Blind Mules?

New Data and New Case Law on the Border Smuggling Industry

BY CALEB E. MASON

Every couple hours, at one of the ports of entry along the US-Mexico border, someone is arrested while trying to drive into the United States with a load of drugs—around five to 75 kilos, depending on the drug, packaged in one- to two-kilo bricks—stashed in a hidden compartment built into the car. From the court documents generated by these cases, we can get a glimpse of the underground economy that supplies the United States with the vast quantities of illegal drugs—the big four being marijuana, cocaine, methamphetamine, and heroin—that Americans consume.

Under federal law, importing narcotics is a serious crime, and every administration for the past 40 years has made drug enforcement a priority. The upshot is that

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there's an endless supply of these "border-bust" cases for the US Attorney's Offices along the border. Trying them all would be impossible, so the border districts have "fast track" early disposition programs that allow them to offer big discounts for quick pleas. But a certain number still go to trial (20 or 30 a year in the Southern District of California), and, of course, plea discussions are always held in the shadow of the likely strength of the case at trial. So proof issues in border busts matter a lot, whether the cases are going to trial or pleading out.

And border busts present some interesting proof issues, many of which apply in other types of cases. One of these is the admissibility of expert testimony about the economy of the underground smuggling industry, or "structure evidence." An expert witness, typically an experienced agent with Immigration and Customs Enforcement (ICE) or the Drug Enforcement Administration (DEA), will testify that illegal drug importation is a well-organized industry that relies on the employment of paid couriers to transport drugs into the United States. Litigat-

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Mule Compensation as a Function of Load Value (average load size, wholesale value)		
Meth:	$1823 / $400,000 = .004	(4 tenths of a percent)
Cocaine:	$2658 / $424,000 = .006	(6 tenths of a percent)
Marijuana:	$1600 / $190,000 = .008	(8 tenths of a percent)
Heroin:	$1870 / $166,500 = .011	(1 percent)
Mule pay for average-sized loads for each drug, as a fraction of the loads' wholesale values.		

ing the admissibility of such testimony implicates issues of relevance, expert qualification, and prejudice that arise in many other contexts, so the lessons of border busts should be of interest to all criminal practitioners.

"Blind Mules" and the Common Sense of Noncriminals

Structure evidence in border-bust cases is typically offered to rebut the "blind mule" or "unknowing courier" theory—the defense argument that a drug trafficking organization somehow snuck the load of drugs into the defendant's car, and planned to surreptitiously extract it once across the border. One of the elements of the offenses normally charged in these cases (importation under 21 U.S.C. § 952, and possession with intent to distribute under 21 U.S.C. § 841) is knowledge: The defendant had to know that the car contained illegal drugs. (Knowledge of the specific type or quantity is not an element—but as we'll see below, it can sometimes factor into sentencing.) In the usual case, there's no dispute that the defendant drove the car into the country. So most of the time the only viable defense theory is that the defendant didn't know the drugs were hidden in the car.

The government then has to prove the defendant did know. That proof could be direct—the defendant's confession, say, or a wiretap, or a testifying co-perpetrator—but in trial cases it rarely is. That's why they're trial cases. So the case stands or falls on the quality of the circumstantial evidence and the attorneys' skill in arguing from it.

Everyone who investigates border smuggling wonders about this question: Do smuggling organizations actually use "blind mules"—unwitting couriers who have no idea that they are smuggling drugs? Working on these cases breeds cynicism, because the blind mule defense is used in virtually every border bust that goes to trial. And since border busts involve, by definition, strong circumstantial evidence of knowledge (for example, the defendant was driving a car that was registered to him, and stated that he had owned it for some time), the government is always going to have a prima facie case. So the only way to get a shot at reasonable doubt will be

the blind mule theory: My client was an unwitting dupe.

In the absence of reliable data on cartel business methods, these cases wind up at closing with an intellectually unsatisfying exchange of speculation and metaphor, as both sides use Walter Mitty-esque hypotheticals to argue "common sense" to jurors who have never run a criminal enterprise: "Imagine yourself as a clever cartel operator." So the jury hears from one side, "It makes sense to use blind mules, because you save money on salary," and from the other, "It makes no sense to use blind mules, because you need to get your valuable cargo reliably delivered." And then the jurors are left to deliberate and apply their common sense to a question their experience—that, we hope, does not include the running of illegal smuggling enterprises—has not prepared them for.

