**-0.303**
Apple	0.221	0.158	0.503*

* Suggests that the estimated parameter was not statistically significant.