Drug Trade and Statistical Discrepancies in the U.S. Balance of Payments

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ABSTRACT

This paper tests the hypothesis that residual values in balance of payment accounting are a random variable. Previous research in this area has been satisfied with an explanation that these residual values are just statistical discrepancies and are random in nature. This paper reveals a structural problem with the way balance of payment accounting has been set up and data are collected. The research proves that there is a positive bias about these values. Moreover, the research shows that there is a positive relationship between the size of the illicit drug market and the statistical discrepancies in the U.S. balance of payments.

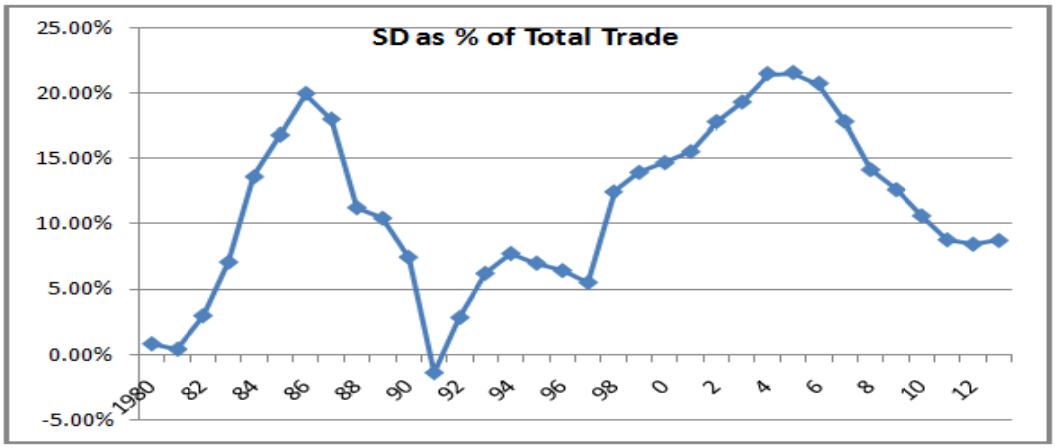
Introduction

In balance of payment accounting, there is often a difference in the value stated in accounting records and the value actually paid for a good or service. This difference in valuation can lead to disparity between debits and credits. In response to this problem, a residual account for **Statistical Discrepancies** (SD) has become standard practice in balance of payment accounting practices. This residual account offers a strategy for satisfying the rule of double entry bookkeeping that total debits must equal total credits. The balance of payment (BOP) equation is expressed by the following equation: $BOP = Current\ Account + Capital\ Account + Financial\ Account + SD = 0$ (1)

It is a myth that statistical discrepancy (SD) is a random variable, because SD as a random variable should total zero in the long run. The research in this paper analyzesthe data in the thirty three BOP accounts from 1980 through 2012. From this analysis, the values of statistical discrepancies (SD) are calculated, showing its trend and testing the hypothesis that SDs are truly unbiased statistical errors. $Hypothesis: \sum SD = 0$ (2)

The following graph shows SD as percentage of total value of export and imports. On the average, SD constitutes 11 percent of the total trade.[2]

Figure 1: Statistical Discrepancies as Percentage of Total U.S Trade (Export plus Imports of Goods)



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[2] U.S. Bureau of the Census (2014). Retrieved from http://www.census.gov/foreign-trade/statistics/historical/

Source of Data: Bureau of the Census & Bureau of Economic Analysis
Figure 1 shows the Statistical Discrepancies (SD) as a percentage of the total trade in goods which is a combined total of goods exported and imported, from 1980 through 2013.