Depending on the type of compartment, there may be an argument that it would be prohibitively difficult to get the cargo in or out without the defendant's knowledge and cooperation. For example, the prosecutor can get a mechanic to examine the compartment and explain how you'd get in and out, how many guys it would take, and how long. The prosecutor can then stand up at closing and tell the jury a cute story about the "commando mechanic" operation that would be required by the defense theory.

Or sometimes the prosecutor will be lucky and the way the compartment was built will affect the car's handling, allowing an easy inference that the driver knew what was going on. Here are some examples of cases that involve common smuggling techniques that allow for straightforward mens rea inferences:

- The defendant was driving an SUV. The original battery had been removed and replaced with the external case of an oversized battery meant for large trucks. Inside this case was a small motorcycle battery connected to the engine, and several bricks of cocaine. A car expert was able to testify that the vehicle had to be jump-started every time it was driven, because the motorcycle battery was not strong enough to crank the SUV on its own power.

- The defendant was driving a car with bricks of drugs stuffed into the front tires. As you can imagine, it was a pretty bumpy ride once you got past about 10 miles an hour. The investigating agent drove the car around the lot a few times and testified about how the car felt and handled.
- The defendant was driving a car with bricks of drugs loaded into the gas tank. The displacement of the drugs, and thus the remaining volume available for gas, is easily calculated, and the mileage of the vehicle is determinable from the manufacturer's specifications or EPA data. If, say, the defendant was driving an SUV that gets 12 miles per gallon, with a tank so full of drugs that it would hold only two gallons of gas, then the inference of knowledge is easily drawn.

But most cases are not so easy—the compartments are often built into the bumpers, or the undercarriage, or the quarter panels. That's where structure evidence comes in. Structure evidence saves the case from becoming an empty battle of hypotheticals appealing to the common sense of 12 people who don't smuggle drugs for a living.

The Relevance of Structure Evidence

In cases where the common-sense inferences are less clear, the prosecutor's job is to investigate, look into the defendant's history, the car's history, crossing records, financials, maybe dig up some 404(b) or a witness, maybe rebut a potential alibi. But often the leads don't go anywhere. So the government can try to supplement its evidence with expert testimony. The simplest form such testimony takes is for an agent to say, "Well, I've been around awhile, I've seen a lot of cases, and I've never seen a blind mule." Or the agent could go into more detail, and explain the basis for that opinion by describing the distribution of labor in a typical drug-smuggling organization, based on defendant debriefs, wiretaps, or undercover experience. (For readers with PACER accounts interested in good examples, check out the exchange of in limine motions in 02-CR-429, 09-CR-2034, or 10-CR-1376, in the Southern District of California (SDCA).)

That kind of experience-based expert testimony ought to be generally admissible under *Kumho Tire Co. v. Carmichael*, 526 U.S. 137 (1999), the "technical expertise" successor case to the more famous *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993), which established the district courts as the gatekeepers of reliable expert methodology. But perhaps surprisingly, most border district judges routinely bar structure evidence in port-of-entry smuggling cases, unless the case was charged as a conspiracy or was otherwise "complex,"

was specifically linked to a particular smuggling organization, or the defendant opened the door. District courts, and attorneys on both sides of these cases, have read the Ninth Circuit's decision in *United States v. Vallejo*, 237 F.3d 1008 (9th Cir. 2001), as holding structure testimony categorically off-limits unless those triggers were met.

The agent in *Vallejo* testified in relevant part as follows: "The drug business, from my experience is pretty compartmentalized. In other words, there are individuals who grow the product. In this case we're talking about marijuana. They grow the marijuana. There are individuals who buy it from the growers, store it. There are other individuals whose function in the venture is nothing more than to transport the marijuana." (*Id.* at 1015.) The Ninth Circuit held that testimony to be both irrelevant and unfairly prejudicial:

> This expert testimony connected seemingly innocent conduct to a vast drug empire, and through this connection, it unfairly attributed knowledge—the sole issue in the case—to Vallejo, a single individual, who was not alleged to be associated with a drug trafficking organization in even the most minor way. As a result, the introduction of this evidence created the same prejudice that has made drug courier profiles inadmissible.

(*Id.* at 1017.)

Vallejo thus seemed to establish a rule that evidence about the business practices of drug smuggling organizations was not relevant to the mens rea inquiry in a border-bust trial absent additional evidence that the defendant was working for a particular organization. And since *Vallejo*, courts have routinely granted motions to exclude structure evidence solely on the ground that the case was not complex and the defendant was not charged with conspiracy. (For an example of such a ruling in a case that was tried during the time this article was written—two full months after the change in the law discussed below—see 10-CR-4889, also in SDCA.)

