

**illUminate Blog Transcript: Jim Dearden and Chad Meyerhoefer on Restaurant Wine Pricing**

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JACK CROFT 00:14 Welcome. I'm Jack Croft, host of the illUminate podcast for Lehigh University's College of Business. Today is February 3rd, 2022, and with Valentine's Day, one of the busiest days of the year for restaurants, drawing near, we're talking with Jim Dearden and Chad Meyerhoefer about how restaurant wine pricing works. Dr. Dearden is a professor of economics in Lehigh's College of Business. A specialist in game theory, he investigates economic incentives and contracts, cost-sharing of collective actions, and the economics of college rankings and admission. Dr. Meyerhoefer holds the Arthur F. Searing Professorship in Economics at Lehigh's College of Business. His research focuses broadly on the economics of health and nutrition. Much of his work involves the use of microeconomic methods to evaluate and inform public policy. Thanks to both of you for being with us today.

CHAD MEYERHOEFER 01:14 Thanks, Jack. It's great to be here.

JIM DEARDEN: 01:16 Thanks for me, Jack, as well. It's Jim.

CROFT: 01:19 Now, the study the two of you co-authored, along with one of your PhD graduate students, Ronnie Guo, examines the relationship between restaurant bottle margins, prices, and markups for wines they offer by the glass versus those they don't offer by the glass. So what drew your interest in this question in the first place?

DEARDEN: 01:44 I like to think about it this way: A restaurant offers an array of items—appetizers, mains, desserts, and drinks. In this paper, how restaurants put together these different pieces of their menus and setting prices sparked my curiosity. Drilling down to think about wine, for a particular varietal-- I'll say Pinot noir. I'm curious about whether a restaurant offering that varietal by the glass affects its Pinot bottle prices, margins, and markups. For customers who are interested in Pinot bottles, a glass or two of this varietal is an option. So in my work, in general, I'm interested in what economists and marketers call "menu pricing." Airlines offer price quality menus, setting prices according to the location of seats in planes, seat sizes, and legroom. Grocery stores offer price quantity menus with quantity discounts; typically, the bigger the box, the lower the price per ounce, for example. Movie theaters offer price time menus, setting matinee and evening prices differently.

MEYERHOEFER: 02:51 Yeah. And, Jack, I'm interested in hanging out with Jim and doing cool economic research that uses unique data.

CROFT: 03:01 Okay. This doesn't fall under your nutrition umbrella, then, I take it, so.

MEYERHOEFER: 03:07 Not exactly, but there is a correlation between wine consumption and health, so there is this indirect tie in there.

- CROFT: 03:17 True. Okay. Now, in looking at this question of wine by the glass at restaurants, who generally are the most likely restaurant customers to order wine by the glass, as opposed to by the bottle?
- DEARDEN: 03:34 I like to think about it this way: Low-willingness-to-pay customers—those who don't drink as much or don't appreciate wine as much—they're the ones who tend to buy wines by the glass. And a restaurant offering wines by the glass for those low-willingness-to-pay customers presents an option for those who are willing to pay more for wine and select bottles, and this option affects the bottle prices that restaurants set.
- CROFT: 04:01 And anything to add there, Chad, or--?
- MEYERHOEFER: 04:04 Traditionally, restaurants use this by-the-glass option to bring consumers into the market for wine who just don't have as much experience with wine or are hesitant to spend the amount that's required to purchase bottles.
- CROFT: 04:22 And I would think some of it would be if they're less familiar with wines, trying something by the glass is less of a risk for a customer than investing in a full bottle and wondering, "Well, what if I don't like this?"
- DEARDEN: 04:40 I think that's right, Jack. And there's even another reason. People who want to offer different-- who want to drink different varietals at a table-- they'll buy wines by the glass, then.
- CROFT: 04:52 Right.
- MEYERHOEFER: 04:54 Yeah. You don't want to be the person who chooses the bottle that nobody likes but you.
- CROFT: 05:00 True. Okay. Now, as you were putting this study together, how did you go about determining the list of restaurants you included?
- MEYERHOEFER: 05:10 This is a research question where there is no easily available data to study that we could find from a secondary data source. So we had to collect the data on our own, and Ronnie was the one who put in that very strong effort to do that. So we wanted to start with restaurants that were in the same regional market, and the reason why is that those restaurants would be in a similar competitive environment, and they'd be more likely to source their wine and products from the same wholesalers. So we confined the analysis to New York City, which, as you know, has a large number of restaurants that sell wine. And we limited ourselves to restaurants on the Zagat Review, which is a widely used rating system for restaurants. It's used all over the country. And the reason for that is Zagat has some information that we were able to use in our analysis on things like the quality of the decor and the quality of the food. So based on that original set of New York City restaurants, what we did is we subset to those that were serving the six most common cuisines. And the reason for that was that we didn't want to include in the sample restaurants where the pairings of wine with food would be very different than for common restaurants. And we also subset to those that the Zagat rating designated as providing a good wine tasting experience. There's just a lot of restaurants that don't really offer wine or that offer it infrequently, and it didn't really make sense to have those in the sample.
- MEYERHOEFER: 06:51 And then, finally, we did have to subset the sample to restaurants that posted their wine menus online, because that's the only way that we could determine whether