Figure 2: Statistical Discrepancies as Percentage of Total U.S Trade Absolute Values on International Accounts

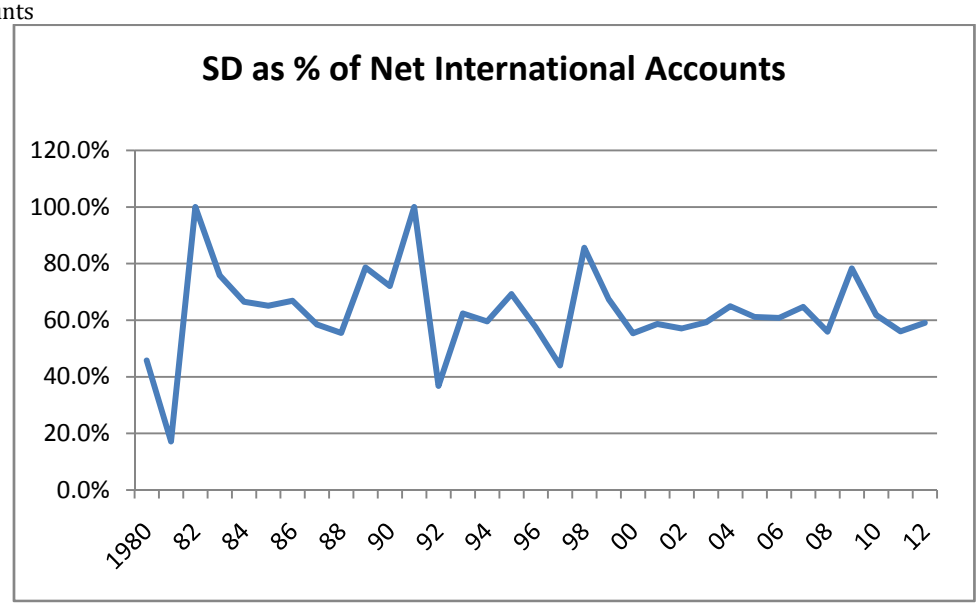


Figure 2 shows SD as a percentage of the absolute value of current account plus the absolute values of net balances of capital, financial and reserve accounts.

As shown in the above figure, it appears that this percentage has remained rather stable around 60 percent of the total value. In recent years, the amount of discrepancies reported has been around positive $200 billion.[3] This amount and it percentage might seem rather high; however, as a percentage oftotal – not net – U.S. international transactions it is a minor "statistical discrepancy". Or is it?

The following table provides an explanation as to the likely reasons for having statistical discrepancies in balance of payment accounting.

Table1 – Likely Explanations for Positive or Negative Statistical Discrepancies (SD)

Likelihood scenarios for having negative SD	Likelihood scenarios for having positive SD
• Some exports not recorded • Some imports recorded but not paid for • Some capital inflows not registered • Some capital outflows under reported	• Some imports not recorded • Some exports recorded but not paid for • Some capital outflows not registered • Some capital inflows under reported

Over a long period of time, the positive and negative statistical discrepancies should add up to zero, unless there is structural problem with the balance of payment accounting.

Testing the Hypothesis
The data in our analysis covers a period of 33 years from 1980 through 2012. This set of data shows only one positive SD in the entire period and that was in 1991. The other 32 SDs are positive numbers and growing in that direction. As mentioned before, the values of SD in recent years are around $200 billion,

[3]Bureau of Economic Analysis (April 2011), Survey of Current Business, *U.S. International Transactions.* "*In 2010, the statistical discrepancy was $235.1 billion, compared with $162.5 billion in 2009.*"

which can be explained by the illicit activities such as money laundering related to illegal drugs transactions. As will be seen later, my research also discovered that the negative SD value in 1991 was due to an unusual accounting practice. Therefore, the myth of random statistical discrepancies is just that: "a myth", and SD should be called something else such as "*BOP Discrepancies*" because there is nothing about this data that suggests it is s statistically random.

Let me add a final note regarding 1991, the only year when SD was negative. That year the U.S. also carried two successive quarters of current account surpluses. These surpluses were never again registered in the U.S. balance of payment. Why? The fact is that these surpluses were just anomalies and not due to economic forces. The most notable event this period was the first Persian Gulf War which resulted in the liberation of Kuwait from Saddam Husain's Iraq. In that year, the current account surplus resulted from cash contributions to the United States from the Arab states of the Persian Gulf that were U.S. coalition partners in Operation Desert Storm. The U.S billed these states for its "military services" and received $23 billion in the first quarter of 1991 and $12 billion in the second quarter.[4] These payments to the Unites States were registered as a debit (positive) to the "unilateral transfers" category in the current account, which resulted in two successive quarters of current account surplus in 1991.[5] These abnormal payments made the statistical discrepancy (SD) as a negative number in 1991. This was the only year out of the 33 years in our data set that the U.S. experienced a negative SD. This makes clear the bias in this supposedly random statistics.

