

ABSTRACT

Wine, Wheat, and Climate Change: Evidence from the Little Ice Age

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In this paper we study the historical development of wine and wheat prices in Southern Germany over a 300year period beginning in 1500 in order to examine the long run determinants of “global warming” in a much earlier time. We use data from the Historical Climate Database for Europe, which provides monthly index data for temperature and precipitation beginning with the year 1500 and thus encompasses the “little ice age” of the 17th century. Our price data were taken from market chronicles comprising the same period of time.

We find that wine prices and weather conditions are closely related. From auction prices for fine wines in the modern period we know that a good vintage results in higher wine prices. It follows that “global warming” should be good news for wine makers. Although this may be true for the world’s best wines, in the earlier period we find just the reverse for ordinary wines. Our data indicate that a wet preceding winter and warm and dry conditions during the ripening period result in an abundance of wine and subsequently low prices.

Since the time frame of this paper comprises several wars and plague outbreaks we evaluate the impact of these events on wine and wheat prices as well. It appears that crises have a different impact on wine and wheat prices, with wine prices significantly decreasing in price, and wheat prices significantly increasing in the price, during crises. In view of the likelihood of declining incomes in times of crisis, these phenomenon seem most easily explained as a consequence of the role of wine as luxury good (income elasticity greater than unity), and wheat as an ordinary good. We also show that wine prices have increased steadily over time—which is consistent with increasing real income that leads to an increasing demand for luxury goods such as wine.