Online Appendix

"International Trade with Social Comparisons"

Zeng Lian Jaimie W. Lien Lin Lu Jie Zheng

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Appendix A General Results for Prices and Quantities

In this section, the closed-form expressions for prices and quantities are provided for each of the 9 cases. a_L denotes consumption of good a (apples) by country L, and a_Z denotes the consumption of good a by country Z. b_L denotes consumption of good b (bananas) by country L, and b_Z denotes the consumption of good b by country Z. P_a is the price of good a, where recall that the price of good b P_b is normalized to 1.

Case 1: Common Comparison

$$a_L = \frac{e_b^Z((\lambda_1+1)e_a^L+\lambda_1)-(\lambda_1+1)(e_a^Z-2)e_b^L}{3\lambda_1+2}$$

$$a_Z = \frac{e_b^L((\lambda_1+1)e_a^Z+\lambda_1)-(\lambda_1+1)(e_a^L-2)e_b^Z}{3\lambda_1+2}$$

$$b_L = \frac{e_b^Z(1+\lambda_1)(-\lambda_1+e_a^L(1+2\lambda_1))+e_b^L(2+\lambda_1(4+\lambda_1)-e_a^Z(1+\lambda_1)(1+2\lambda_1))}{3\lambda_1+2}$$

$$b_Z = \frac{e_b^L(1+\lambda_1)(-\lambda_1+e_a^Z(1+2\lambda_1))+e_b^Z(2+\lambda_1(4+\lambda_1)-e_a^L(1+\lambda_1)(1+2\lambda_1))}{3\lambda_1+2}$$

$$P_a = \lambda_1+1$$

Case 2: Home Comparison

$$
\begin{aligned}
a_L &= \frac{e_b^Z((\lambda_1+1)e_a^L+\lambda_1)-(\lambda_1+1)(e_a^Z-2)e_b^L}{2(\lambda_1+1)e_b^L+(3\lambda_1+2)e_b^Z} \\
a_Z &= \frac{(\lambda_1+1)(e_a^Z e_b^L-(e_a^L-2)e_b^Z)}{2(\lambda_1+1)e_b^L+(3\lambda_1+2)e_b^Z} \\
b_L &= \frac{e_b^L((2\lambda_1+1)e_a^Z-2(\lambda_1+1))+e_b^Z(\lambda_1-(2\lambda_1+1)e_a^L)}{2(\lambda_1+1)(e_a^L-2)+(3\lambda_1+2)e_a^Z} \\
b_Z &= \frac{(\lambda_1+1)((e_a^L-2)e_b^Z-e_a^Z e_b^L)}{2(\lambda_1+1)(e_a^L-2)+(3\lambda_1+2)e_a^Z} \\
P_a &= -\frac{2(\lambda_1+1)e_b^L+(3\lambda_1+2)e_b^Z}{2(\lambda_1+1)(e_a^L-2)+(3\lambda_1+2)e_a^Z}
\end{aligned}
$$

Case 3: Foreign Envy/Admiration

$$
\begin{aligned}
a_L &= \frac{(\lambda_2+1)(2-e_a^Z)e_b^L+e_b^Z((\lambda_2+1)e_a^L-\lambda_2)}{2(\lambda_2+1)e_b^L+(\lambda_2+2)e_b^Z} \\
a_Z &= \frac{(\lambda_2+1)(e_a^L(-e_b^Z)+e_a^Z e_b^L+2e_b^Z)}{2(\lambda_2+1)e_b^L+(\lambda_2+2)e_b^Z} \\
b_L &= \frac{e_b^L(e_a^Z-2(\lambda_2+1))-e_b^Z(e_a^L+\lambda_2)}{2(\lambda_2+1)e_a^L+(\lambda_2+2)e_a^Z-4(\lambda_2+1)} \\
b_Z &= -\frac{(\lambda_2+1)(e_a^L(-e_b^Z)+e_a^Z e_b^L+2e_b^Z)}{2(\lambda_2+1)e_a^L+(\lambda_2+2)e_a^Z-4(\lambda_2+1)} \\
P_a &= -\frac{2(\lambda_2+1)e_b^L+(\lambda_2+2)e_b^Z}{2(\lambda_2+1)e_a^L+(\lambda_2+2)e_a^Z-4(\lambda_2+1)}
\end{aligned}
$$

