

# American Pinot Noirs and Merlots: Moving Up, Down, or “Sideways”?

Philip Armour and Mark Doms\*  
Preliminary draft: March 28, 2008

## Abstract

This paper explores the validity of the anecdotal “Sideways Effect,” whereby the 2005 indie movie decreased demand for Merlot wine and increased demand for Pinot Noir. Using *Wine Spectator* and *The Wine Advocate* data on scores and prices, as well as harvest statistics from the annual *California Crush Report*, we find that comments made in the movie largely reflect pre-existing trends. For instance, various statistics suggest that since the early 1990s, California Merlot quality has deteriorated while Pinot Noir quality has improved. Interestingly, from 1986 to 2006, Merlot’s price, after controlling for score, increased faster than Pinot Noir’s. We investigate several reasons behind these trends, including the effects of a huge increase in the supply of Merlot grapes in the 1990s, the increasing importance of “vineyard-designate” Pinots, an examination of the second and third moments of the score distributions, decomposing the results by more specific growing region, the effects of weather, and “grade inflation.” Our preliminary conclusion is that instead of changing ultra-premium wine preferences, “Sideways” may have simply drawn attention to an undervaluation of higher quality Pinot Noir.

---

\* Armour ([Philip.armour@sf.frb.org](mailto:Philip.armour@sf.frb.org)) and Doms (corresponding author, [Mark.doms@sf.frb.org](mailto:Mark.doms@sf.frb.org)), Federal Reserve Bank of San Francisco. We would like to thank Orley Ashenfelter for helpful comments and encouragement. The views expressed here are those of the authors and not necessarily those of the Federal Reserve Bank of San Francisco. All results are preliminary and should not be cited.

## I. Introduction

Several statements by Miles Raymond, the main character in the novel that was later made into the movie “Sideways”, about Merlot and Pinot Noir have resonated amongst wine fans. For instance, Miles raves about Pinot Noir:

“Uh, I don't know, I don't know. Um, it's a hard grape to grow, as you know. Right? It's uh, it's thin-skinned, temperamental, ripens early. It's, you know, it's not a survivor like Cabernet, which can just grow anywhere and uh, thrive even when it's neglected. No, Pinot needs constant care and attention. You know? And in fact it can only grow in these really specific, little, tucked away corners of the world. And, and only the most patient and nurturing of growers can do it, really. Only somebody who really takes the time to understand Pinot's potential can then coax it into its fullest expression. Then, I mean, oh its flavors, they're just the most haunting and brilliant and thrilling and subtle and... ancient on the planet.”

By contrast, Miles’s opinion on Merlot is more succinctly stated by, “If anyone orders Merlot, I'm leaving. I am not drinking any f -- Merlot.”<sup>1</sup>

The celebrity of these quotations raises several interesting questions surrounding the evolution of quality of wine and the demand for certain varietals.<sup>2</sup> For example, did “Sideways” have an “effect” on the Pinot Noir and Merlot markets, or did Miles’ statements simply reflect pre-existing trends? Although the plantings, prices, ratings of Pinot Noir increased after the movie “Sideways”, we find that these increases are consistent with a trend that began years before the novel/movie. According to several data sources, the quality of higher-end Pinot Noir has steadily increased while that of Merlot, on average, has fallen off. Interestingly though, Merlot has grown increasingly expensive in comparison to similarly rated Pinot. The “Sideways” effect, that customers flocked from Merlot to Pinot, may simply be recognition of the undervaluation of Pinot Noir in relation to Merlot.

To arrive at these conclusions, we use over 20 years of reviews from *Wine Spectator* and the *Wine Advocate*. These reviews provide information on varietal, winery, name, location, release price, and an overall score. Realizing that the samples of wines rated by these publications is far from a

---

<sup>1</sup> We assume the Miles character is referring to California or other U.S. based Merlot, as Miles’s favorite wine, a 1961 Cheval Blanc, is a 55% Cabernet Franc and 45% Merlot blend.

<sup>2</sup> There are 65,800 Google hits for “Merlot” + “sideways”,

random sample, we also estimate the trends in scores and prices after controlling for information that is available on the wine label.

There are many possible reasons for the trends we observe. In particular, we examine more closely the increasing importance of “vineyard-designate” Pinots, an examination of the second and third moments of the score distributions, decomposing the results by more specific growing region, the effects of weather using The Bordeaux Equation (Ashenfelter), and “grade inflation.”