But a new case from the Ninth Circuit may change the rules of the game for structure evidence in drug cases. The court has now squarely rejected any categorical bar to the admissibility of expert testimony in the mine-run of border-bust trials. The inquiry into relevance and prejudice must now be done on a case-by-case basis.

New Case Law on the Blind Mule Defense

In March of this year, the Ninth Circuit, in *United States v. Sepulveda-Barraza*, 634 F.3d 1075 (9th Cir. 2011), emphatically rejected any categorical bar to expert testimony about drug smuggling methods and structure. The court held that trial judges must instead apply Rules 403

(probative value and prejudice) and 703 (helpfulness to the jury of expert testimony) of the Federal Rules of Evidence on a case-by-case basis. "In sum," the court held, "expert testimony on drug trafficking organizations and the behavior of unknowing couriers is admissible when relevant, probative of a defendant's knowledge, and not unfairly prejudicial." (*Id.* at 1080.)

In *Sepulveda-Barraza*, the defense hired an expert, a retired FBI agent, who testified that he recollected two cases from his career in which he thought genuinely blind mules had been used. The government also called an expert, an ICE agent, who testified about his experience investigating drug trafficking and working undercover in a smuggling organization, and opined that smuggling organizations have a particular business model that includes the use of paid mules, that using blind mules would be inefficient and risky, and that the compensation for a paid mule is minimal in comparison to the value of the cargo.

The Ninth Circuit held that the admission of the testimony was proper, and expressly clarified that *Vallejo* does not establish any categorical rule about structure evidence:

> [N]either *Vallejo* nor its progeny supports the establishment of a per se rule that expert testimony regarding the operation and structure of drug trafficking organizations or the modus operandi of couriers involved in drug trafficking organizations is inadmissible. . . . *Vallejo* merely held, consistent with long-established precedent, that a district court abuses its discretion by admitting evidence that has no relevance to any matter to be proved at trial.

(*Sepulveda-Barraza*, 634 F.3d at 1078–79.)

The problem in *Vallejo*, the court explained, was that the government had failed to articulate how its structure evidence was relevant to the issue of the defendant's knowledge. And the *Vallejo* failure should be easy to overcome. The relevance question is straightforward: What does the government have to prove in this case, and how does the expert's testimony help the jury resolve that question? In every border bust with a concealed compartment, the government necessarily has to prove that the defendant knew the compartment was there and was not an unknowing dupe. The jury has to decide how likely it is that a drug smuggling organization set the defendant up as a blind mule. There can be little doubt that expert testimony about the patterns and practices of drug smuggling will be helpful to juries without prior exposure to the world of border crime.

The prejudice analysis may be more problematic, though. For example, a common prejudice objection to structure evidence is that the jury is hearing about dangerous criminal organizations (even if the word "cartel" is carefully avoided), but there is no evidence tying this defendant to any particular organization. It remains uncertain how broad the *Sepulveda-Barraza* holding is on the prejudice question, because the defendant in that case called its own structure expert, which largely mooted the prejudice inquiry.

It's too early to tell, but I think that the *Sepulveda-Barraza* holding does not turn on the fact that the defense had its own expert. To be sure, the presence of dueling experts is no doubt relevant to any prejudice analysis, but the *Sepulveda-Barraza* opinion emphatically does not limit its holding—as it easily could have—to cases of dueling experts. I think *Sepulveda-Barraza* stands for the proposition that the government can introduce structure evidence in ordinary border-bust cases to rebut the blind mule theory.

This makes sense because the blind mule defense itself also assumes and requires the existence of organized smuggling groups; there can hardly be prejudice in the jury's hearing that such groups exist, when the defense's own theory is based on that existence as well. Structure evidence simply educates the jury on a factual assumption that is made by both sides. But there remains the kernel of the *Vallejo* objection—that there is no evidence that the defendant was working for whatever organization or organizations supplied the agent's experience. I think one way to meet that objection is to supplement agent-experience testimony with structure evidence derived from other criminological methodologies.

New Data on the Smuggling Economy

I have nothing against agent expertise of the kind used in *Sepulveda-Barraza*. Juries love the Sonny Crockett types who can describe their firsthand experiences mixing it up with bad guys. And courts have generally held that experience-based agent testimony on criminal methods and practices is admissible under *Kumho*. Here's how one recent Ninth Circuit decision applied *Kumho* in an alien smuggling case in which a border patrol agent testified about "patterns and methods common among smugglers in the Yuma area" to help establish that the defendant was a foot guide for illegal entrants:

> Lopez-Martinez's objections boil down to criticism of the trial judge for not conducting a more formal *Daubert* hearing, or requiring Agent Martinez to give a precise description of each step in the logical chain he used to arrive at his conclusions. But, these procedures are not required under Supreme Court precedent or our own case law. . . . The evi-

dence was neither rocket science nor complex statistical modeling. Agent Martinez's explanation of his methods and experience was sufficient for the trial judge to be confident in their reliability.
(United States v. Lopez-Martinez, 543 F.3d 509, 514–15 (9th Cir. 2008).)