Case 4: Dual Home Comparison

$$a_L = \frac{e_b^L(-(\lambda_1+1)(\lambda_2+1)e_a^Z + 2(\lambda_2+1) + \lambda_1(\lambda_2+2)) + (\lambda_2+1)e_b^Z((\lambda_1+1)e_a^L + \lambda_1)}{(2\lambda_1+\lambda_2+2)e_b^L + (3\lambda_1+2)(\lambda_2+1)e_b^Z}$$

$$a_Z = \frac{(\lambda_1+1)((\lambda_2+1)e_a^L(-e_b^Z) + (\lambda_2+1)e_a^Z e_b^L - \lambda_2 e_b^L + 2(\lambda_2+1)e_b^Z)}{(2\lambda_1+\lambda_2+2)e_b^L + (3\lambda_1+2)(\lambda_2+1)e_b^Z}$$

$$b_L = \frac{(\lambda_2+1)(e_b^L((2\lambda_1+1)e_a^Z - 2(\lambda_1+1)) + e_b^Z(\lambda_1 - (2\lambda_1+1)e_a^L))}{(2\lambda_1+\lambda_2+2)e_a^L + (3\lambda_1+2)(\lambda_2+1)e_a^Z - 4(\lambda_2+1) - \lambda_1(3\lambda_2+4)}$$

$$b_Z = \frac{(1-\lambda_1(\lambda_2-1))e_a^L e_b^Z + (\lambda_1(\lambda_2-1)-1)e_a^Z e_b^L - (\lambda_1+1)\lambda_2 e_b^L - (2(\lambda_2+1) + \lambda_1(\lambda_2+2))e_b^Z}{(2\lambda_1+\lambda_2+2)e_a^L + (3\lambda_1+2)(\lambda_2+1)e_a^Z - 4(\lambda_2+1) - \lambda_1(3\lambda_2+4)}$$

$$P_a = -\frac{(2\lambda_1+\lambda_2+2)e_b^L + (3\lambda_1+2)(\lambda_2+1)e_b^Z}{(2\lambda_1+\lambda_2+2)e_a^L + (3\lambda_1+2)(\lambda_2+1)e_a^Z - 4(\lambda_2+1) - \lambda_1(3\lambda_2+4)}$$

Case 5: Mutual Foreign Envy/Admiration

$$a_L = -\frac{(\lambda_1+1)\left((\lambda_2+1)\left(e_a^Z-2\right)e_b^L + e_b^Z\left(\lambda_2 - (\lambda_2+1)\,e_a^L\right)\right)}{(3\lambda_1+2)(\lambda_2+1)\,e_b^L + (2\lambda_1+\lambda_2+2)\,e_b^Z}$$

$$a_Z = \frac{(\lambda_1+1)(\lambda_2+1)\,e_a^L\left(-e_b^Z\right) + (\lambda_1+1)(\lambda_2+1)\,e_a^Z e_b^L + \lambda_1(\lambda_2+1)\,e_b^L + (2(\lambda_2+1) + \lambda_1(\lambda_2+2))\,e_b^Z}{(3\lambda_1+2)(\lambda_2+1)\,e_b^L + (2\lambda_1+\lambda_2+2)\,e_b^Z}$$

$$b_L = \frac{e_b^Z\left((\lambda_1(\lambda_2-1)-1)\,e_a^L - (\lambda_1+1)\lambda_2\right) - e_b^L\left((\lambda_1(\lambda_2-1)-1)\,e_a^Z + 2(\lambda_2+1) + \lambda_1(\lambda_2+2)\right)}{(3\lambda_1+2)(\lambda_2+1)\,e_a^L + (2\lambda_1+\lambda_2+2)\,e_a^Z - 4(\lambda_2+1) - \lambda_1(3\lambda_2+4)}$$

