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Wine Equation Puts Some Noses Out of Joint

By PETER PASSELL

Calculate the winter rain and the harvest rain (in millimeters). Add summer heat in the vineyard (in degrees centigrade). Subtract 12.145. And what do you have? A very, very passionate argument over wine.

Prof. Orley Ashenfelter, a Princeton economist, has devised a mathematical formula for predicting the quality of red wine vintages in France. And the guardians of tradition are fuming.

Robert M. Parker Jr., generally regarded as the most influential wine critic in America, calls Professor Ashenfelter's research "ludicrous and absurd."

William Sokolin, a New York wine merchant, said the Bordeaux wine industry's view of the work ranges "somewhere between violent and hysterical." Those reactions are not surprising. No formula could capture the variations in estate-bottled wines from the same vintage. But if widely accepted, Professor Ashenfelter's approach to judging the quality of the red wines of Bordeaux and Burgundy long before they are drinkable could turn the clubby, exclusive world of wine rating on its ear.

Alas for the Human Element

And even if it does not, enthusiasts who care more about drinking wine than talking about it could use what seem to be startlingly accurate forecasts to gain an edge at the expense of wine brokers and dealers.

For the moment, though, Professor Ashenfelter is too distracted to ponder the cosmic implications of removing the human element and the romance from vintage rating. That is because his just-completed calculations suggest that the 1989 Bordeaux wines will be the greatest of the century.

Most wines are bottled soon after they are made and are ready to drink shortly thereafter. The small fraction of French red wines destined to be sipped and savored spend 18 to 24 months in oak casks and are then set aside for aging in bottles.

Tastes from the barrel heavily influence the prices of wine futures, sold the year after the harvest. Samples from the newly bottled wines help determine the wholesale price - rarely less than $10 a bottle - at which the wines are first shipped around the world.

Only years later can vintages be ranked by taste with any precision. And as most experts acknowledge, there is many a slip between barrel, bottle and lip.

In 1967 Andre Simon, the prominent wine writer, predicted that the 1965 Bordeaux would be as good as the promising 1961 vintage. Today, few of the weak, acidic 1965's are available. One that is, Chateau Lafite-Rothschild, sells at auction for just one-fifteenth the price of the truly great 1961 wines from the same vineyards.

Mr. Ashenfelter, a 47-year-old specialist in labor economics who is the managing editor of The American Economic Review, is convinced he has found a better way.

It is widely agreed that weather influences wine quality. What few understand, he argues, is that a mere handful of facts about the local weather tell almost all there is to know about a vintage. And using the same techniques employed to forecast, say, the effect of a change in wage rates on employment in the auto industry, he has gone a long way toward proving his audacious theory.

It's Laptop vs. Nose

Weather-based vintage prediction is not a new idea. What is new is the notion that laptop computers can outperform the most sophisticated noses and palates.

The critical concept, Professor Ashenfelter acknowledges, came from Bruno Prats, owner of Chateau Cos d'Estournel in the St.-Estephe region of Bordeaux. Mr. Prats charted both the average temperature during the growing season and rainfall during the harvest months to make systematic comparisons between vintages.

Professor Ashenfelter added data for winter rainfall and then rigorously measured their statistical relationships to the most objective measure of quality he could devise: an index of auction prices for about 80 wines after they have matured in the bottle.

According to this "multivariate regression analysis," heavy rains in the winter followed by a hot summer improve wine quality, while rainfall before the harvest damages it. The statistical fit from 1952 through 1980 is remarkably snug for the red wines of Burgundy as well as Bordeaux.

Year-to-Year Variations

Michael Broadbent, director of wines at Christie's auction house in London and a leading authority on Bordeaux, points out that the system cannot predict quality differences between estate-bottled wines of the same vintage. And it may yield systematic errors by lumping together wines primarily based on the cabernet sauvignon grape with the minority based on the softer-tasting merlot grape, which matures earlier.

But as Steve Ross, a wine enthusiast who is a professor of finance at the Yale School of Management, points out, the simple statistical model does explain basic year-to-year variations without major slips. "If you did not tell them a machine did it," Mr. Ross said, "I think it would

pass muster with the wise heads in the business."

Interest in the system has mostly been confined to the small group of wine buffs who are comfortable with econometric techniques. Circulation of Mr. Ashenfelter's semiannual newsletter, "Liquid Assets" ($30 for a yearly subscription), numbers about 600 - a tiny fraction of the readership of The Wine Advocate ($30, with a circulation of more than 27,000), which Mr. Parker publishes from his home in Maryland. But that could change if two of the Princeton economist's predictions prove accurate.

For most young Bordeaux vintages, the Ashenfelter forecasts are within hailing distance of the tasters' conventional wisdom. For the 1986 vintage, however, they are poles apart.

'Sometimes Exceptional'

Mr. Parker rates the 1986's as "very good and sometimes exceptional." Peter A. Sichel, author of the influential Bordeaux Vintage and Market Report, said the 1986's have "elegance and classic Bordeaux structure." New York stores, brimming with the vintage, are pricing the wines in the same range as the much-praised 1985's.

But according to the Ashenfelter system, below-average growing season temperatures and above-average harvest rainfall doom the 1986 Bordeaux to mediocrity. When the dust settles, he predicts, it will be judged the worst vintage of the 1980's, and no better than the unmemorable 1974's or 1969's.

Perhaps the most dramatic Ashenfelter prediction, the one likely to vault the ratings system into prominence or doom it to obscurity, is for the 1989 vintage.

These wines are barely three months in the cask and have yet to be tasted by critics. By Professor Ashenfelter's calculations, the hottest growing season in memory, combined with a very dry harvest, all but guarantee that the 1989 Bordeaux will be stunningly good. Adjusted for age, he predicts, these wines will eventually sell for a substantial premium over the great 1961 vintage.

For the moment, though, the wine industry's assessment of the champion of vintage rating by the numbers is hardly flattering. To paraphrase James Thurber, they are most definitely not amused by his presumption.

Photo: Prof. Orley Ashenfelter, whose mathematical formula for predicting the quality of French red wine vintages has left traditionalists fuming (The New York Times/William E. Sauro) (pg. 1); chart: comparison of Red Bordeaux ratings 1980-87 (Source: Liquid Assets Newsletter; "Hugh Johnson's Pocket Encyclopedia of Wine 1990"; "Parker's Wine Buyer's Guide" (1989-90 edition); chart: showing the equation Orley Ashenfelter uses to predict the quality of Bordeaux wine (Source: Liquid Assets Newsletter) (pg. 27)