But as every reader of *Moneyball* knows, what the grizzled scout with years in the field is sure he knows may not be the whole story; the eggheads in the front office have something to contribute, too. I think that if the data is there, statistical analysis should have a role to play whenever the theory of the case involves a particular underground economy. The government should argue as follows: "We think this defendant was working in an organized industry, and we can tell you how that industry works." The argument will be particularly strong when the eggheads' analysis confirms the grizzled scouts' experience.

I make no claim that statistical data should displace agent experience in this arena. But a comprehensive empirical analysis of the full set of smuggling arrests would be highly probative of the nature of the smuggling economy. Ideally, statistical data would be used to enhance the testimony that agents are already providing based on their training and experience. Statistical data can cover the whole set of border busts, not just the cases the agent is familiar with, and may also be less prejudicial, because it makes no reference to cartels or employment hierarchies therein. It simply says, "Looking at the set of people caught at the border with hidden loads of drugs, here's what the data shows." The jury can then decide what relationship the facts of this case have with respect to that set.

There is a fair amount of scholarship on the drug smuggling industry, to be sure—researchers have tried jailhouse interviews with convicted smugglers, accounts of agents who've worked undercover, interviews in Mexico with current and former couriers, and mathematical modeling based on regional differences in retail price data (which the government compiles from buy-and-bust operations, and publishes periodically). But the Achilles heel of all such methods is scarcity of data.

To remedy that deficiency, my students and I have spent the past year amassing a database of all port-of-entry smuggling arrests over the past four years along the whole Southwest border, and coding them for a number of variables, including the mule's pay. Along with the economist David Bjerk of Claremont McKenna College, I am are now completing a comprehensive statistical analysis of the cross-border smuggling economy. We will be presenting our results publicly this November at the Empirical Legal Studies Conference at Northwestern

Law School in Chicago. Our data, we think, will allow for the first time a nonanecdotal, empirical assessment of the blind mule theory.

We have analyzed some 5,000 cases from 2007 through 2010, based on publicly available court dockets from each case, beginning with the complaint, or arrest narrative, filed after every charged border bust. The complaint narratives give us all the factual details of each smuggling event—time, place, what kind of drug, how much, how it was smuggled, the citizenship of the driver, whether the driver confessed, etc. They also, crucially, include information from the postarrest interrogation of the mule by the responding ICE agent. Whenever a concealed load is discovered by customs officers, an ICE agent responds and interviews the driver. Most drivers (about 65 percent) confess immediately. One of the questions the agents always ask is the amount the driver was paid or would have been paid. About 85 percent of defendant statements contain pay information, which is included in the complaint filed in the case. We thus have pay information in our data set for over half of all total cases. This data provides us with the key dependent variable for analyzing the smuggling economy, allowing us to model the labor market for drug mules by analyzing the effect on pay of cargo type and quantity, along with other variables, including gender and citizenship. We then track the outcome of each case, and record the sentence ultimately imposed (or, in around one percent of cases, dismissal or acquittal).

Underground markets are of interest to economists and criminologists for a variety of reasons. Studying the labor market for crime allows us to test theories about how markets operate in the absence of direct state regulation. We wondered whether wage differentials compensating for differential levels of risk would arise—as predicted by economic theory—in the labor market for mules. That is, all else equal, are mules paid more for carrying loads with higher expected sentencing risk? Drug mule pay is the perfect test case for this theory, because sentencing risk is quantifiable based on the objective characteristics of the load, and varies greatly based on drug type and load size, but the mule's work—driving the car across—is invariant.

We reasoned that if we saw systematic pay variation correlated with sentencing risk, we could extract an approximate dollar value for the marginal deterrent effect of those sentences. Looking for a correlation between sentencing risk and pay would thus shed light on four related questions, all very interesting and otherwise unanswered:

(1) Does drug mule compensation take sentencing risk into account?

