

## ECONOMIC GEOGRAPHY OF THE U.S. WINE INDUSTRY

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### ABSTRACT

More than most industries, the wine industry is defined by its premier growing regions. While it is feasible to grow wine grapes in many areas throughout the world, the growing regions that possess the ideal combinations of climate, precipitation, soil attributes and topography suitable for consistently producing high quality wine grapes is a considerably smaller area. Even so, wine is consumed throughout the world and the premiere wine growing regions ship their products to all major markets worldwide.

The United States is the world's fourth largest wine producer, next to France, Italy, and Spain. U.S. wine production has been increasing and now supplies about 8 percent of the world's wine. Yet the United States remains a net importer of wine, sourcing mostly from big wine producers such as Italy, Australia, France, Chile, and Spain. U.S. imports tripled in volume from the mid-1990s, making the United States the world's third largest market for wine. The industry has also seen its exports grow but a vast majority of U.S. wine is still consumed in the country. The high concentration of grape production in California makes it home to almost half of all the U.S. wineries and the region that supplies about 95 of all domestically-grown grapes crushed for wine. Washington, New York, and Oregon are also among the country's top grape and wine producers and together they account for approximately 20 percent of the wineries and about 4 percent of the total grapes crushed for wine each year. With the growth in demand for wine worldwide and in the United States several new wine growing regions in the United States have emerged over the past years. The number of U.S. wineries has more than doubled since 1995, reaching over 4,700 (based on data from Alcohol and Tobacco Tax and Trade Bureau, U.S. Department of Treasury). Regions such as Virginia, Texas, Pennsylvania, Michigan, and Ohio each have between 100 and 200 wineries. These and other emerging regions have all posted substantial gains in wineries and in grape acreage.

An interesting empirical question concerning this emergence of new U.S. growing regions is whether the adverse impacts of higher energy costs, which drive up the cost of producing and shipping wine, will fall disproportionately on the emerging wine regions. To examine this question we calibrate a spatial (partial) equilibrium model of the U.S. wine industry. The model accounts for (i) consumer preferences for variety, (ii) monopolistic competition in the production of differentiated wine products, (iii) economies of scale in production, and (iv) transportation costs. Using published and estimated 2002 wine industry data on production, consumption, and international trade at the county level, plus more aggregated shipping data from the Bureau of Transportation Statistics, we solve model parameters and market clearing interregional trade flows. We then re-estimate spatial equilibrium under alternative energy market assumptions and examine the outcomes with deference to impacts in emerging U.S. wine regions.