Problem Set 1: The Armington-Anderson and Krugman Models

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1. Show that the CES utility collapses to CD, Leontief, and linear utilities.

2. Derive the CES price index we saw in class.

3. Show that welfare in the Armington(1969)-Anderson(1979) model is increasing trade openness and then show how trade openness depends on κ.

4. Consider a version of the model without the demand shifter ν and then consider a move from autarky to a case with trade. Write down the change in welfare. How does the change in welfare depend on the trade elasticity? Why is it problematic to say that welfare changes are increasing or decreasing in the trade elasticity?

5. Write a short summary of Anderson and van Wincoop (2003) main research question, methodological approach and key finding (maximum one page). You should be able to do this by reading just the introduction and skimming the paper.

References

Anderson, James E., and Eric van Wincoop (2003) 'Gravity with gravitas: A solution to the border puzzle.' *American Economic Review* 93(1), 170–192