OLS Regressions: Pay vs. Sentence Exposure and Load Type

	(1a)	(1b)	(2a)	(2b)
Fast-track Sentence	869.8*** (117.9)	553.8*** (106.3)		
Predicted Sentence			683.9*** (119.8)	587.7*** (117.8)
Cocaine	-1,270*** (348.0)	-356.7 (332.4)	-1,374*** (383.8)	-909.3** (374.7)
Meth	-3,209*** (484.2)	-1,853*** (449.6)	-2,305*** (430.8)	-1,784*** (424.6)
Heroin	-2,147*** (413.6)	-1,160*** (394.0)	-1,875*** (402.9)	-1,403*** (397.0)
Total quantity (KG)		2.271*** (0.801)		3.096*** (0.733)
Constant	941.1*** (69.85)	1,022*** (57.28)	879.3*** (118.6)	778.2*** (118.6)
Observations	2,080	2,080	2,080	2,080
R-squared	0.103	0.116	0.106	0.144

[Note: Huber-White Robust standard errors in parentheses. One asterisk indicates significance at 10% level, two asterisks at 5% level, three asterisks at 1% level.]

An additional year of expected sentencing exposure is associated with an average of $680 to $870 in additional compensation.

(2) Does our enforcement and incarceration regime have a deterrent effect on prospective smugglers?

(3) What is the size of that deterrent effect, expressed in dollars?

(4) In the ordinary business model of cross-border smuggling, do drug mules know what they are carrying?

We used two measures of ex ante predicted sentencing risk: first, the US Sentencing Guidelines calculation including the standard fast-track discounts; second, the predicted sentence given by regressing the actual sentences imposed on load size and drug type. We found that the correlation between the calculated guidelines sentence and the predicted sentence derived from the regression of actual sentences is .93—a very good fit. The strength of the fit suggested the hypothesis that the guidelines calculations might play a role in wage-setting in the market for mules.

We found that mule pay is robustly correlated with sentencing risk. Drug type, load size, and sentencing risk together explain 15 percent of variation in pay, and the correlation is statistically significant at the 1 percent level. The relationship between risk and pay holds across the board for all drug types and cargo sizes. Mules are, in a word, paid different amounts for different loads. They know what they're carrying. (Another way of getting at this question is to ask whether there are differential rates of confession based on sentence risk. Preliminarily, our data indicates that there are—mules with riskier loads are more likely to invoke or deny upon arrest. If true, that result would suggest that our results are valid for all mules, not just those who confess and give pay data. This finding is tentative, though, pending further analysis.)

No other variables are correlated with pay. Intuitively, we had suspected that we might see differences based on citizenship or gender, but we didn't. Neither has a statistically significant relationship with pay. This is an in-

teresting finding in itself, and worth further research. It surely is worth asking why, for example, Mexican drug cartels seem to have achieved gender equity in wages when the legitimate US labor market is stuck at 80 percent. Or, perhaps, there is a pay gap, but women are better smugglers, so merit premiums are cancelling out a lower baseline? We don't know. But we can say with confidence that the only plausible explanation for the observed relationship between cargo and pay is that mules in the normal course of affairs know what the cargo is, and cargo type and size play a role in setting compensation. This finding shows that in general the market for mules is organized and hierarchical, with pay increasing directly with increasing sentencing risk of the load. Thus, any hypothetical instance of a blind mule would be a departure from the normal business methods of the smuggling industry.

Our study has produced a number of findings that we hope will be of interest to criminologists and policy makers (our first cut at an answer to question (3), above, is that it costs the cartels around $750, depending on how you measure, to compensate mules for an added year of sentencing risk), but we think it has practical litigation applications, too. In what follows, I sketch out some of those applications: How, in other words, would empirically-grounded structure evidence be used at trial and sentencing in smuggling cases?

Trial Applications
General Plausibility of the Defense's Exculpatory Theory. In all these cases, there's already ample circumstantial evidence that the defendant is guilty. The job of the defense is to create reasonable doubt, by sketching for the jury an alternative explanation for the fact that the defendant was driving a car filled with hundreds of thousands of dollars worth of drugs. The role of the structure expert should be to opine on the *plausibility* of that alternative theory, given the facts of this case in light of whatever broader evidence the expert can bring to bear.

The relevant question is straightforward. As the *Sepulveda-Barraza* court said, "Because the government had to prove that Sepulveda-Barraza knew that the car he was driving contained drugs, [the expert's] testimony made Sepulveda-Barraza's knowledge more probable than it would be without the evidence, and therefore the evidence was relevant." (634 F.3d at 1080.) Our data shows that the usual practice of drug smuggling organizations is to hire couriers and pay them differentially based on the load.

