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## Drugs on your money?

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### Abstract

It is already public knowledge that there are traces of cocaine on the majority of UK banknotes and US dollar bills [1]. This paper investigates how many notes and therefore how much currency a person would need to qualify for being in possession of 100 mg and 5 g of cocaine which, in usual circumstances, would be seen as a criminal offence [2]. On average, to accumulate 100 mg of cocaine on UK sterling £ 5 notes, a person would need £ 17,575. To accumulate the same amount of cocaine on US \$ 1 bills the total came to \$ 3,782. To accumulate 5 g worth on £ 5 notes a person would need £ 878,350 whilst for US \$ 1 bills this came to \$ 175,670. In usual circumstances, possession of cocaine in this quantity would result in a maximum sentence of 7 years and 6 months imprisonment [3].

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### Introduction

It has been known for well over a decade that cocaine is present on the majority of paper currency in both the UK and the US [1, 4]. As depicted in films such as the Wolf of Wall Street, it seems that paper currency is the preferred tool for drug users to inhale the illicit drug through the nostril airway. The unfortunate truth for the rest of society is that paper currency is shared between populations, therefore most of the paper currency owned will contain traces of the illegal substance. It must be noted that there is no way that a regular person could be arrested for having traces of cocaine on their money. However, having a large enough sum of paper currency would mean the possibility of unwittingly possessing the same amount of cocaine as someone who was supplying the drug which in their case, would justify a heavy sentence [3].

### Assumptions

This paper assumes that 99 % [4] of all UK banknotes and 92 % of all US dollar bills have 28.75 µg of cocaine traces on them [5]. It is also assumed that the amount of cocaine on the US dollar coheres to the law in the UK.

### How many banknotes or dollar bills would you need?

It is now possible to solve how many notes would be needed to contain an overall yield of 100 mg, a large

enough amount which would warrant an arrest at the discretion of the police officer [3].

First, to find the mean average of notes needed a simple equation can be used:

$$\frac{100 \text{ mg}}{28.75 \text{ µg}} = 3479 \text{ notes needed}$$

It now has to be taken into account that 99 % of UK banknotes and 92 % of US dollar bills have cocaine traces on them. This means that a larger amount of notes would be needed to accumulate 100 mg of the drug, giving:

$$\frac{3479}{99 \%} = 3515 \text{ UK banknotes needed}^*$$

$$\frac{3479}{92 \%} = 3782 \text{ US dollar bills needed}^*$$

*\*The result has to be rounded up not rounded down, in order to acquire at least 100 mg of cocaine.*

This same principle can be used to find out how much paper currency a person would need to have on them to gain a maximum 7 year 6 month prison sentence for possession with intent to supply. This would be the case for an individual who had 5 g of

the class-A drug on them. By substituting 100 mg with 5 g into the % equations this comes to 175,670 banknotes and 189,036 dollar bills.

**What is the lowest value of money needed for an individual to be in possession of 100 mg and 5 g of cocaine?**

For UK sterling the lowest denomination for the paper currency is £ 5. Therefore by using another simple equation it is possible to find out how much paper currency someone would need to have on them. Using the average amount of paper currency needed to acquire 100 mg of cocaine the total monetary value uses a simple multiplication as seen below:

$$£ 5 \times 3515 = £ 17575$$

For the US dollar the lowest denomination is \$ 1. By using \$ 1 instead of £ 5 and the fact that 92 % of US dollar bills have cocaine traces on them, it was found that an individual would only need \$ 3,782 to build up at least 100 mg of the drug.

To be in possession of 5 g of cocaine and liable to be sentenced for possession with intent to supply, a person in the UK would need £ 878,350 of £ 5 notes lying around. For \$ 1 bills, someone would need \$ 189,036.

**Conclusion**

Results indicate that due to the now inherent traces of cocaine on paper currency in the UK and US, it is quite possible for someone to be in theory, at risk with the law. If for instance, a person had a mere \$ 3,782 of money in \$ 1 dollar bills lying around then there would be a high chance that the individual would be in possession of roughly 100 mg of the illicit class-A drug. Having \$ 189,036 worth of \$ 1 dollar bills would mean a high chance of possessing 5 g of cocaine. This, in usual circumstances, is classified as possession with intent to supply and subject to a maximum 7 years and 6 months prison sentence [2].

**References**

- [1] Biello, D. (2016). *Cocaine Contaminates Majority of U.S. Currency*. [online] Scientific American. Available at: <http://www.scientificamerican.com/article/cocaine-contaminates-majority-of-american-currency/> [Accessed 04/03/2016].
- [2] London Criminal Solicitors (2016). *Drug & Cocaine Possession Charges - Class A B Offence London*. [online] Available at: <http://londoncriminalsolicitors.co.uk/drug-crimes/possession-cocaine-drug/> [Accessed 24/03/2016].
- [3] Cps.gov.uk, (2016). *Supplying or offering to supply a controlled drug: Sentencing Manual: Legal Guidance: The Crown Prosecution Service*. [online] Available at: [http://www.cps.gov.uk/legal/s\\_to\\_u/sentencing\\_manual/supply\\_class\\_a\\_drugs/](http://www.cps.gov.uk/legal/s_to_u/sentencing_manual/supply_class_a_drugs/) [Accessed 04/03/2016].
- [4] BBC (2016). *BBC News | UK | Banknotes 'tainted with cocaine'*. [online] Available at: <http://news.bbc.co.uk/1/hi/uk/464200.stm> [Accessed 15/03/2016].
- [5] Zuo, Y., Zhang, K., Wu, J., Rego, C. & Fritz, J. (2008). *An accurate and nondestructive GC method for determination of cocaine on US paper currency*. J. Sep. Sci., 31(13), pp.2444-2450.