$$b_Z = \frac{(\lambda_2+1)\left((2\lambda_1+1)\,e_a^L e_b^Z - (2\lambda_1+1)\,e_a^Z e_b^L + \lambda_1 e_b^L - 2(\lambda_1+1)\,e_b^Z\right)}{(3\lambda_1+2)(\lambda_2+1)\,e_a^L + (2\lambda_1+\lambda_2+2)\,e_a^Z - 4(\lambda_2+1) - \lambda_1(3\lambda_2+4)}$$

$$P_a = -\frac{(3\lambda_1+2)(\lambda_2+1)\,e_b^L + (2\lambda_1+\lambda_2+2)\,e_b^Z}{(3\lambda_1+2)(\lambda_2+1)\,e_a^L + (2\lambda_1+\lambda_2+2)\,e_a^Z - 4(\lambda_2+1) - \lambda_1(3\lambda_2+4)}$$

Case 6: One-sided Comparison

$$a_L = \frac{e_b^Z((\lambda_1+1)(\lambda_2+1)e_a^L+\lambda_1-\lambda_2)-(\lambda_1+1)(\lambda_2+1)(e_a^Z-2)e_b^L}{2(\lambda_1+1)(\lambda_2+1)e_b^L+(\lambda_2+\lambda_1(2\lambda_2+3)+2)e_b^Z}$$

$$a_Z = \frac{(\lambda_1+1)(\lambda_2+1)(e_a^L(-e_b^Z)+e_a^Z e_b^L+2e_b^Z)}{2(\lambda_1+1)(\lambda_2+1)e_b^L+(\lambda_2+\lambda_1(2\lambda_2+3)+2)e_b^Z}$$

$$b_L = \frac{e_b^L((\lambda_1(\lambda_2+2)+1)e_a^Z-2(\lambda_1+1)(\lambda_2+1))-e_b^Z((\lambda_1(\lambda_2+2)+1)e_a^L-\lambda_1+\lambda_2)}{2(\lambda_1+1)(\lambda_2+1)e_a^L+(\lambda_2+\lambda_1(2\lambda_2+3)+2)e_a^Z-4(\lambda_1+1)(\lambda_2+1)}$$

$$b_Z = -\frac{(\lambda_1+1)(\lambda_2+1)(e_a^L(-e_b^Z)+e_a^Z e_b^L+2e_b^Z)}{2(\lambda_1+1)(\lambda_2+1)e_a^L+(\lambda_2+\lambda_1(2\lambda_2+3)+2)e_a^Z-4(\lambda_1+1)(\lambda_2+1)}$$

$$P_a = -\frac{2(\lambda_1+1)(\lambda_2+1)e_b^L+(\lambda_2+\lambda_1(2\lambda_2+3)+2)e_b^Z}{2(\lambda_1+1)(\lambda_2+1)e_a^L+(\lambda_2+\lambda_1(2\lambda_2+3)+2)e_a^Z-4(\lambda_1+1)(\lambda_2+1)}$$

Case 7: Asymmetric Mutual Foreign Envy

$$a_L = \frac{e_b^Z((\lambda_1+1)(\lambda_2+1)e_a^L+\lambda_1-\lambda_2)-(\lambda_1+1)(\lambda_2+1)(e_a^Z-2)e_b^L}{(3\lambda_1+2)(\lambda_2+1)e_b^L+(\lambda_2+\lambda_1(\lambda_2+3)+2)e_b^Z}$$

$$a_Z = \frac{(\lambda_1+1)(\lambda_2+1)e_a^L(-e_b^Z)+(\lambda_1+1)(\lambda_2+1)e_a^Z e_b^L+\lambda_1(\lambda_2+1)e_b^L+(2(\lambda_2+1)+\lambda_1(\lambda_2+2))e_b^Z}{(3\lambda_1+2)(\lambda_2+1)e_b^L+(\lambda_2+\lambda_1(\lambda_2+3)+2)e_b^Z}$$

