18. Are estimates of the volume of money laundering either feasible or useful?*

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18.1 INTRODUCTION

In 1998 Michel Camdessus, Managing Director of the IMF, stated that money laundering might amount to about 2–5 percent of global GDP. He was not in fact announcing an IMF study but explicitly stating what he thought was expert opinion.[1] The number lives on, because people do want to have some number and nothing else seemingly as authoritative has appeared since.

My view is that knowing how much money is laundered serves no important policy purpose. It is simply one of those adornments for conversations about the phenomenon. That is very fortunate, since we have no methodology that plausibly would produce credible numbers. In these comments I use John Walker's model for estimating money laundering in Australia, to illustrate the frailties (Walker 2007; Walker and Unger 2009). What I hope to persuade you of is that there is no prospect, either in surveys of experts or in studies of crimes themselves as reflected in criminal justice statistics, for developing persuasive estimates.

18.2 THE MARGINALITY OF VOLUME MEASURES

What is the value of knowing how much money is laundered? The principal answer is because money laundering is believed to cause some harm. There are four mechanisms by which money laundering, as opposed to the underlying crimes themselves, might adversely affect society. First, money laundering poses a threat to the integrity of the financial system because at least some of the criminals who purchase or provide the service may attempt to acquire control of institutions. Second, it is believed that those who launder money are more likely to move money in and out of the system, in response to non-economic events; that potentially creates fiscal instability. Third, the investment patterns chosen by the criminals will not be optimal because they have concerns other than maximizing income. Fourth once an AML system has been created, then discovery of money laundering at a bank or in a country creates a problem for that bank or country because of the AML response itself.[2]

All four mechanisms may be important but there is little evidence that any of them have turned out to have macroeconomic significance. There are two well-known instances in which money laundering may have reached such a scale that it caused macro-instability for a country. These involve Latvia in the 1990s and the Dominican Republic in 2002; these are referenced in IMF (2011). No other instances were identified in a review conducted by the IMF (2011). Moreover, in each of the two cases it may

have been the underlying crimes rather than the laundering which caused the problem. It is striking how little evidence there is that money laundering has been a major problem in any country, even small ones. That is not to deny that there have been major money laundering scandals that have caused harm to many individuals, such as the scandal involving BCCI (the Bank for Commerce and Credit International) in the 1990s (Kerry 1993). However the question remains whether money laundering itself results in any significant harms.

18.3   THE GOALS OF MONEY LAUNDERING CONTROLS

The rationale for money laundering controls is not a concern that money is being laundered but a belief that these controls may turn out to be a good way of reducing certain kinds of crimes, and also of dealing with terrorism (Reuter and Truman 2004). It is conventional wisdom that in order to be able to use criminal revenues with tranquillity, offenders need to launder them through the financial system. Controls on those transactions may help society catch and punish the offenders. From this perspective, which is consistent with political statements around the creation of the controls (Cuéllar 2003, 374–80), they constitute a device for crime control.

For terrorism the logic is reversed. Much of the money for terrorist activities comes from legal sources. These sources are not 'black', indeed they are often whiter than white, since a lot comes from charitable giving. Society is not served by discouraging charitable giving. What is to be discouraged is the use of that money for terrorism purposes. Again, money laundering controls constitute a device to control terrorism and authorities may rather seek to pursue the money to the potential terrorist act rather than keep money from being laundered in the financial system.

Anti-money laundering controls thus can be thought of as a means to diverse ends. There are at least two primary goals:

(1)   reducing predicate crimes, particularly those associated with high per participant revenues; and
(2)   combating 'global bads', namely terrorism and kleptocracy.

There are also at least four secondary goals:

(1)   protecting the integrity of the core financial system;
(2)   sanctioning felons who would otherwise escape justice, such as high-level drug dealers who do not handle drugs but only the profits from dealing;
(3)   providing just deserts, since there may be particular social satisfaction in seizing the assets of rich offenders; and
(4)   simply inconveniencing felons by making it more difficult and nerve racking to get access to their own funds.

Which goals are primary and which are secondary is a matter of judgment. For a central banker, protecting the integrity of the core financial system is a primary goal. For those interested in drug control, which initiated the whole international system, the

critical issue is the ability to reduce drug trafficking and the power of its most powerful participants.