Statistical Discrepancies and Illicit Drug Market

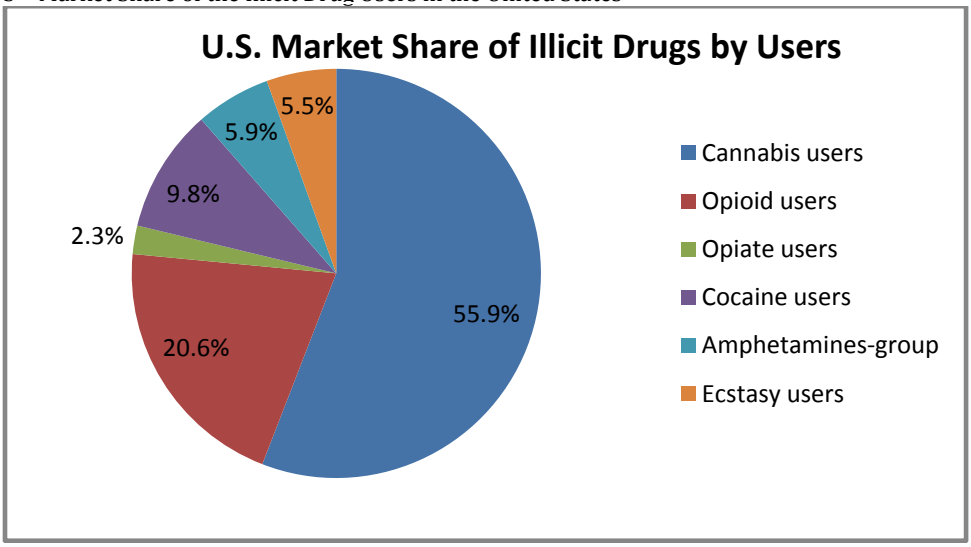
Statistics about profit and sales from the illegal drug trade due to its illicit nature are largely unknown. The United Nations' World Drugs Report estimates that the value of this market is as large as arms or oil market. Globally, United Nations Office on Drug and Crimes (UNODC) estimates that in 2009 between149 and 272 million people (or 3.3% to 6.1% of the population aged 15-64) used illicit substances at leastonce in the previous year.[6] According the World Drugs Report, the following types of drugs have the highest market share:

ATS – Amphetamine-type stimulants (ATS) refers to agroup of substances comprised of synthetic stimulants.
Coca paste (or coca base) – This is an extract of the leaves of the coca bush. Purification of coca paste yields cocaine.
Cocaine (base and salts) – Coca paste, cocaine base and cocaine hydrochloride referred to in the aggregate.
Crack (cocaine) – Cocaine base obtained from cocainehydrochloride through conversion processes to make itsuitable for smoking.
Heroin HCl (heroin hydrochloride) – Injectable form ofheroin, sometimes referred to as 'Heroin no. 4.'
Heroin no. 3 – A less refined form of heroin suitable for smoking.
Opioid – A generic term applied to alkaloids from opiumpoppy, their synthetic analogues, and compounds synthesizedin the body.
Opiate – A subset of opioids comprised of the various products derived from the opium poppy plant including opium, morphine and heroin.
Poppy straw – All parts (except the seeds) of the opiumpoppy, after mowing.

As shown in Figures 3 and 4, the U.S. largest illicit drug product – in volume terms – is cannabis, that is, the production of cannabisherb, followed by cannabis resin. The second largest illicit drug production is related to cocaine, followed by heroin. Amphetamine-type stimulants production seems to be at comparable levels with heroin.