$$b_L = \frac{e_b^L((2\lambda_1^2+3\lambda_1+1)e_a^Z-\lambda_1^2-2(\lambda_2+1)-\lambda_1(3\lambda_2+4))-(\lambda_1+1)e_b^Z((2\lambda_1+1)e_a^L-\lambda_1+\lambda_2)}{(3\lambda_1^2+5\lambda_1+2)(\lambda_2+1)e_a^L+(\lambda_1+1)(\lambda_2+\lambda_1(\lambda_2+3)+2)e_a^Z-4(\lambda_2+1)-\lambda_1^2(2\lambda_2+3)-\lambda_1(7\lambda_2+8)}$$

$$b_Z = \frac{(\lambda_2+1)((2\lambda_1^2+3\lambda_1+1)e_a^L e_b^Z-(2\lambda_1^2+3\lambda_1+1)e_a^Z e_b^L+\lambda_1(\lambda_1+1)e_b^L-(\lambda_1^2+4\lambda_1+2)e_b^Z)}{(3\lambda_1^2+5\lambda_1+2)(\lambda_2+1)e_a^L+(\lambda_1+1)(\lambda_2+\lambda_1(\lambda_2+3)+2)e_a^Z-4(\lambda_2+1)-\lambda_1^2(2\lambda_2+3)-\lambda_1(7\lambda_2+8)}$$

$$P_a = -\frac{(\lambda_1+1)((3\lambda_1+2)(\lambda_2+1)e_b^L+(\lambda_2+\lambda_1(\lambda_2+3)+2)e_b^Z)}{(3\lambda_1^2+5\lambda_1+2)(\lambda_2+1)e_a^L+(\lambda_1+1)(\lambda_2+\lambda_1(\lambda_2+3)+2)e_a^Z-4(\lambda_2+1)-\lambda_1^2(2\lambda_2+3)-\lambda_1(7\lambda_2+8)}$$

Case 8: Asymmetric Dual Home Comparison

$$a_L = \frac{e_a^L \left(\left(2\lambda_2^2 + 3\lambda_2 + 1\right) e_b^Z - \lambda_2^2 - 4\lambda_2 - \lambda_1 (3\lambda_2 + 2) - 2\right) - (\lambda_2 + 1)\, e_a^Z \left((2\lambda_2 + 1)\, e_b^L + \lambda_1 - \lambda_2\right)}{(\lambda_1 + 1)\left(3\lambda_2^2 + 5\lambda_2 + 2\right) e_b^L + (\lambda_2 + 1)\left(3\lambda_2 + \lambda_1 (\lambda_2 + 1) + 2\right) e_b^Z - 3\lambda_2^2 - 8\lambda_2 - \lambda_1 \left(2\lambda_2^2 + 7\lambda_2 + 4\right) - 4}$$

$$a_Z = \frac{(\lambda_1 + 1)\left(e_a^Z \left(\left(2\lambda_2^2 + 3\lambda_2 + 1\right) e_b^L - \lambda_2^2 - 4\lambda_2 - 2\right) - (\lambda_2 + 1)\, e_a^L \left((2\lambda_2 + 1)\, e_b^Z - \lambda_2\right)\right)}{(\lambda_1 + 1)\left(3\lambda_2^2 + 5\lambda_2 + 2\right) e_b^L + (\lambda_2 + 1)\left(3\lambda_2 + \lambda_1 (\lambda_2 + 1) + 2\right) e_b^Z - 3\lambda_2^2 - 8\lambda_2 - \lambda_1 \left(2\lambda_2^2 + 7\lambda_2 + 4\right) - 4}$$

$$b_L = \frac{e_a^Z \left((\lambda_1 + 1)(\lambda_2 + 1)\, e_b^L - \lambda_1 + \lambda_2\right) - (\lambda_1 + 1)(\lambda_2 + 1)\, e_a^L \left(e_b^Z - 2\right)}{(\lambda_1 + 1)(3\lambda_2 + 2)\, e_a^L + \left(3\lambda_2 + \lambda_1 (\lambda_2 + 1) + 2\right) e_a^Z}$$