Would knowing the volume of money laundering help achieve these goals? This raises the question of definition. In some countries, any expenditure, from any use of funds generated by predicate crimes, constitutes a money laundering offence. Under those terms, estimating the volume of money laundering is equivalent to estimating the revenues from crime. There are reasons to be interested in the latter but it is deceptive to call that the volume of money laundering. What is policy relevant is the amount of money processed through the financial systems (broadly defined), in order to evade detection of its criminal origins, so that it can be used for other purposes.

If that is the correct view of money laundering controls, how important is a decline in the volume of money laundering? Does it constitute evidence that the anti-money laundering system has worked? The money laundering volume matches very poorly with the goals of the money laundering control system as a performance measure. In fact, no agency offers money laundering volume reduction as one of its outcome measures. Even the recent spate of national Money Laundering Control Strategies has not included such figures.

One reason may be that money laundering is a highly differentiated activity. Reuter and Truman (2004) offer a typology of predicate activities that distinguished five types of predicate crimes, according to four dimensions; cash intensity, scale of individual operations, the severity of harms and the distribution of those harms (Table 18.1). The judgments about severity are just that, judgments; others may disagree for example that white collar crime has modest consequences per dollar. There is probably not much disagreement that terrorism is most severe in terms of its social harm per dollar. Nor is there likely to be disagreement that crimes differ in the intensity of harms per dollar laundered, which is the principal point here.

Consider a system in which money laundering volumes is one of the targets of AML controls. Assume for a moment that anti-money laundering controls can actually affect money laundering volume. This is a strong assumption, but one necessary for assessment purposes. Consider the incentives for an agency of this performance measure. The agency may go after low-hanging fruit, namely crimes that generate a high money laundering per unit of investigative resources. Thus an AML agency may target white collar crime,

Table 18.1   Taxonomy of predicate crimes for money laundering

Crime	Cash	Scale of operations	Severity of harm	Most affected population
Drug dealing	Exclusively	Very large	Severe	Urban minority groups
Other blue-collar	Mostly	Small to medium	Low to modest	?
White-collar	Mix	Mix	Low to modest	Broad
Bribery and corruption	Sometimes	Large	Severe	Developing countries
Terrorism	Mix	Small	Most severe	Broad

Source: Reuter and Truman (2004).

even though that generates very modest gains for society, as measured by reductions in criminal harms. Elevating money laundering volume as an important construct threatens to distort the functioning of the system from its true purpose, which is reduction of the most serious crimes and global bads.

18.4   HOW GOOD ARE THE ESTIMATES?

The existing estimates have an enormous range. None of them are well documented. Numbers are casually thrown around by public figures, ranging from hundreds of billions to trillions of dollars (e.g. UNODC 2011). One set of estimates have their origins in the work of Friedrich Schneider who has long labored at estimating the size of the underground economy in different countries (Schneider and Enste 2000; Schneider et al. 2010).[3] The second approach is what is represented by John Walker's estimates for Australia. I will focus here on Walker's approach as it has been used in a number of recent studies, such as UNODC (2011).

Walker builds estimates of money laundering from examining the individual criminal activities that might generate that money. A critique then must examine those components. Consider fraud and drug sales, generally the two leading contenders for first place in terms of the volume of money laundering generated. Another reason to highlight fraud is because the estimates are so weak. For example, in the US, where research on crime is relatively well developed, the most cited estimate comes from the Association of Certified Fraud Examiners (2002). The ACFE surveyed its membership, and achieved a 10 percent response rate. Using a survey with a 10 percent response rate requires careful examination of non-response characteristics, a topic totally absent from the study. The central question in the survey was 'what is the percentage of revenues that your firm lost in 2002 as a result of occupational fraud and abuse'. Why would a fraud examiner at General Motors be able to answer that question? At best, an individual might know all the instances in which fraud was detected, which is clearly an underestimate of the total amount. Nonetheless if asked a question in a survey, respondents often will try to provide an answer, regardless of their actual knowledge. The answer provided by the small fraction who did so was about 6 percent of the corporation's revenues. Thus the study estimated that 6 percent of GDP, roughly six hundred billion dollars was stolen by way of fraud.

It is hardly necessary to describe all the ways in which this estimating process is implausible. Nonetheless, it has produced the most widely cited estimate of fraud in the United States.

