The Effect of Exchange Rates on Soy Production and Deforestation in the Brazilian Amazon

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ABSTRACT

As a country with diverse natural resources, land available for agricultural development, as well as policies that favor foreign investment, Brazil has become a major competitor in the global soybean market. As the demand for soy rises with the growing world population, Brazil soybean production has increased. While Brazil has an economic incentive to produce more soy, soybean exports have a significant impact on the environment, as production has become a major factor driving land-usage changes in the Amazon region. In this paper, I evaluate the effect the Real-U.S. Dollar exchange rate has on deforestation in the Brazilian Amazon. To do this, I examine fluctuations in the Real-U.S. Dollar exchange rate compared to changes in soy production and Amazonian forest cover from 2000-2014. Additionally, I use spatial data and maps to examine the geographic relationship between deforestation and soybean production as well as the change in Amazonian land usage. After analyzing my data, I find that there is a positive relationship between Real-U.S. Dollar currency depreciation and soy production from 2000 to 2014. While the exchange rate influences the competitiveness of Brazilian soy, leading to increased production and exports, it does influence deforestation after 2009. I find that following 2009, increased agricultural efficiency and conservation policies appear to have reduced deforestation in the Amazon region. The purpose of this study is to analyze the effect the global market demand for soy and currency depreciation have on Brazilian agriculture and its implications for economic development as well as environmental conservation.