This paper empirically investigates the effects of trade liberalization on firm productivity in the case of Chile. Chile presents an interesting setting to study this relationship since it underwent a massive trade liberalization that significantly exposed its firms to competition from abroad during the late 1970s and early 1980s. Methodologically, I approach this question in two steps. In the first step, I estimate a production function to obtain a measure of firm productivity. I estimate the production function semiparametrically to correct for the presence of selection and simultaneity biases in the estimates of the input coefficients required to construct a productivity measure. I explicitly incorporate firm exit in the estimation to correct for the selection problem induced by liquidated plants. These methodological aspects are important in obtaining a reliable firm-level productivity measure based on consistent estimates of the input coefficients. In the second step, I identify the impact of trade liberalization on firms’ productivity in a regression framework allowing variation in productivity over time and across traded- and nontraded-goods sectors. Using plant-level panel data on Chilean manufacturers, I find evidence of within firm productivity improvements that can be attributed to a liberalized trade policy, especially for the firms in the import-competing sector. In many cases, aggregate productivity improvements stem from the reshuffling of resources and output from less to more efficient producers.