The remainder of the paper is organized as follows. The second section describes in more detail the data on wine ratings. The third section presents the trends in plantings, prices, and scores of Pinot Noir versus Merlot. The fourth section addresses some of the possible reasons behind these trends. The final section provides a few concluding thoughts.

## II. Data and stylized facts

The following analysis uses two datasets: crush reports and ratings from two major wine oriented publications. The crush report data cover the production and prices of wine grapes from California and come from the California Department of Agriculture. The wine rating data were downloaded from the *Wine Spectator* and *Wine Advocate* databases for California red wines. The data items retrieved include initial pricing, varietal, winery, location, name, and score.

### *II.1 Crush report data*

The crush report data is admittedly crude, and we present summary statistics in figures 1 and 2 primarily for background and illustrative purposes. Figure 1 shows the tons crushed of Pinot Noir and Merlot red grapes from 1991 to 2006. Surprisingly, at the beginning of the period, production of Pinot Noir and Merlot were similar. From 1994 to 1999, however, the Merlot market grew at an astounding rate of 34 % per year. Industry lore has it that that during the 1990s, American consumers “ Pinot

Noir, by contrast, grew more slowly in the 1990s, but grew more strongly in the 2000's, averaging 18% per year from 2000 to 2006.

Using the same data source used for figure 1, figure 2 shows the average price per ton of red grapes from crush reports. Unfortunately, the data from the crush reports do not contain any information on the quality of grapes, and the quality of red wine grapes vary tremendously from vineyard to vineyard and from region to region. Therefore, interpreting changes in prices of these data is difficult. With that significant caveat in mind, we see that figure 2 shows that prices of Merlot have been on a steady downward trend for some time. There are many possible reasons for this downward trend, including changing quality of grapes, excess supply of Merlot grapes (recall in figure 1 that the supply increased sharply in the 1990s), or a decrease in relative demand.

By contrast, the prices for Pinot enjoyed strong growth in the 1990s, piercing \$2,000/ton. After dipping earlier in the decade, Pinot prices returned to this high level in 2006. The same caveats mentioned about the Merlot prices also apply to the crush report prices for Pinot Noir. The next subsection delves more deeply into quality and prices of wines made predominantly from these grapes.

## *II.2 Data from Wine Spectator and The Wine Advocate*

To gain more precise insights into the Merlot and Pinot Noir market, we now examine databases of wine reviews by two of the most popular wine periodicals: *Wine Spectator* and *The Wine Advocate*. These databases include reviews of wine, which usually consist of a few sentences. They also provide harder data on varietal, winery, name of the wine, location, and release price, as well as an overall score. We placed all of the California red wines reviewed in these publications into our own database. Our database consists of all California red wines reviewed from 1980-2005.

The wines that are rated by *Wine Spectator* and *The Wine Advocate* are not random samples of the population of wines; instead, wines rated in these publications are more tilted towards the ultra-premium and luxury range of the wine market. It should therefore be emphasized that most of our results pertain to only the upper echelons of the wine industry's offerings. Also, in some of the

statistics and figures we present, we control for a large number of observed characteristics, such as location, varietal, winery, and even the particular wine label itself.

Figure 3 summarizes the mean ratings over time for Pinot Noir and figure 4 summarizes the mean rating for Merlot.<sup>3</sup> Each figure shows four series; the combination of two ratings (Wine Spectator and The Wine Advocate) and whether the means are unconditional (that is, the unaltered sample mean) or conditional. The conditional means are computed by running a fixed effects regression with time dummies. The fixed effects are the label, that is, the name of the wine, with examples including, “Capiaux Cellars Pinot Noir Wilson Vineyard” and “Duckhorn Merlot Three Palms Vineyard.” The time dummy coefficients are therefore identified only by wines that appear in more than one year.

The stories for means scores differ significantly for the two varietals. As shown in figure 3, all four series for Pinot Noir trend upward from 1990; the unconditional means, and the conditional means, regardless of reviewer. For each reviewer, the unconditional means increase faster than the conditional means. The unconditional mean for Wine Spectator shows the largest increase of 4 points, although Wine Spectator’s conditional mean increases by less than 1 point. For Robert Parker, his conditional mean increases by 1.2 points while his unconditional mean increases by about 5 points.

The difference between the changes in the conditional and unconditional means can arise for a variety of reasons. For instance, the rise in the conditional means could be the result of a given wine improving over time, perhaps reflecting learning by the producer. It could also reflect a shift in taste by the reviewers. The unconditional means can increase because the sample of wines tasted has changed (a shift toward better wines), or because new wines enter the market that are of above average quality. The next section, in progress but not yet written, investigates each of these stories.