There is much more work on estimating drug market revenues. One general problem here is that those who use expensive addictive drugs, such as heroin, cocaine and methamphetamine in the US, are very hard to reach through population surveys. For example, the National Survey on Drug Use and Health in 2003 estimated only about 200,000 individuals had used heroin in the previous week in the US (U.S. Department of Health and Human Services 2004), whereas a survey of arrestees which included a question about use of heroin in the previous 48 hours (accompanied by a urine test) found that the number was likely four times as large (National Institute of Justice, 2004). A central problem for estimating quantities is that users can't report how much they've
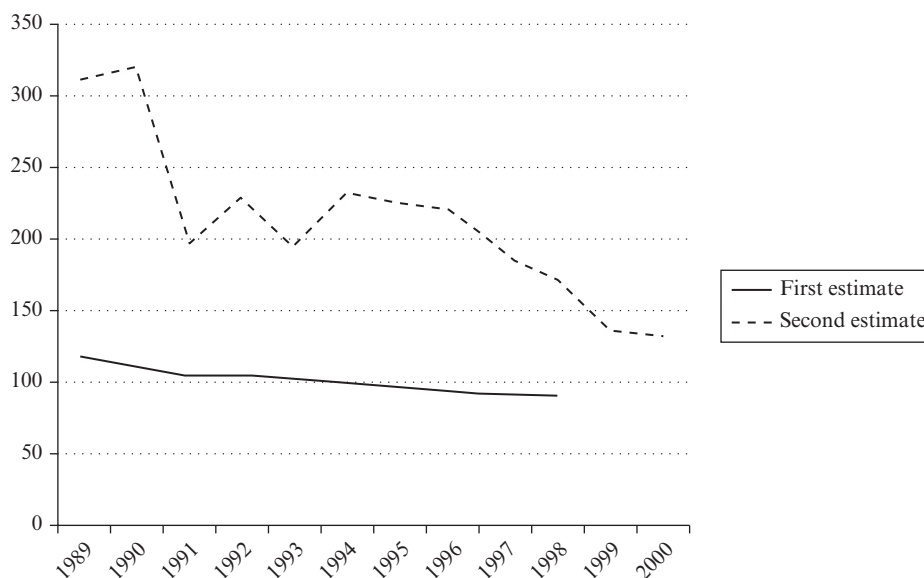
Figure 18.1   Two estimates of weekly methamphetamine expenditures

purchased but only how much they have spent, because packages simply consist of white powder; how much of that white powder is actually heroin is something that the user knows only roughly, even after consuming it.

The results of these surveys are highly sensitive to technical specifications. For example, two researchers in New York looked at the data from surveys of arrestees in Manhattan. Respondents in the early years of the survey were asked 'how much did you spend at your last transaction?' The question was later changed to 'how much do you spend in your typical transaction?' The change halved the estimated expenditures by drug users (Golub and Johnson 2004). More generally, quite small changes in methodology can lead to big changes in estimates.

Figure 18.1 gives estimates from the most well documented and systematic study of expenditures on drugs in the US. Two versions of the study were published; one in 2000, with estimates through 1998, and in 2001, with estimates through 2000 (U.S. Office of National Drug Control Policy 2000, 2001). In the 2000 estimate, the 1998 weekly expenditure estimates for people who are frequent users of methamphetamine, was estimated at about 100 dollars a week, a figure that had been fairly stable over the 1990s. In the 2001 version, that figure was much higher ($173), and had fallen substantially over the prior ten years. It is difficult to have faith in series that can be revised so rapidly in a short period of time.

John Walker, in his recent study, examined two sources of estimates for criminal earnings and money laundering in Australia. One was official statistics, the other a survey of experts. Neither is convincing. Consider the figures for drug markets from the 2007 study, given in Table 18.2.

Table 18.2   Estimated Net Income to Drug Retailers in Australia

Drug type	Estimated number of users	Estimated retail price (AUD/pure gm)	Average consumption per user (pure gms/yr)	Total income drug retailers (AUD millions)	Wholesale price as % of retail price	Net income to drug retailers (AUD millions)
Opiates	80,000	560	56.5	2,531	25%	1,898
Cocaine	200,000	380	35	2,660	37%	1,680
Cannabis resin	20,000	24	150	72	27%	52
Herbal Cannabis	2,000,000	9	200	3,600	34%	2,364
ATS	500,000	84	13	546	52%	260
Ecstasy	450,000	298	10	1,341	48%	698
			Total	10,750	Total	6,952

Source: Walker (2007).