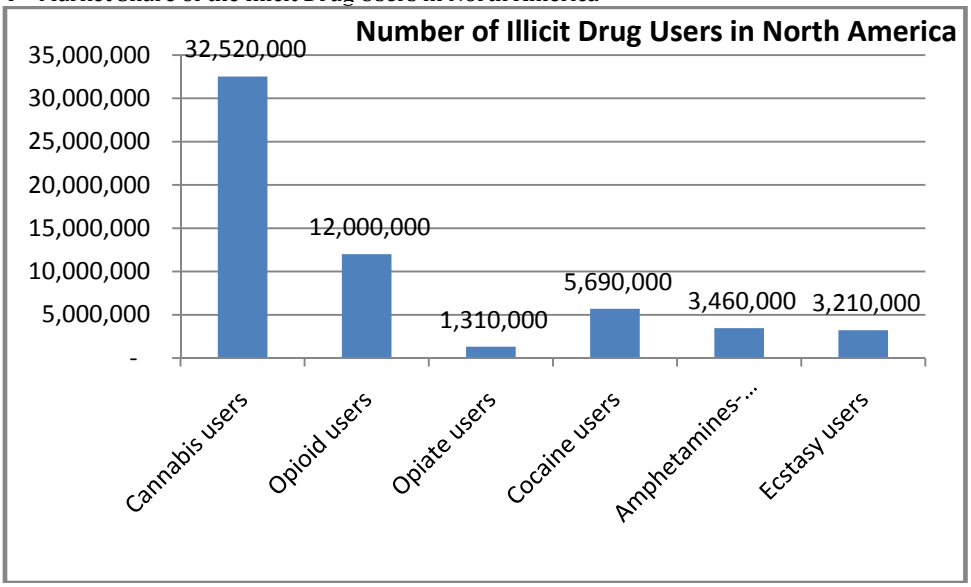
[4] Daniels, Joseph and VanHoose, Davis (1999), *International Monetary and Financial Economics*, South-Western, page 28.
[5] The offsetting entry was made as capital inflows in the capital account.
[6] United Nations Office on Drug and Crimes (2011), World Drugs Report. Retrieved from http://www.unodc.org/documents/data-and-analysis/WDR2011/World_Drug_Report_2011_ebook.pdf

Figure 3 – Market Share of the Illicit Drug Users in the United States



Source of Data: 2011 World Drug Report, United Nations, p. 24 – Data is extracted

Figure 4 – Market Share of the Illicit Drug Users in North America



Source of Data: 2011 World Drug Report, United Nations, p. 24 - Raw Data

The IMF estimates that between 2% to 5% of the money in the global economy is laundered.[7] Money" laundering" involves the process of cleaning money from criminal proceeds, by moving it from bank to bank to make it look legitimate and the proceeds of genuine business activities, often associated with the acquisition of real estate or investment in shares, bonds and blue chip assets.[8]

The U.S. government in its War on Drugs maintains there is no alternative to vigorously pursuing its "zero tolerance" policy of arresting drug users and their dealers. This has led to the incarceration of over 500,000

[7]Gabriel Zuchman of the University of California (Berkeley), in an interview on Canal France 24 on November 18, 2013 stated that 5.8 trillion Euros is being held by wealthy individuals worldwide in tax havens in offshore accounts, in places such as Singapore, Switzerland, Hong Kong, Cayman Islands, Bahamas, Monaco, among others.

[8]Sakyi&Kwesi, A. (2013). "Money Laundering, Drug Trafficking, Corruption", GhanaWeb, Retrieved from: *http://www.ghanaweb.com /GhanaHomePage/NewsArchive/artikel.php?ID=292926*