The story is quite different for Merlot, as shown in figure 4; instead of mean scores increasing, the mean scores for three of the four categories trend down over time. The only series that does trend upward is the Wine Advocate’s unconditional mean. Wine Spectator’s ratings of Merlot have trended

---

<sup>3</sup> More precisely, the ratings are for wines that are classified as Merlot or Pinot Noir.

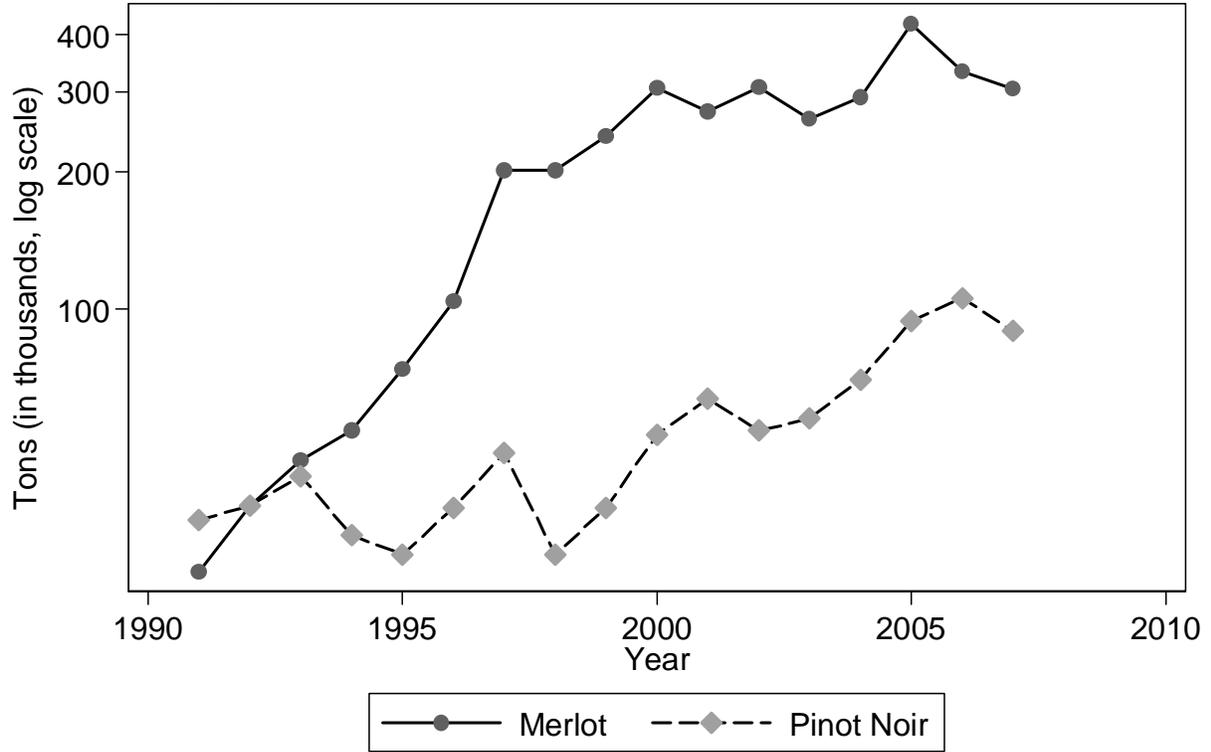
steadily and steeply downwards. As was the case with figure 3 (Pinot Noir), there are many reasons that could lie behind these trends.

Before proceeding to a deeper analysis as to why the trends in figures 3 & 4 could have occurred, we now want to summarize some aspects of prices for Merlot and Pinot over time. By “price”, we mean release price. Release prices are not necessarily transaction prices. However, as we are examining trends in prices over long time periods, hopefully the difference between release prices and transaction prices stays roughly constant over time. With that caveat in mind, we regress the log of release price on time dummies interacted with varietal, score, and score squared. This crude regression answers the basic question of what is the average price difference between a Merlot and a Pinot Noir with the same score. One of the motivations behind this initial exercise was to see if Pinot experienced a relative price bump after the release of the movie “Sideways.”