they offered wine by the glass or not. And most restaurants at this point do that, and it would be impossible for us to actually visit every single restaurant in the sample to otherwise determine that. So that's, essentially, the sample that we started with. But you can think about it as restaurants in New York City-- they're serving common cuisines and that are selling wine on a regular basis.

DEARDEN: 07:29

And what was interesting to us is that some of the varieties-- we looked at four major varieties. A restaurant may offer some varieties by the glass, but not others. So we were able to partition our data into wines that are offered by the glass-- or, varieties that are offered by the glass and varieties that are not. Another reason that we chose New York to study is that restaurants must, in the State of New York, buy their wine from the state, and we had the state wholesale prices then available to-- so that's another good reason to choose New York.

CROFT: 08:10

Okay. Now once you had your list of restaurants, then, what were some of the main factors that you looked at to arrive at your findings?

MEYERHOEFER: 08:19

So as Jim mentioned, we did look at the least expensive bottle wines for the four major varieties, and that was basically to make sure that we weren't comparing widely different wines. So when you get into very expensive wines-- they're grown for a boutique market, and so their characteristics can be highly different, whereas the least expensive wines are the wines that restaurants are most likely to sell, consumers are most likely to buy, and they tend to be more similar. So those are two red varieties-- so Cabernet Sauvignon, the Pinot noir, and then two white varieties, which are Chardonnay and Sauvignon blanc. And so what we did is we created an econometric model where, first, we correlated whether the wine was being offered by the glass with the wholesale price of the wine. And in that model, we also controlled for the Wine Spectator rating. And the reason for that is, obviously, the quality of the wine is very important to a restaurant's decision to purchase it and offer it by the glass, potentially, and also very important to some consumers. And so we wanted to make sure that we were comparing wines of similar quality, and including the Wine Spectator rating was a way to do that.

MEYERHOEFER: 09:39

Now, as Jim mentioned, many restaurants actually offered some varieties by the wine, but not all. And we use that characteristic of the data to generate estimates that are more reliable. And we did that by including what we call "restaurant fixed effects," but, essentially, they're control variables in the model that account for differences in restaurant characteristics. Because we don't want the models to be just picking up the fact that some restaurants have higher-end decor than others, and that, maybe, affects the wine tasting experience. So the estimates are sort of generated by looking at, within a restaurant, which wines are offered by the glass and which aren't, and how does that affect the bottle prices of those different wines within a restaurant? So you don't have to worry about the fact that, OK, this restaurant sets prices a little differently than the other one. So that was the first step-- was just to determine how does offering wine by the glass-- how does that correlate with the wholesale price? Do restaurants offer wines by the glass that they get at a higher price or a lower price? And then the next step was we correlated both the price of the wine and the margins - the margin being the difference between the retail price that the wine is sold for to consumers and how much it's acquired for on the wholesale market - to whether-- we correlated that with whether the wine was being offered by the glass. And so if a restaurant offers a wine by the glass, do they

set up a higher price, and do they earn more on that bottle of wine? Do they have a higher margin or a higher markup?

CROFT: 11:20

That leads us to the \$64,000 question here, which is, what are the main findings from your study? Going back to the original question we discussed at the outset, do restaurants charge higher bottle margins, prices, and markups for wines offered by the glass?

MEYERHOEFER: 11:38

So it turns out that restaurants do, in fact, increase the price of bottles for wines they offer by the glass. It's about a 5% increase. But what's even more interesting than that is when you look at the margins of those bottles, they're 12% higher when the restaurant offers the wine by the glass.

CROFT: 12:00

Now what's the difference between the margin and just the price itself?