Herbal cannabis is the largest single item; the second one is opiates, which is almost exclusively heroin. In both cases the figures here are extraordinarily high. For cannabis the study estimates that users consume 200 grams per annum on average. A recent review found that across a number of studies 100 grams per user per annum was a reasonable estimate (Kilmer et al. 2011). For heroin, Walker used 56 grams per annum which is far above the 15 grams used in US studies and those now used in the UK (Paoli et al. 2009; Appendix D). These other figures are not necessarily right, but they point to the fragility of Walker's estimates. There simply is not a basis for providing more than very crude estimates of many of the critical crime bases in these estimations.

Walker also includes an estimate of the percentage of revenues that are laundered from drug sales, 83 percent. That is implausibly high. In drug sales, certainly for heroin, cocaine, and to a lesser extent for marihuana, most of the revenues go to sellers at the bottom of the system (Kilmer and Reuter 2009). If there is a 50 percent mark-up in each of the last two transactions, a conservative estimate, then about 60 percent of the money goes to the retailer and to the low-level wholesalers. The many studies of low-level dealers all show that retailers and low-level wholesalers make very small incomes from drug dealing (e.g. Levitt and Venkatesh, 2000). It is very unlikely that a substantial part of their earnings are laundered in the sense that there is an effort to conceal the origins through some transaction within the financial system. It is simply spent.

Separately, Walker reported estimates based on surveys of experts. Petrus van Duyne and others (e.g. van Duyne and Soudjin 2010) have raised valid questions about how plausible is it that experts would know much about aggregates. What intelligence agency activities would enable them to do so much better than social scientists at estimating these aggregates and their composition? Investigation is not science but an effort to obtain information from a specifically targeted set of actions. It is not an attempt to sample all offenders. Intelligence based on investigation does not permit development of an estimate of an average when the information comes from outliers. There is no reason

to trust experts for purposes of aggregates. Kilmer et al. (2010), provide a critique of intelligence agency efforts to estimate US drug markets.

This is not a challenge to intelligence agencies' expertise in the job they are tasked to do. An agency is asking intelligence officers to use information in ways that enable the agency to improve investigative activities. They may do that well. But for aggregation they have neither the information base nor the skills to produce those figures.

Again, like fraud examiners, if asked a question, some intelligence analysts will give an answer. In fact only 40 percent of those approached by Walker responded. The figures they produced are much different from those Walker developed from standard statistical sources. For example, drug markets were estimated from the expert survey to produce only 382 million Australian dollars as compared to 6 billion dollars from the statistical sources. It is plausible that the true number lies between these two values but the band is so wide as to be useless.

It is not that I think that John Walker has done his work poorly. Rather I believe that this methodology is fundamentally flawed. Fortunately the number is not very important for policy purposes. This is not a challenge to the anti-money laundering system, or to the notion that we need to get a better understanding of both money laundering and how AML affects it. It's just that estimating the total volume is a diversion of attention.

NOTES

*   Based on comments originally delivered at Utrecht University School of Economics symposium on money laundering, November, 2007.
1.   'I hardly need say that the IMF regards the anti-money laundering actions advocated by the FATF as crucial for the smooth functioning of the financial markets. While we cannot guarantee the accuracy of our figures – and you have certainly a better evaluation than us – the estimates of the present scale of money laundering transactions are almost beyond imagination – 2 to 5 percent of global GDP would probably be a consensus range . . . '(Camdessus 1998).
2.   Once a money laundering problem is exposed in a nation, the banks of the principal financial centers such as London, New York and Zurich may withdraw respondent account privileges or in other ways make it difficult to process international financial transactions. That may precipitate macroeconomic instability.
3.   Schneider's estimates use a sophisticated modeling technique with a latent dependent variable. It is difficult to assess the soundness of the estimates

