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The market for mules: Risk and compensation of cross-border drug couriers

David Bjerk[a,*], Caleb Mason[b]

[a] Robert Day School of Economics and Finance, Claremont McKenna College, United States
[b] Miller Barondess, LLP, United States

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ABSTRACT

This paper uses a unique dataset to examine the economics of cross-border drug smuggling. Our results reveal that loads are generally quite large (median 30 kg), but with substantial variance within and across drug types. Males and females, as well as U.S. citizens and non-U.S. citizens are all well represented among mules. We also find that mule compensation is substantial (median $1313), and varies with load characteristics. Specifically, for mules caught with cocaine and meth, pay appears to be strongly correlated to expected sentence if caught, while pay appears to be primarily correlated with load size for marijuana mules, who generally smuggle much larger loads than those smuggling cocaine and meth. We argue that our results suggest that this underground labor market generally acts like a competitive labor market, where a risk-sensitive, reasonably well-informed, and relatively elastic labor force is compensated for higher risk tasks.

1. Introduction

Every year, roughly three thousand people are arrested while working as "mules" smuggling drugs through the ports of entry along the U.S.-Mexico border in California, Arizona, New Mexico, and Texas. For every mule caught, many more get through. Despite the great public concern over cross-border drug smuggling, and the enormous expenditures devoted to stopping it, little is known about this activity. A number of journalistic and scholarly accounts are available (Decker and Chapman, 2008; Campbell, 2009; Caulkins et al., 2009), but no large-scale empirical analysis of the economics of border smuggling into the United States has been attempted. Yet the economics of border smuggling are vitally important to any assessment of border interdiction and prosecution strategies, and of domestic drug policy.

In this study we analyze a unique dataset extracted directly from the statements of probable cause filed following federal smuggling arrests at California ports-of-entry along the Mexican border to shed light on this underground economy. These statements give the factual details of each smuggling event—time, place, what kind of drug, how much, how it was smuggled, the citizenship of the driver, etc.—allowing us to thoroughly describe many of the details of drug mules and their cargo along the California-Mexico border.

Additionally, these narratives include information regarding how much money the mule reports being paid, or was promised that he would be paid, for carrying the load. These compensation data provide us with a key variable for analyzing the labor market for mules. While other papers have attempted to look empirically at issues regarding pay for those in the drug distribution business (MacCoun and Reuter, 1992; Levitt and Venkatesh, 2000), to our knowledge this paper is the first to directly evaluate the extent to which pay responds to sentencing risk. Specifically, all else equal, are mules paid more for carrying loads with higher expected sentencing risk?

This question is of interest not just as a test of economic theory, but also because it may help us better understand how border policing and sentencing policies can interact with the drug market. Specifically, while Reuter and Kleiman (1986) sought to understand how enforcement policy affected the drug market through altering the eventual price of drugs to consumers, this study pushes back one step to see how enforcement policy directly affects the cost of getting drugs to the market.

Among the drug mules caught at the California ports of entry, we find that the mean reported compensation amount is $1604 and the median is $1313. Whether this is a lot or a little is a matter of opinion. By way of perspective, at this median wage, drug mules would have to complete a little over two smuggling trips per month to earn the roughly $35,000 annual salary paid to American

* Corresponding author.
E-mail addresses: david.bjerk@cmc.edu (D. Bjerk), cmason@millerbarondess.com (C. Mason).

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commercial truck drivers with 1–4 years of experience (according to payscale.com).

There is also substantial variation in reported pay. While much of this variation is unexplained by the variables we have in our data, pay for mules caught smuggling cocaine and methamphetamine follows a very particular pattern with respect to quantity. Specifically, pay rises initially in quantity quite steeply before leveling off, so that pay hardly varies with load size for mules caught with larger quantities of these two drugs. Quite noticeably, the shape of these pay versus quantity functions are strikingly similar to the shape of the relationship between expected sentence if caught and quantity for these drugs, consistent with the notion that mule compensation for these drugs is at least somewhat tied to sentencing risk if caught.

For marijuana however, while both pay and expected sentence if caught rise monotonically with quantity, the shape of these functions do not match as closely as they do for cocaine and methamphetamine. However, two other things are substantially different for marijuana mules than for cocaine and meth mules. First, marijuana sentences are surprisingly short, averaging well less than two years for even loads approaching 100 kg. Second, marijuana loads are generally much larger than loads of cocaine or meth, and there is substantial variation in marijuana load size. Given larger loads, especially of an odorous substance such as marijuana, are more likely to be detected at border crossings, but expected sentence length if caught is relatively limited regardless of quantity, we argue that these findings suggest that compensation for marijuana is tied to expected sentencing risk, but primarily though how load size impacts likelihood of detection rather than through the expected sentence if detected.