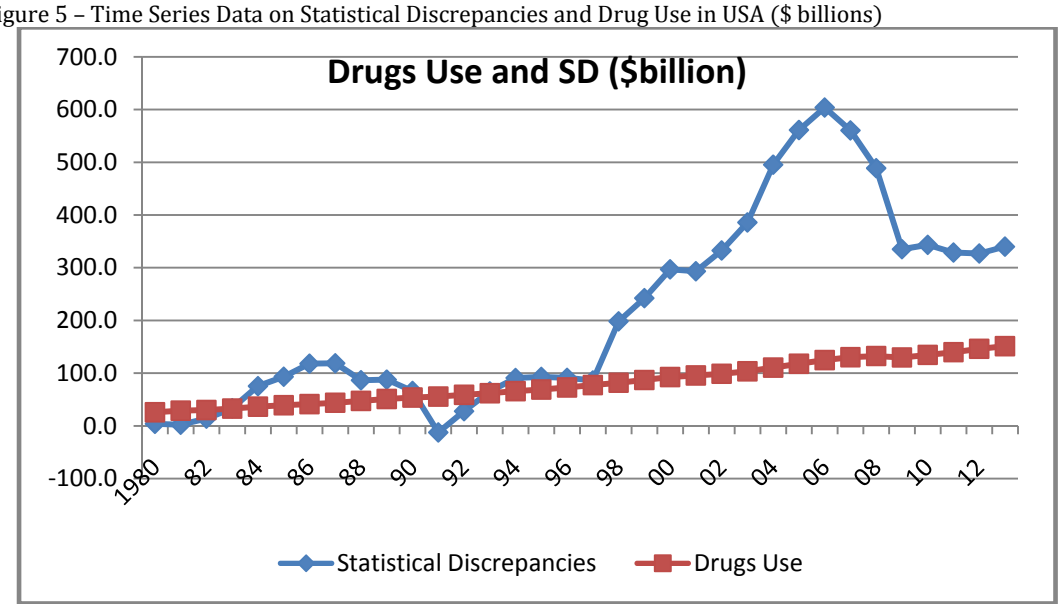
Americans. Meanwhile the flood of illegal drugs into America and money laundering continues unabated. One thing the American government has not done is to prosecute the largest banks in the world for supporting the drug cartels by washing billions of dollars of their blood-stained money. HSBC, Western Union, Bank of America, JP Morgan Chase, Citigroup, Wachovia (Wells Fargo), amongst many others have allegedly failed to comply with American anti-money laundering laws.

In March 2010 Wells Fargo settled a law-suite with the US government. The bank was fined $160 million under a "deferred prosecution" agreement, due to the bank's heavy involvement in money laundering. It moved up to $378.4 billion over several years. However, no banker was prosecuted for illegal involvement in drugs-trade money laundering.[9] Wells Fargo is hardly alone. Court filings show that, since 2006, more than a dozen banks have reached settlements with the Justice Department regarding violations related to money laundering. ING Bank paid a $619 million fine for altering records and secretly transferring more than $2 billion for entities trading with Iran and other nations under sanctions. American Express Bank International acknowledged that more than $55 million in drug proceeds may have been laundered through offshore shell accounts it maintained.[10]

Size of Illicit Drug Market in USA –According to a report released by UN Office of Drugs and Crimes, **"**The size of illicit drug industry is equivalent to 0.9 percent of GDP".[11] Other UN reports put the size of the illicit drug trade at 8 percent of total trade. Although the use of one problematic drug (cocaine) in the U.S. has been on the decline in recent years, a UN report reveals that the use of most drugs in the United States has been rather stable, with about 5% of adults using illicit drugs on regular bases.[12]

Based on the above methodology, Figure 5 presents a graph in which U.S. drug use is estimated to be 0.9 percent of U.S. GDP, as well as statistical discrepancies on the U.S. balance of payments data.

Figure 5 – Time Series Data on Statistical Discrepancies and Drug Use in USA ($ billions)



Statistical discrepancies are calculated based on the U.S. balance of payments data. Drugs use calculation is based on 0.9 percent of U.S. GDP.
Source of Data: Bureau of Economic Analysis (2014)

To test the hypothesis that the expansion of statistical discrepancies in the balance of payment is closely related to the expansion of illicit drug market in the USA, the following regression equation was tested.

[9]Morphy, D. (2013) "Money Laundering and The Drug Trade: The Role of the Banks", Center for Research for Globalization. Retrieved from: http://www.globalresearch.ca/money-laundering-and-the-drug-trade-the-role-of-the-banks/5334205
[10] Mazur, Robert (Jan 2, 2013). "How to Halt Terrorism Money Train".New York Times. Retrieved from: http://www.nytimes.com/2013/01/03/ opinion/how-bankers-help-drug-traffickers-and-terrorists.html?_r=0
[11]Pollard, N (2006)."*UN reports puts world's illicit drug trade at estimated $321 b*", The Boston Globe.
[12]United Nations Office on Drug and Crimes (2011), World Drugs Report, p.89-90

$$\Delta\,(\boldsymbol{SD}) = \int(\Delta\,\mathbf{DU}) \qquad \mathbf{(3)}$$

Whereas, SD stands for statistical discrepancies and DU represents Drugs Use.