Proponents of structure evidence must clearly inform the court what claim the expert is, and is not, supporting: the claim is *not* that there has never in the history of smuggling been a blind mule. The go-to defense argu-

ment against the admissibility of structure evidence is: "But Your Honor, this expert cannot rule out the possibility that my client is a blind mule." (For a good example, see the motions in limine and attached exchange of letters in 09-CR-2034 in SDCA.) No data analysis, of course, can prove definitively whether there has ever been a blind mule, or whether a particular defendant was or was not a blind mule. Proving a negative is obviously impossible when the evidence takes the form of relationships discernible in statistical analysis. The proponent must make it clear that the existence vel non of outliers is not the issue.

As noted, the blind mule theory itself assumes the existence of drug smuggling organizations. The issue is not whether they exist, but rather what their normal methods of operation are. Our study establishes that the smuggling industry is organized around a robust labor market for mules, with compensation set, inter alia, by sentencing risk. The statistical analysis reinforces the agent's experiential conclusion that this industry is organized around paid couriers.

This is a door that litigants should be pushing on. All these cases involve a particular theory of inculpation and exculpation (either he was a blind mule or he wasn't), and the jury's assessment of the plausibility of the theory is surely aided by an actual empirical analysis of the smuggling industry.

Placing Your Case on the Scatter-Plot. If the defense is on its game, it will not dispute the general claim that most mules are paid, and (as is commonly done) will move in limine to keep the expert from making it. After all, the defense is not denying that the *usual* practice is to use knowing, paid couriers; the defense argument is that *this* client is different.

The action then turns to the particular facts of the case: does the expert testimony make it more likely (the standard for Rules 403 and 702) that this particular case was (or was not) an instance of paid, organized smuggling? Here, too, our data can help—and it could cut either way. We can locate a particular bust in the heartland of known smuggling practices, or way on the outskirts. That information is relevant, because it is something a jury could reasonably use to decide whether it was more or less likely that this particular event was a paid smuggling event.

The analysis would go as follows: we would look to our set of known smuggling events, and compare the range of variables to those observed in this case. Those variables are: name, gender, date, time, day of week, port, drug type, drug weight, vehicle type, compartment location, dog alert, nervousness, ID presented, citizenship, sole or not sole occupant, and response to interrogation (invoked/denied/confessed). Our data includes

the mean, median, and distribution of load sizes for each of the big four imported drugs; the most common compartment locations; the most common times of day and days of the week; as well as the market price for the courier's salary for any given load size and drug type (based on the regression line for load size plotted against pay for each drug type).

The goal of both sides is to move the ball on the knowledge element—to make it more likely or less likely, ceteris paribus (and here the ceteris is all the circumstantial evidence) that the defendant was knowingly smuggling that load. Comprehensive structure data can show whether the facts of this case are within the heartland of the universe of cases, controlling for the various known variables.

Whether or not the facts of a given smuggling bust were in the heartland for that load type is significant, because, given that we know that the standard smuggling practice is to use hired mules compensated for risk, there would have to be something distinctive about a particular load that would cause the shipper (and by hypothesis on the blind mule theory, there is a shipper) to deviate from that standard practice. So something would differentiate *this load* from the mine-run of regular loads. And—this is the central theme of this article—the jury doesn't have any common-sense intuitions about what the mine-run drug load looks like.

Here's a simple example: the average cocaine load is 23 kilos and pays $2,348. Using our data, we can generate a scatter plot of all cocaine border busts. We can then draw a regression line that defines expected pay for any given load size. Expected pay for a 30-kilo load, it turns out, is $3,018. So what was *your* "common-sense" intuition, reader, about what a 30-kilo coke load ought to pay? And from the data I just gave you, does your common sense now tell you that the rate is $100 a kilo? If so, you'd be wrong: actually, cocaine smuggling has a high intercept and a low slope on the pay/weight graph—the base rate is high, but the per-kilo margin is low. Other drugs show different pay patterns (heroin, for example, is the opposite).

The best way to make the argument effectively—either way—is to use data about the relative distributions of size, drug type, etc. The prosecutor could show the jury the full set of loads of this particular type and size—e.g., cocaine loads between 20 and 30 kilos—and the percentage of that set that was ultimately determined to have involved paid couriers. Then the question for the jury will be: "Why was *this* load so different?" Such evidence should be admissible in any case in which the defense theory is that a smuggling organization used the defendant as a blind mule.

As noted, I think that *Sepulveda-Barraza* rules out the objection that any reference to other smuggling incidents is necessarily unduly prejudicial. Time, of course, will tell, but there is now a good argument that empirical observations about how the labor market works in the cross-border drug smuggling industry should be admissible whenever the government is alleging that the defendant was employed in that industry, and that said employment constituted the actus reus of the crime. Both sides ought to be able to argue that the facts of any particular case do or do not mirror the standard practices of the industry.

