Although many developing countries have experienced growing income inequality and an increase in the relative demand for skilled workers during the 1980s, the sources of this trend remain a puzzle. This paper examines whether investment and adoption of skill-biased technology have contributed to within-industry skill upgrading in Chilean plants. Using semiparametric and parametric approaches, I investigate whether plant-level measures of capital and investment, the use of imported materials, foreign technical assistance, and patented technology affect the relative demand for skilled workers. I find that some of the increased relative demand for skilled workers can be attributed to capital deepening. However, the relationship between skill upgrading and the three technology measures disappears once I control for unobserved plant characteristics. These results suggest that plant adoption of foreign technology is not associated with plant skill upgrading.