Figure 5 shows the results from this regression exercise. The solid line is the estimated mean difference in prices (in logs) for Pinot Noir versus Merlot as a function of publication date. The dashed blue lines show the 95% confidence interval around the estimate of the mean. Although this is a relatively preliminary result, it is nonetheless striking. Merlots have commanded a steadily increasing price premium that has only recently turned upwards. We had anticipated seeing a stronger “Sideways” effect, that is, the upturn occurring earlier and more sharply.

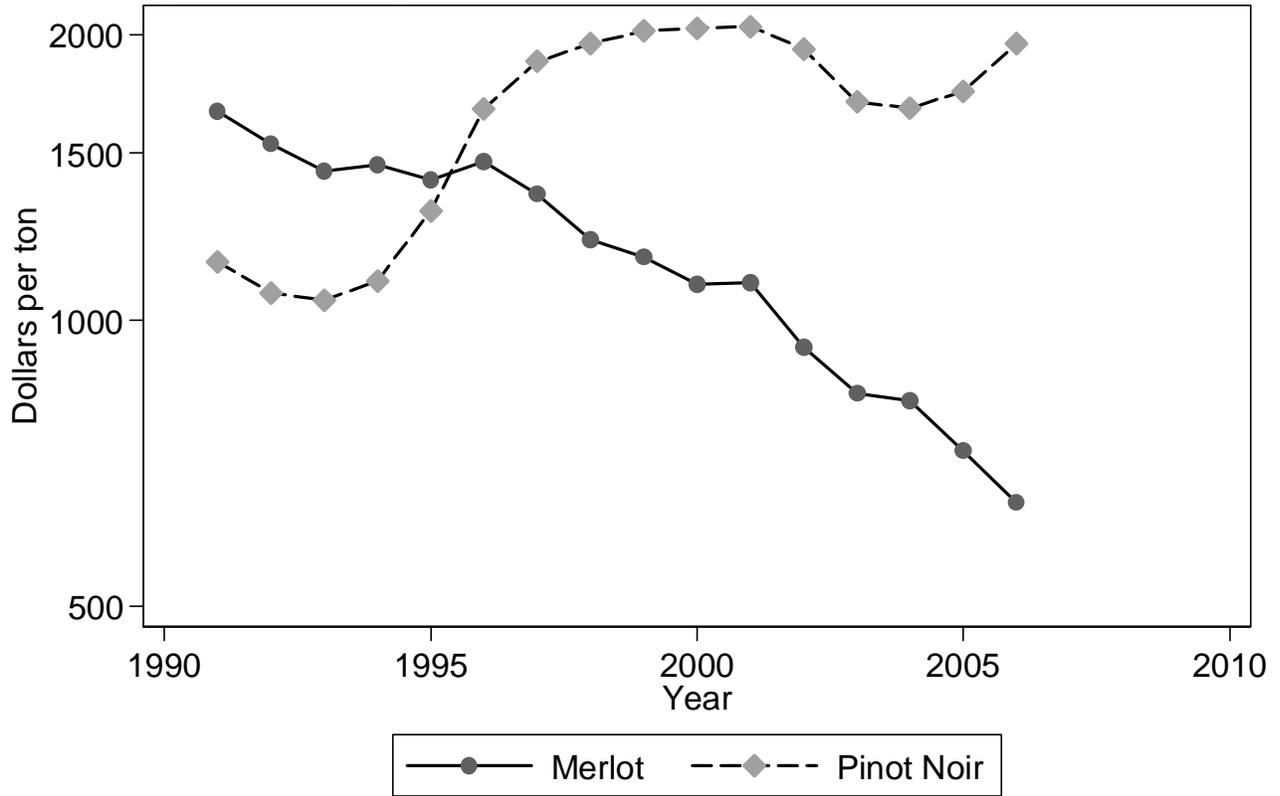
Exploring just why the estimated relative prices did what they did and the reasons for the trends seen in figures 3 and 4 will be the subject of the next section, a section very much in progress. That section will explore a number of explanations in greater detail, including the importance of “vineyard-designate” Pinots, an examination of the second and third moments of the score distributions, decomposing the results by more specific growing region, the effects of weather using The Bordeaux Equation (Ashenfelter), and “grade inflation.”