That argument won't move the ball all the way, of course, but that's not the role of expert testimony here. All the testimony should do is show how this bust compares to the universe of known smuggling events, to flesh out the bare-bones claims about what "common sense" should or should not tell the jurors.

Evaluating Standard Blind Mule Arguments. *"Common sense says you should use blind mules because they won't be nervous."* This is a popular argument. How plausible is it? Our data reveals how often nervousness is mentioned in arrest narratives: 24 percent of the time. We can see arguments for either side from that number: for example, "Ladies and gentlemen, think about it—in 76 percent of arrests the driver wasn't nervous. Why go to the extra trouble and expense when nervousness isn't a major reason for arrests in the first place?" On the other side: "Ladies and gentlemen, if you ran a business and found out that 24 percent of your employees were coming in drunk every day, you'd do something to stop it, right? Twenty-four percent is a not a trivial number—and with a blind mule, you can guarantee he won't be nervous."

Obviously this data can be challenged. There's an inherent subjectivity to observations of nervousness, and there are also plausible institutional reasons why the reported numbers might be high or low. Since these reports only get written after drugs have actually been found in the car, it's possible that the officers are subject to a retroactive expectation bias, and interpret innocuous behavior (speaking fast, or avoiding eye contact) as nervousness. If so, the reported numbers would be too high.

And conversely, because these are border searches, which require no initial suspicion at all to be constitutionally reasonable, there's no constitutional need to set out the basis for the decision to search in the probable cause narrative. So it's possible either that the customs officers are leaving some observations out of their reports, or that the ICE agents writing the complaint narratives are leaving out some details. In that case, the reported numbers would be too low.

These are issues for investigation and cross-examination. Our data does show variance among the border districts in the percentage of narratives including indicia

of nervousness. This variance could reflect differences in report-writing practices, or differences in mule-hiring practices, or differences, perhaps, in some other unknown confounding factor that contributes to real or perceived nervousness.

The bottom line is that however the data is used, and whatever your view of the merits of the argument, it surely can't be disputed that no one can have a "common sense" intuition about nervousness as a risk factor without some information about the actual size of the risk.

"Common sense says you should use blind mules because they can't tell the cops who you are." The idea here is that since the blind mule was never hired to smuggle drugs, the mule can't roll over on the person who hired him or her. The theory has enough apparent intuitive plausibility that it gets made in most border-bust defense closing arguments.

The easiest rebuttal is to just meet intuition with intuition—"Can't rat you out? Really? You haven't bought his loyalty, so won't the first thing he's going to do when he's caught be to try and figure out who might have done this and point the finger at them? Maybe it was the mechanic? The cousin who borrowed the car? The neighbor who shares the driveway? This makes no sense as a business tactic, because he's going to point as many fingers as he can, and one of them will probably lead to you."

Maybe bare intuition will be enough. But we think empirical evidence should supplement the intuitions of noncriminal jurors here. Comprehensive structure data adds perspective. The plausibility of an argument about what makes sense for a given industry can only be rationally assessed if the jurors are told something about the scope of the industry and its empirically observable business practices.

"Common sense says you should use blind mules because you don't have to pay them." Many prosecutors already put on an agent to establish the wholesale value of the load, using the available published data, and then to state the opinion that mule salaries are small in comparison. But until now, no one has been able to show the jury exactly how small. Comprehensive structure data shows us the actual going rate for any given load type and size in the actual labor market for mules, so we can make a precise cost comparison: "Look, here is what it would cost a smuggler to hire someone to bring this load in. Would it likely cost more than that, or less than that, to do all the work needed to set up a blind mule—identifying a candidate, surveilling them to establish a regular schedule, secretly installing the compartment, secretly loading the drugs, monitoring the crossing, surveilling the mule post-crossing, and secretly extracting the cargo?"

As a general matter, using a blind mule would only make economic sense if the market-rate salary for a hired courier for that particular load is higher than those estimated costs. As things stand, both sides of that equation are left in the realm of speculation, anecdote, and unsupported assertion. Hypothetical blind mule set-up costs remain speculative, but as for the other side of the equation, our pay data allows us to accurately predict, for any given load, the market price for hiring a courier to cross that particular load. Putting on that data should become standard practice whenever the "save money on salary" argument is in play. On the margins, obviously, the data won't clearly cut either way, but for the extremes—loads with very low or very high market values for hired couriers—it will provide a solid foundation for argument either way.