Overall, we argue that these findings suggest that the supply of drug mules is sufficiently elastic and that the market is sufficiently developed such that, by in large, mules must be compensated for the expected sentencing risk of the load they are smuggling. Using a basic regression specification, our best estimate is that mules are paid on the order of $1200 for an additional year expected sentence *if caught* (at least for cocaine and methamphetamine smuggling), while an additional 50 kg of marijuana translates into roughly $420 in additional pay.

Finally, we do not find evidence linking mule compensation to other obvious characteristics of the mule. For example, both in absolute terms, and conditional on the expected sentence upon being caught with the load and amount and type of drug being carried, there is no statistically significant difference between female and male compensation, or between U.S.-citizen and non-citizen compensation.[1]

2. The theoretical relationship between mule pay and sentence exposure

Mule compensation is interesting for several reasons. First, understanding the magnitudes in question is important for understanding who might be getting involved in this activity. Is pay sufficiently low that it is really only the truly desperate who find such work worthwhile, or is pay high enough relative to the local labor markets that it is an attractive option to a broad swath of potential workers?

Second, understanding what is correlated with compensation can tell us something about the workings of an inherently unregulated and illegal labor market. Like Gertler et al.'s (2005) study of sex workers in Mexico and Gathmann's (2008) study of migrant smugglers in Mexico, we are interested in whether standard models of competitive markets are applicable to illegal underground markets such as this.

Basic economic theory suggests that even in the absence of regulation, a competitive labor market should mean that workers are generally cognizant of the actual risks they take on in performing a particular job, and those taking on an objectively higher risk of a negative outcome should earn a higher wage, all else equal—i.e., a *compensating wage differential* should arise (Rosen, 1986). The labor market for mules offers a test of this theory because while the actual incarceration risk of carrying different loads across the border will depend on load characteristics (type of drug, quantity), the labor involved (driving the car across) will not. Our data allow us to examine whether differences in sentencing risk across loads do in fact translate into compensating pay differentials.

While economic theory predicts that compensating wage differentials will arise in a context such as this, we can identify a few plausible reasons why they might not.

First, it is possible that the labor market for drug mules may be "thin," with little systematic organization, causing compensation to be determined on a case-by-case basis. Under this model, mule pay would primarily be determined by the particular interactions and negotiations between a given mule and recruiter, and we would not necessarily expect a strong systematic relationship between compensation and the nature of the cargo as would arise in a more competitive setting.

A second possibility is that the cartels are able to utilize such a desperate labor pool of potential mules that they can simply offer a minimal fixed rate per load. In other words, labor supply to the mule market might be almost perfectly inelastic. Under this model, the mules may care very much about differential sentencing risk, but their concern will not be reflected in compensation because of their more primary concern of obtaining paying work. Indeed, mules may be sufficiently desperate that they do not even demand to be informed about the exact nature of what they are carrying.[2]

Finally, it may be that the likelihood of being caught carrying drug cargo through border crossings is sufficiently small that mules do not have a meaningful incentive to care about what they are carrying. Under this model, the labor market for mules would operate much like the market for couriers of legal goods, with pay simply compensating the mule for his or her time and labor, without variation based on cargo type. Or, compensation may reflect other things, like a fixed percentage of load value.

While it is very difficult if not impossible to precisely ascertain mules' actual risk of being caught bringing in a load of drugs, available evidence does suggest that being caught is quite unlikely. In particular, a rough "back of the envelope" type calculation suggests it is on the order of 5–10% (see Appendix I). Given such a low chance of detection, it is certainly possible that the large differences in sentence risk by size of load and type of drug are sufficiently discounted that they do not translate into any notable differences in compensation.

In general, while one could argue that markets in the drug trade should generally work according to the standard models of economic theory, as it is essentially a market for semi-refined agricultural crops (or easily manufactured chemicals in the case of meth), sold and transported by an easily substitutable low-skilled labor force, those researchers who have examined this market for many years have often found numerous market irregularities and

[1] All the mules were either U.S. citizens (45%) or Mexican citizens (55%).

[2] The claim of ignorance of cargo is commonly made by the defense in smuggling cases. See for example, United States v. Sepulveda-Barraza, 645 F.3d 1066 (9th Cir. 2011); Gomez-Granillo v. Holder, 654 F.3d 826 (9th Cir. 2011); United States v. Cordoba, 104 F.3d 225 (9th Cir. 1997); United States v. Mendoza, 121 F.3d 510 (9th Cir. 1997); United States v. Beltran-Lopez, No. 95-50104 (9th Cir. 1995).