The following table provides of the regression results which are reported in Table 2 and summarized in the following equation:

$$\Delta\,(\boldsymbol{SD}) = \mathbf{3.5527} + \mathbf{.0245}\,(\Delta\,\mathbf{DU}) \qquad \mathbf{(4)}$$

t- statistics(.59) (3.29)

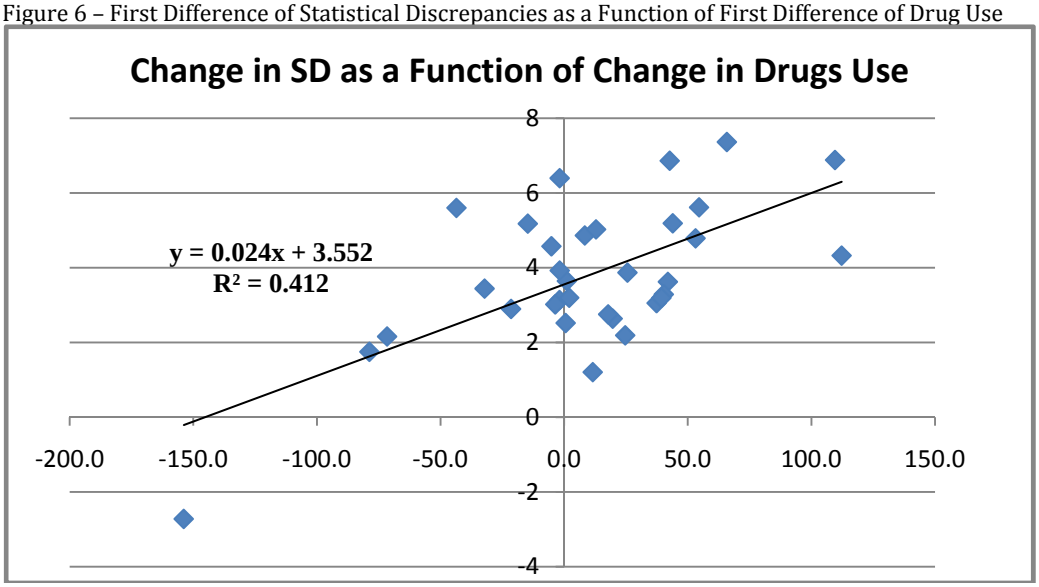
R^2 .4126

Table 2 – Regression Results for Changes in Statistical Discrepancies (SD) as a Function of Change in Drugs Use (DU)

Regression Statistics				
Multiple R	0.509110344			
R Square	0.259193343			
Adjusted R Square	0.235296354			
Standard Error	159.972883			
Observations	33			
ANOVA				
	df	*SS*	*MS*	*F*
Regression	1	277570.5608	277570.5608	10.84628
Residual	31	793331.022	25591.32329	
Total	32	1070901.583		
	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	37.18331214	62.18799893	0.59791781	0.554238
X Variable 1	48.16624582	14.62522203	3.293368519	0.00248

As shown in the above table and the following regression graph, there is a direct and significant relationship between the rate of expansion of Statistical Discrepancies (SD) in the U.S. balance of payments and rate of increase in U.S. Drugs Use (DU). Forty one percent of the variation in the increase in SD can be explained be the variation in DU.

Figure 6 – First Difference of Statistical Discrepancies as a Function of First Difference of Drug Use



Conclusion

In conclusion, this research paper rejects the common hypothesis that $\sum SD = 0$ and we can confidently assert that SD is not a random number. Balance of payment accounting should be revised to include the origins of these discrepancies in laundered money, especially from drug trading, and we should not label them simply as "statistical discrepancies". Furthermore, this research suggests that there is a significant relationship between the SD in the U.S. balance of payments and the consumption of illicit drugs in the United States.

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