Sentencing Applications

Of course, most cases plead. And sentencing is the real question for most defendants in any event. After *United States v. Booker*, 543 U.S. 220 (2005), and its progeny, the defense gets to make the full set of "parsimony provision" arguments under 18 U.S.C. § 3553, and plenty of plea agreements allow for the defense to make guidelines arguments as well. Comprehensive structure data could be invaluable in making these arguments, because it reveals a hierarchy of load type, load size, and compensation, allowing an individual defendant to be compared to the full set of other defendants bringing in comparable loads.

Was Payment Consistent with the Load?

Our data shows that the normal labor market for cross-border smuggling sets wages based on expected risk, so in the normal case, the mule does know what he or she is carrying (at a minimum, the mule knows whether it's marijuana or hard narcotics). And within each drug type, our data shows that pay is correlated with load size. Thus sentencing courts should find it helpful to know

whether the pay reported by the defendant was or was not in line with the observed market price for transporting that load.

For example, hard-drug importation defendants often claim at sentencing that they thought they were bringing in marijuana. To be sure, a mule's belief that a load was marijuana does not, as a matter of law, get the mule out of a hard-drug sentence if the load was actually hard drugs. (*See* United States v. Ramirez-Ramirez, 875 F.2d 772 (9th Cir. 1989).) But even in the pre-*Booker* world, sentencing judges could depart downward if the defendant was mistaken about the type or quantity of the cargo. (*See* United States v. Mendoza, 121 F.3d 510 (9th Cir. 1997).) And of course in the post-*Booker* world, district courts are absolutely permitted to consider such claims at sentencing, and some judges will. The problem is that, standing on its own, the claim is too obviously self-serving to carry much weight.

But what if you could present statistical evidence showing that the defendant's payment was objectively in line with the market value for transporting a marijuana load, and not a coke load? Statistical analysis could provide real evidence to support the defendant's claim.

It could also undermine it: If you're the prosecutor, and it turns out the defendant's reported pay figure was in line with the actual hard-drug load, you've got an additional reason to argue that the defendant's claim is not credible.

How Are Comparable Mules Sentenced?

Finally, our data tracks actual sentences, allowing us to locate any defendant along the spectrum of actual sentences imposed in comparable cases. Sentencing uniformity is not mandatory, but a lot of judges take it seriously, and avoiding "unwarranted sentence disparities among defendants with similar records who have been found guilty of similar conduct" is one of the enumerated sentencing objectives under 18 U.S.C. § 3553. The data should allow a good attorney to flesh out the "similar conduct" analysis, and to give the court a breakdown of actual sentences imposed on other defendants bringing in comparable loads, including all the case-specific variables that aren't found in aggregate sentencing data. Obviously sentences are calculated by drug type and weight already, but our data allows for a more fine-grained as-

sessment of culpability.

Our database, for example, can give you the mean, median, and distribution for coke sentences, marijuana sentences, or meth sentences, overall, or by weight range. We can draw a regression line for expected sentence for a particular weight and drug type. Or we can give you that regression line for all smuggling cases, translating all loads into a dollar value. You could create a comparison set of other defendants that's both large enough to be statistically meaningful and focused enough to be highly relevant to your facts. If you're a defense attorney and your client is in, say, the bottom 10 percent in terms of load value or compensation, you need to be telling the judge that. At the very least, it buttresses the argument that your client was a minor and inexperienced player. But I've never seen a defense attorney produce such data—probably because, until now, it has never been compiled.

In short, comprehensive sentencing data paired with comprehensive real-offense data can give some statistical heft to the sentencing argument that this particular defendant is comparably culpable to x, y, or z set of other defendants. Indeed, analysis of the universe of actual prior sentences was the primary basis for the initial setting of guidelines ranges 25 years ago, and commentators are now arguing that post-*Booker*, that "trailing-edge" approach ought to be rekindled.

You'll need to know your judge to decide which comparisons will be most effective—that judge's own prior sentences, all the judges in the district, or maybe all the sentences along the whole border. But it can never hurt, in arguing for a sentence, to show the judge that the one you're asking for is in the sentencing heartland, and the one the other side wants would be a clear outlier. These arguments are not at present being made in an empirically-informed way, and they should be.

Conclusion

Not all of these applications will be appropriate for every case, and there are always judges who for whatever reason are just antsy about statistics. But properly analyzed, and properly explained, statistics are real, probative, reliable evidence—worlds apart from the usual reliance on anecdote, metaphor, and the "common-sense" intuitions of jurors who don't smuggle drugs for a living. ∎