



RESEARCH

# A Study of the Macroeconomic Effects of the Coin Market in the New York

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## Abstract

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are able to purchase the drugs, the purchase price is entered into the dataset. Otherwise, drugs acquired through seizure have a price entered as zero; therefore, this analysis only uses data from purchased drugs.

The use of the STRIDE data has been heavily discussed [13] [5] [14]. Horowitz notes that undercover agents would not purchase at prices that differ too greatly from the true market price since sellers would become suspicious of customers who are willing to pay too high of a price; therefore, the sellers would find the risk of engaging with such clientele far outweighed by the potential profits [12]. However, even if undercover agents consistently paid prices greater than the market value, a reliable metric to measure changes in drug price would still exist.

There are many observations present in the dataset that state that the purity of the substance is zero, or close to zero. I have allowed these observations to remain

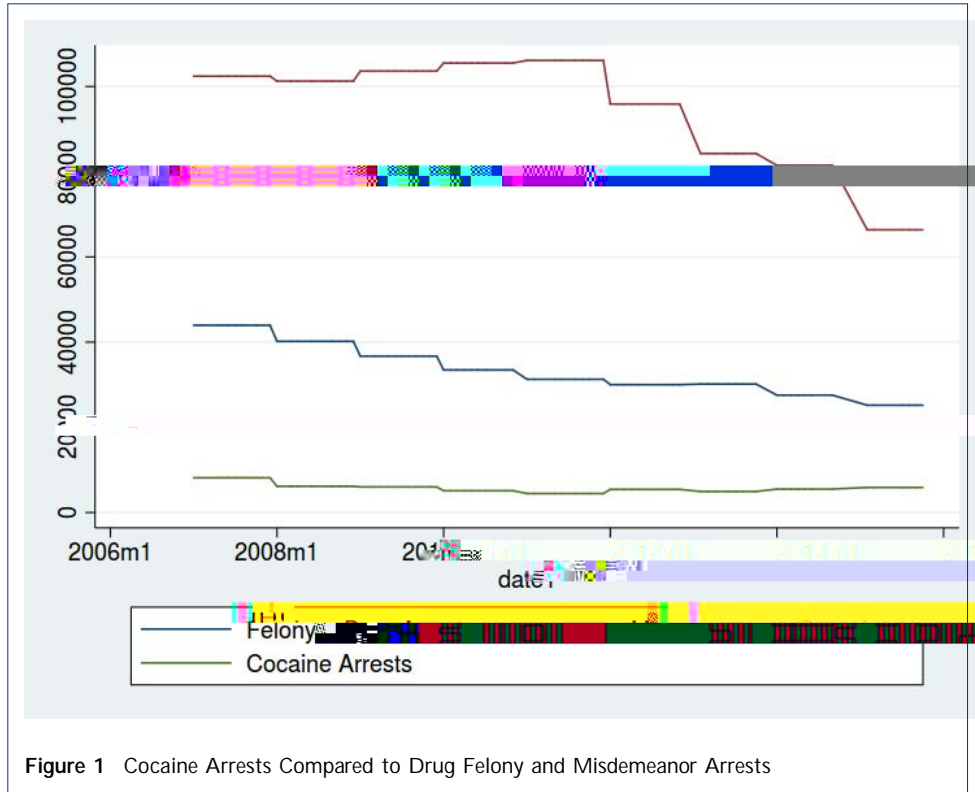


Figure 1 Cocaine Arrests Compared to Drug Felony and Misdemeanor Arrests

$$CocainePrice = \beta_0 + \beta_1 unemployment + \beta_2 salearrests + \beta_3 possessionarrests + \beta_4 realmedianhouseholdincome + \beta_5 graduationrate + \beta_6 netgrams + \epsilon \tag{1}$$

VARIABLES	(1) CocainePrice
unemployment	0.0317 (0.0573)
SaleArrests	0.280 (0.414)
PossessionArrests	-0.0745 (0.277)
RealMedianHouseholdIncome	-7.624*** (2.676)
graduationrate	-8.530** (3.832)
NetGrams	-0.198*** (0.0259)
Constant	94.74*** (29.48)
Observations	74
R-squared	0.599

Standard errors in parentheses  
 \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1

STRIDE does not differentiate between the two types of cocaine which is consistent with research that found differentiating the two to be unnecessary. Popular opinion maintains that "crack" cocaine is cheaper than powdered cocaine. Caulkins states, "Crack has been widely believed to be cheaper than powder cocaine, and this 'fact' has been used to help explain why US drug problems worsened in the 1980s. However, crack is not, in fact, cheaper per pure unit than powder cocaine" [7]. Therefore, the inclusion of all cocaine purchases (this includes cocaine derivatives such as "crack") by DEA agents as one good is nonproblematic since the variable of interest is price.

Estimates of both sale and possession arrests are not statistically significant. For example, Caulkins and Reuter found that enforcement policies only have an effect up to a certain point and beyond that there are diminishing, marginal returns; they claim that current enforcement efforts could be reduced with minimal effect on drug price or use [6].

Perhaps the most surprising finding is the lack of association between price and purity (Figure 2). Caulkins notes, "...because quality control is difficult for illicit

products, price is governed more by the expected purity than by the actual purity of the product" [11]. This claim has developed into what is called the "expected purity hypothesis" { customers pay the purity they expect and not the purity they

funded by other illicit activities [2]. Buchmueller and Zuvekas discovered a negative relationship between price and income among prime-age men who engage in "problematic drug use" [24]. Considering these "problematic" users make up the large portion of the consumers, the strongly negative relationship between income and price fits with past research.

In addition, the variable netgrams is significant. It has been observed that large quantity discounts exist in the cocaine market, as they do in other markets [2].

### **Concluding Remarks**

In conclusion, the findings of this paper support the conclusion that cocaine prices in New York are countercyclical. Both the real median household income and graduation rate illustrate how a decrease in education as well as a decrease in salary are correlated with an increase in the price of cocaine.

Admittedly, more research is needed on income effects on cocaine price. While numerous factors were evaluated with the construction of this paper, more in-depth consideration of real median household incomes and graduation rates is needed. Following the work of Buchmueller and Zuvekas, greater research should be performed on income at deeper levels of analysis, taking into account demographics and income levels.

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