Figure 1: Tons of Merlot and Pinot Noir Crushed in California



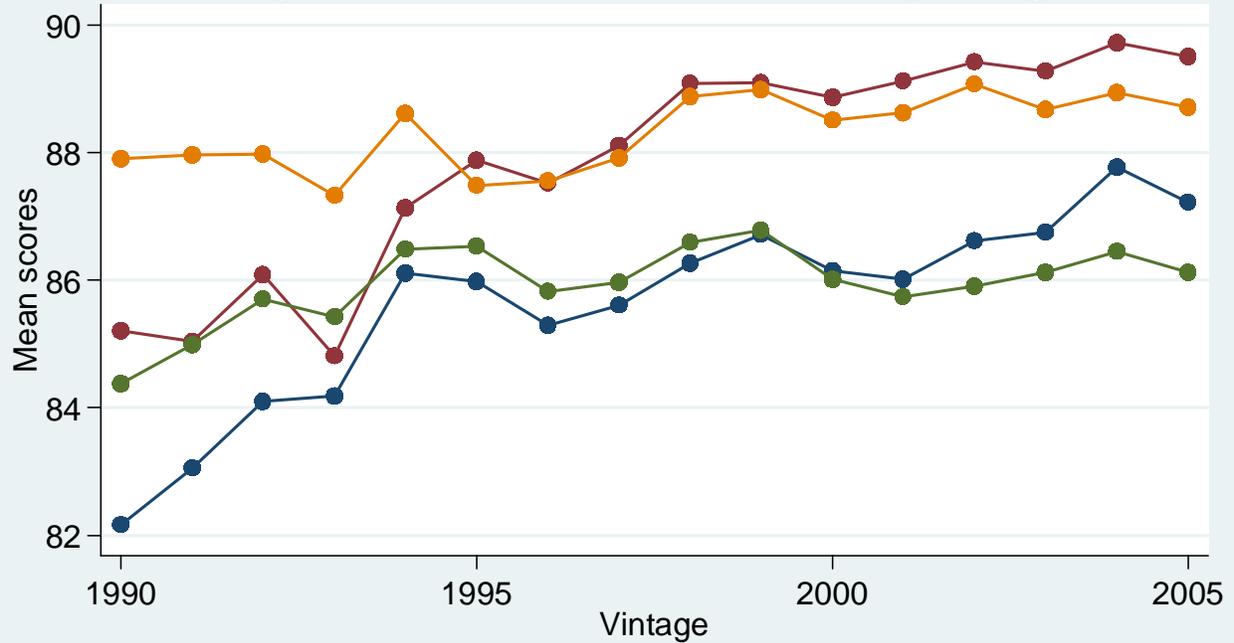
Source: Various crush reports, CA Department of Agriculture

Figure 2: Average Price Per Ton of Merlot and Pinot Noir in California



Source: Various crush reports, CA Department of Agriculture

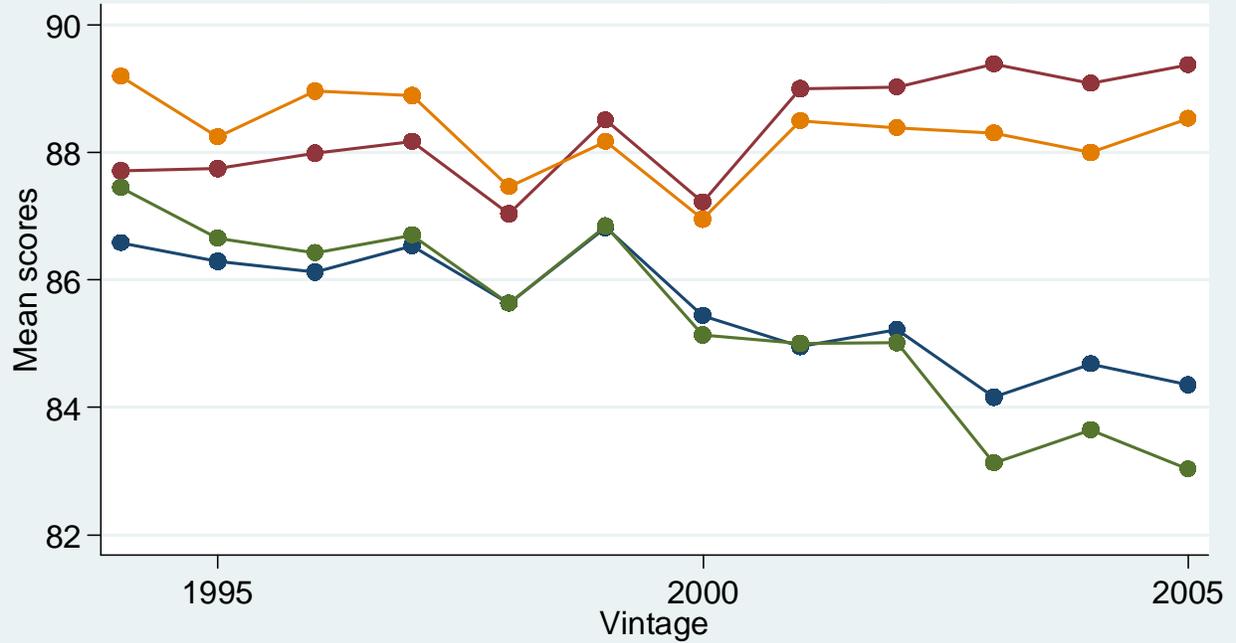
Figure 3: Mean Scores for Pinot Noir by Vintage