MEYERHOEFER: 12:07

The price is what the consumer is paying the restaurant, whereas the margin is the difference between what the consumer pays and what the restaurant pays the wholesaler for the wine. So, essentially, the restaurant is acquiring the wines it sells by the glass at lower wholesale costs, but it's not passing those costs on to consumers. It's keeping that. Whereas when the wine is only offered by the bottle, it's more likely to pass those savings on to consumers.

CROFT: 12:39

Jim, it seems kind of at first blush, if you will, that raising the margins and markups for bottles of wine that customers can also buy by the glass is somewhat counterintuitive. So if you could explain the thinking behind that, and, also, what the study shows about the role that the wholesale price of a bottle of wine generally plays, and how much restaurants sell it for by the glass.

DEARDEN: 13:09

I think about this in terms of segmenting markets. If the restaurant offers the wine only in bottles, then it's not segmenting low- and high-willingness-to-pay customers that it could do if it offered by the bottle and by the glass. So it's lumping them all together when it offers only bottles. And in doing that, it has to price-- or, it wants the price to attract, at least, some of those low-willingness-to-pay customers, so it's setting a lower price. When it offers the wine by the glass, now it is segmenting-- the restaurant's segmenting customers. It's putting low-willingness-to-pay customers in the glass group, so they're buying wines by the glass, and then the high-willingness-to-pay consumers are buying the wines in bottles. And those higher-willingness-to-pay customers-- willing to pay more, restaurants are raising the price on them a little bit. Now our other finding, which is interesting, is that controlling for the quality of the wine-- controlling for a Wine Spectator rating, which we used in our study-- what we found is that restaurants that acquire wines at lower prices-- they offer those by the glasses-- so lower wholesale prices, they offer them by the glasses, but the wines that they acquire at higher prices, they offer only in bottles. So now, then, what we have is these lower wholesale price wines being offered by the glass, attracting these lower-willingness-to-pay consumers, and the higher priced wines, again, controlling for quality, offered only in bottles. And they're kind of attractive; they're there for everyone, because the wine is not being offered by the glass.

CROFT: 14:56

Now what are some of the other important factors that enter into a restaurant's decision to offer wine by the glass?

MEYERHOEFER: 15:03

One of the biggest factors is what we would call volume-based pricing in the wholesale market. So restaurants-- they need to order larger volumes of wines that

they sell by the glass, because they're going to be selling both in bottles, and they're going to be selling to a lot of consumers by the glass. And so what they would like to do, then, is they'd like to secure that larger volume of wines at a lower price. And they can negotiate with wholesalers to acquire those volume-based discounts, but then what they do is, instead of passing that discount along the consumers, because of this situation that Jim described, they're able to keep that discount, in the case of these wines that they sell by the glass, and still charge the same or just a slightly higher bottle price, controlling for quality, than if they were just selling the wine by the bottle. So the other really important factor is the quality of the wine. So restaurants-- they don't want the quality of their by-the-glass wines to be below the wines they only sell in bottles, and that's particularly important for repeat customers. Because if you buy a wine by the glass and it's not very good, then you're going to be hesitant to come back to that restaurant and buy a bottle from them. So they do pay a lot of attention to the quality of the wine when they make those decisions.

CROFT: 16:31

As we said at the outset, Valentine's Day is usually one of the busiest days of the year for restaurants. So for all those who are planning to order wine with their meal at a nice restaurant this Valentine's Day, what should they keep in mind in making their decision of whether to order by the glass or the bottle? What advice do you have for our Valentine's Day diners?

MEYERHOEFER: 16:55

Well, I'm going to start out with some very practical advice, and that's if you're not a regular wine drinker, but you want to order a glass of wine for a special occasion like Valentine's Day, then it's best to choose a restaurant that has upscale decor. Because we found in our analysis that the restaurants that are nicer inside—that have a higher-end decor—are more likely to offer wines by the glass than restaurants that aren't. And the other thing I would say is to be adventurous, at least if you want to save some money, because if you start out offering one wine by the glass, you don't want to then say, "Oh that's a great wine. We'll take a bottle of that." What you want to do is you want to choose a different bottle that's similar to the one you tried by the glass, because you know that if you order that same wine by the bottle, you're not going to get the savings that, essentially, the restaurant acquired. So the restaurant's going to make more money off of that bottle, as opposed to if you choose a different bottle.

DEARDEN: 17:55

My advice is a little different. For Valentine's Day only, do not pay attention to the results of our paper. Rather, if you're selecting the wine, choose one that will please your date.