$$b_Z = \frac{(\lambda_1 + 1)\, e_a^L \left((\lambda_2 + 1)\, e_b^Z + \lambda_2\right) + e_a^Z \left(-(\lambda_1 + 1)(\lambda_2 + 1)\, e_b^L + 2(\lambda_2 + 1) + \lambda_1 (\lambda_2 + 2)\right)}{(\lambda_1 + 1)(3\lambda_2 + 2)\, e_a^L + \left(3\lambda_2 + \lambda_1 (\lambda_2 + 1) + 2\right) e_a^Z}$$

$$P_a = \frac{-(\lambda_1 + 1)\left(3\lambda_2^2 + 5\lambda_2 + 2\right) e_b^L - (\lambda_2 + 1)\left(3\lambda_2 + \lambda_1 (\lambda_2 + 1) + 2\right) e_b^Z + 3\lambda_2^2 + 8\lambda_2 + \lambda_1 \left(2\lambda_2^2 + 7\lambda_2 + 4\right) + 4}{(\lambda_2 + 1)\left((\lambda_1 + 1)(3\lambda_2 + 2)\, e_a^L + \left(3\lambda_2 + \lambda_1 (\lambda_2 + 1) + 2\right) e_a^Z\right)}$$

Case 9: Ubiquitous Comparison

$$a_L = \frac{e_b^L \left(-(\lambda_1 + 1)(2\lambda_2 + 1)\, e_a^Z + \lambda_2^2 + 4\lambda_2 + \lambda_1 (3\lambda_2 + 2) + 2\right) + e_b^Z \left((\lambda_1 + 1)(2\lambda_2 + 1)\, e_a^L + (\lambda_1 - \lambda_2)(\lambda_2 + 1)\right)}{\left(3\lambda_2 + \lambda_1 (4\lambda_2 + 3) + 2\right)\left(e_b^L + e_b^Z\right)}$$

$$a_Z = \frac{(\lambda_1 + 1)(2\lambda_2 + 1)\, e_a^L \left(-e_b^Z\right) + (\lambda_1 + 1)(2\lambda_2 + 1)\, e_a^Z e_b^L + (\lambda_1 - \lambda_2)(\lambda_2 + 1)\, e_b^L + \left(\lambda_2^2 + 4\lambda_2 + \lambda_1 (3\lambda_2 + 2) + 2\right) e_b^Z}{\left(3\lambda_2 + \lambda_1 (4\lambda_2 + 3) + 2\right)\left(e_b^L + e_b^Z\right)}$$

$$b_L = \frac{(\lambda_2 + 1)\left(e_b^L \left(-\left(2\lambda_1^2 + 3\lambda_1 + 1\right) e_a^Z + \lambda_1^2 + 2(\lambda_2 + 1) + \lambda_1 (3\lambda_2 + 4)\right) + (\lambda_1 + 1)\, e_b^Z \left((2\lambda_1 + 1)\, e_a^L - \lambda_1 + \lambda_2\right)\right)}{\left(3\lambda_2 + \lambda_1 (4\lambda_2 + 3) + 2\right)\left(-(\lambda_1 + 1)\, e_a^L - (\lambda_1 + 1)\, e_a^Z + \lambda_1 + \lambda_2 + 2\right)}$$

$$b_Z = \frac{(\lambda_2 + 1)\left(\left(2\lambda_1^2 + 3\lambda_1 + 1\right) e_a^L \left(-e_b^Z\right) + \left(2\lambda_1^2 + 3\lambda_1 + 1\right) e_a^Z e_b^L - (\lambda_1 + 1)(\lambda_1 - \lambda_2)\, e_b^L + \left(\lambda_1^2 + (3\lambda_2 + 4)\lambda_1 + 2(\lambda_2 + 1)\right)\right.}{\left(3\lambda_2 + \lambda_1 (4\lambda_2 + 3) + 2\right)\left(-(\lambda_1 + 1)\, e_a^L - (\lambda_1 + 1)\, e_a^Z + \lambda_1 + \lambda_2 + 2\right)}$$

$$P_a = -\frac{(\lambda_1 + 1)\left(e_b^L + e_b^Z\right)}{\lambda_1 e_a^L + e_a^L + \lambda_1 e_a^Z + e_a^Z - \lambda_1 - \lambda_2 - 2}$$