—●— Wine Spectator, unconditional —●— Wine Advocate, unconditional  
—●— Wine Spectator, conditional —●— Wine Advocate, conditional

Source: Data from Wine Spectator and The Wine Advocate and authors' calculations.

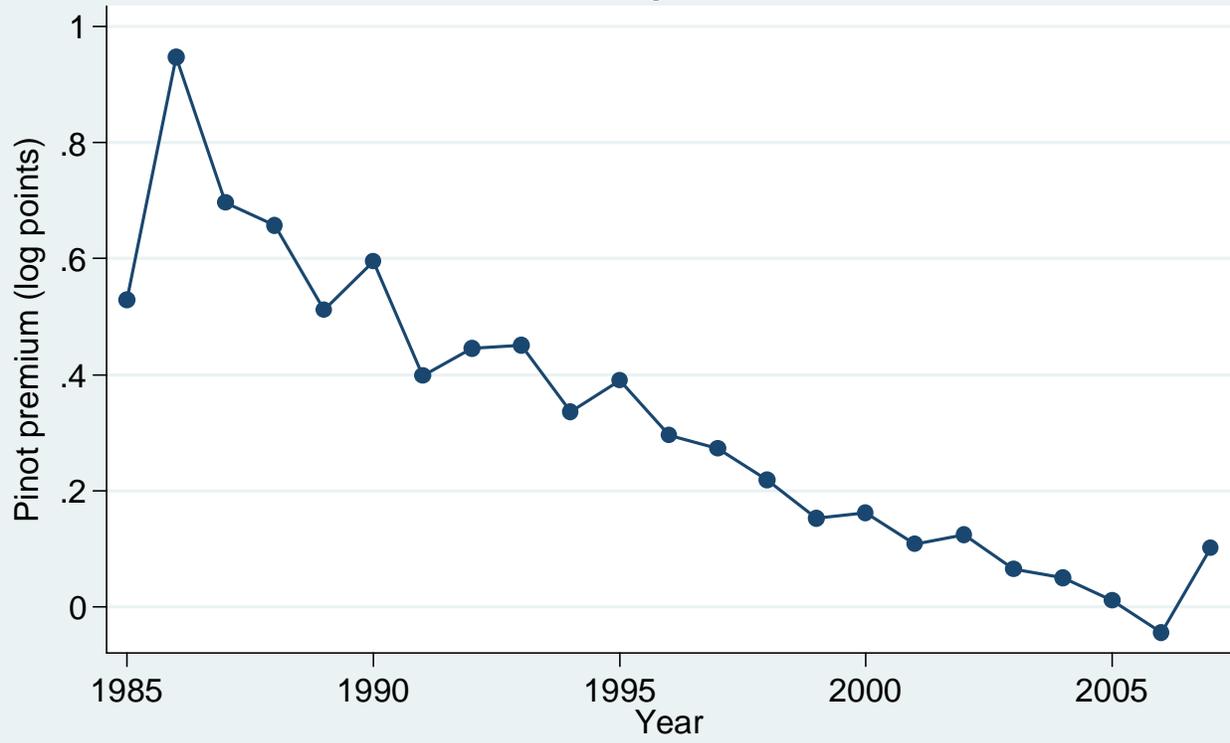
Figure 4: Mean Scores for Merlot by Vintage



—●— Wine Spectator, unconditional —●— Wine Advocate, unconditional  
—●— Wine Spectator, conditional —●— Wine Advocate, conditional

Source: Data from Wine Spectator and The Wine Advocate and authors' calculations.

Figure 5: Relative Prices of Pinot to Merlot  
Controlling for Scores



Source: Regression results of the log of price on score, score squared, and time dummies interacted with varietal.