CROFT: 18:07

Good advice as well. Okay. Finally, is there anything we haven't discussed regarding your study that you think our listeners should know about how restaurants price their wine offerings? And one thing I had noticed in the discussion section of your paper is that there were some other questions that you found interesting that you left for future research purposes. And I was wondering what some of those issues might be that came up as you were doing this, but at this point, that wasn't the point of your study, so that will be for somebody else to determine.

DEARDEN: 18:47

One thing that I think is interesting - it is actually buried in the appendix of the paper - is that - and this picks up on the point that Chad just made - perhaps-- or, upscale restaurants-- they're more likely to post their glass menu on their online menus. And to me, it indicates that upscale restaurants just pay more attention to the details. And also, to me, that indicates that these restaurants, in fact, are higher value. They're

more likely paying attention to their kitchens, to their staff-- if they're structuring their website more informative and elegant manner.

CROFT: 19:30

Chad, anything to add there?

MEYERHOEFER: 19:32

Well yeah. I think that there is a lot of research that could be done if you knew more about the characteristics of consumers. So we don't really know anything about the consumers in this study. We just have data from the restaurant; we have data on wholesale prices and wine menus. And so I think it would be interesting to look at what types of consumers are ones that transition from regularly buying wine by the glass to, then, buying wine in bottles. Because we don't really know whether the restaurant has a strategy to convert people from glass buyers to bottle buyers over the long run. I mean, some restaurants have a lot of repeat customers, and so you could think that that might be a strategy. And if it is, what kind of customers are they thinking of when they develop that strategy? So that would be great to know, but this is a research question where there's just not a lot of data available. And so, obviously, we had to collect our own data, but I think in the future, as the wine market in the U.S. has been growing pretty steadily for a long time, it's becoming a bigger part of the restaurant-based economy. And so I think in the future we will be able to look at some of those questions.

CROFT: 20:54

Finally, there were some interesting questions that arose in the discussion part at the end of your study that are outside the scope of what your study looked at, but that you thought might be worth future research. And one of those I found interesting was the role that sommeliers play in influencing patrons and the wines that they choose. And, again, I recognize this is not part of the study that you did, but what are your feelings, in terms of everything that you looked at, in regards to the restaurants that were part of this study that may indicate what role a sommelier would have in influencing the decision of what wines people are buying?

MEYERHOEFER: 21:47

Yeah. That's a good question. So it's certainly the case that, over time, more restaurants in the United States are employing sommeliers to fine-tune their wine offerings. But I think there's another reason, which you alluded to, is that a sommelier is viewed by the patron as an expert. So they're the ones that, theoretically, should be able to determine which wine goes best with which particular meal. So they can kind of exploit that difference in knowledge to push customers towards certain wines-- wines that they might not otherwise try. And that could also tie back to the restaurant's profits, if those are wines that the restaurant also acquired at a lower cost or have a higher margin on. And so we did talk to a couple of sommeliers informally, and it was very interesting, because we did find that the restaurants that employed these sommeliers were more sophisticated, and the sommeliers had thought a lot about, not just which wines go better with which meals, but the whole economic context of how the wine is offered.

DEARDEN: 23:03

And I think about it this way-- and here's a bit of advice for selecting a restaurant for Valentine's Day. Restaurants with sommeliers, I would think, tend to be more upscale in appearance. And what we found - and it's buried in the appendix of our paper - is that restaurants that are more upscale in appearance are also more likely to post wines by the glass on their online menus; they're just more careful business people who own these restaurants. And, to me, I want to go to a nice restaurant for Valentine's Day with a sommelier that's paying careful attention to all aspects of its

business. So my advice: Look for restaurants that post their wine menus by the glass-- by the glass menus online.

CROFT: 23:52

And with that, I'd like to once again thank my guests, Jim Dearden and Chad Meyerhoefer. Jim Dearden has published papers on topics and journals, including the American Economic Review, RAND Journal of Economics, Journal of Marketing Research, International Economic Review, Journal of Public Economics, The International Journal of Research and Marketing and Economic Theory. Chad Meyerhoefer, who is also a research associate at the National Bureau of Economic Research, has published in the American Journal of Agricultural Economics, Journal of Health Economics and Pharmacoeconomics, as well as leading journals in health policy, medicine, and dentistry. This podcast is brought to you by iLUminate, the Lehigh Business blog. To hear more podcasts featuring Lehigh Business thought leaders, please visit us at [business.lehigh.edu/news](http://business.lehigh.edu/news). And don't forget to follow us on Twitter, @LehighBusiness. This is Jack Croft, host of the iLUminate podcast. Thanks for listening.