REFERENCES

Association of Certified Fraud Examiners (2002), *2002 Report to the Nation on Occupational Fraud and Abuse*, Austin, TX: ACFE.
Camdessus, M. (1998), 'Money laundering: the importance of international countermeasures', Speech to the Financial Action Task Force, at the Plenary Meeting of the Financial Action Task Force on Money Laundering on February 10, 1998, Paris (http://www.imf.org/external/np/speeches/1998/021098.htm).
Cuéllar, Mariano-Florentino (2003), 'The tenuous relationship between the fight against money laundering and the disruption of criminal finance', *Journal of Criminal Law and Criminology*, **93**, 312–466.
Duyne, P.C. van and M.R.J. Soudijn (2010), 'Crime-money in the financial system: what we fear and what we know', in M. Herzog-Evans (ed.), *Transnational Criminology Manual, Volume 2*, Nijmegen: Wolf Legal Publishers.
Golub, A. and B. Johnson (2004), 'How much do Manhattan-arrestees spend on drugs?', Final report to the National Institute of Justice Regarding Monitoring Drug Markets in Manhattan with ADAM (2003-IJ-CX-1028).

IMF (2011), *Anti-Money Laundering and Combating the Financing of Terrorism (AML/CFT) – Report on the Review of the Effectiveness of the Program*, Washington, DC: IMF.

Kerry, J. (1993), *The BCCI Affair: a Report to the Committee on Foreign Relations*, United States Senate, Washington, DC.

Kilmer, B. and P. Reuter (2009), 'Prime numbers: doped', *Foreign Policy*, November/December, 34–5 (http://www.foreignpolicy.com/articles/2009/10/19/prime_numbers_doped).

Kilmer, B., J.P., Caulkins B. Bond and P. Reuter (2010), *Reducing Drug Trafficking Revenues and Violence in Mexico: Would Legalizing Marijuana in California Help?* RAND Occasional Paper (http://www.rand.org/pubs/occasional_papers/2010/RAND_OP325.pdf).

Kilmer, B., J.P. Caulkins R.L. Pacula and P. Reuter (2011), 'Bringing perspective to illicit markets: estimating the size of the U.S. marijuana market', *Drug and Alcohol Dependence*, **119**, 153–60.

Levitt, S. and S.A. Venkatesh (2000), 'An economic analysis of a drug-selling gang's finances', *Quarterly Journal of Economics*, **115** (3), 755–89.

National Institute of Justice (2004), *Drug and Alcohol Use and Related Matters among Arrestees 2003*. By Zhiwei Zhang (https://www.ncjrs.gov/nij/adam/adam2003.pdf).

Paoli, L., V. Greenfield and P. Reuter (2009), *The World Heroin Market: Can Supply be Cut?* New York: Oxford University Press.

Reuter, P. and E.M. Truman (2004), *Chasing Dirty Money: The Fight against Money Laundering*, Washington, DC: Peterson Institute for International Economics.

Schneider, F. and D. Enste. (2000)', 'Shadow economies: size, causes, and consequences', *The Journal of Economic Literature*, **38** (1), 77–114.

Schneider, F., A. Buehn and C.E. Montenegro (2010), 'New estimates for the shadow economies all over the world', *International Economic Journal*, **24** (4), 443–61.

UN Office on Drugs and Crime (2011), *Estimating Illicit Financial Flows Resulting from Drug Trafficking and Other Transnational Organized Crimes*, Vienna: United Nations.

U.S. Department of Health and Human Services (2004), *Results from the 2003 National Survey on Drug Use and Health: National Findings*. NSDUH Series H-25, DHHS publication no. SMA 04-3964. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration.

U.S. Office of National Drug Control Policy (2000), *What America's Users Spend on Illicit Drugs 1988–1998*. By William Rhodes, Mark Layne, Patrick Johnston and Lynne Hozick. Washington, DC: Executive Office of the President.

U.S. Office of National Drug Control Policy (2001), *What America's Users Spend on Illicit Drugs 1988–2000*. By William Rhodes, Mark Layne, Ann-Marie Bruen, Patrick Johnston and Lisa Bechetti. Washington, DC: Executive Office of the President.

Walker, J. (1995), *Estimates of the Extent of Money Laundering in and through Australia*. Paper prepared for the Australian Transaction Reports and Analysis Centre, John Walker Consulting Services, Queanbeyan, Australia.

Walker, J. (2007), *The Extent of Money Laundering in and through Australia in 2004*, RMIT University.

Walker, J. and B. Unger (2009), 'Measuring global money laundering: the Walker Gravity Model', *Review of Law and Economics*, **5** (2), 821–53.