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February 2010

Economics of Security Working Paper 26

This publication is an output of EUSECON, a research project supported by the European Commission's Seventh Framework Programme.



Economics of Security Working Paper Series

Correct citation: Schneider, F. (2010). "Money Laundering and Financial Means of Organized Crime: Some Preliminary Empirical Findings". Economics of Security Working Paper 26, Berlin: Economics of Security.

First published in 2010

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ISSN: 1868-0488

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Economics of Security is an initiative managed by DIW Berlin

Money Laundering and Financial Means of Organized Crime: Some Preliminary Empirical Findings^{*)}

by

Friedrich Schneider^{)}**

Summary:

After giving a short literature review, the paper tries a quantification of the volume of money laundering activities, with the help of a MIMIC estimation procedure for the years 1995 to 2006 for 20 highly developed OECD countries. The volume of laundered money was 273 billions USD in the year 1995 for these 20 OECD countries and increased to 603 billions USD in 2006. The overall turnover in organized crime had a value of 595 billion USD in 2001 and increased to 790 billion USD in 2006. These figures are very preliminary but give a clear indication how important money laundering and the turnover of organized crime is nowadays.

Keywords: Definition and stages of money laundering, volume of money laundering, MIMIC estimation; financial means of organized crime.

JEL-Code: K42, H26, O17, H26

^{*)} Revised version of a paper to be presented at the Conference “Illicit Trade and Globalization”, CESifo Venice Summer Workshop, Venice International University, San Servolo, July 14-15, 2008.

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1. Introduction

The term „Money Laundering” originates from the US describing the Mafia’s attempt to “launder” illegal money via cash-intensive washing salons in the 30s, which were controlled by criminal organizations¹. For 2000, the IMF (2003, 2001) as well as the World Bank estimate that 2-4% of the world gross domestic product (GDP) stems from illicit (criminal) sources.² Agarwal and Agarwal (2006, 2004) estimate from forecasts, from regression analyses and taken from economic intelligence units, that global money laundering amounts to more than 2.0 to 2.5 trillion US\$ annually or about 5-6% of World GDP in 2006 (44,444 trillion US\$ in 2006) to be contrasted against an observed figure of US\$ 500 billion to one trillion in 2004 (Agarwal and Agarwal (2004)) within the banking sector only. Recent IMF estimates on money laundering by the drug traffickers who “introduce” the proceeds gained through the role of drugs into the legitimate financial market amount to between 2-5% of world’s GDP, about 600 billion annually. The IDB (2004) reaches the conclusion that for Latin America a rough estimate appears to be somewhere between 2.5 and 6.3 % of annual GDP of Latin American countries. A great deal of the money derives from drug-dealing, with total revenue of 338 Billion USD in 2006.³

In 2005 the Austrian Police secured drugs worth 49.266 Million Euro (value of the drugs measured “street” prices), in total 25,892 persons were charged for violation of the Austrian Narcotics Act.⁴ Most of all illegal transactions are processed by cash since there is the smallest risk to leave no trace;⁵ but nowadays there exists a growing tendency to “misuse” the internet in order to undertake illicit transactions in form of online-banking, cyber money and electronic purse.

The goal of this paper is to undertake a first attempt, to shed some light about the size and development of money laundering as well as the financial means of the organized crime. This is a purely empirically orientated paper with the purpose to collect the facts and the

¹ Compare Ertl (2002, p. 8), Courvat/Pless (1993, p. 171f), Schneider (2004) and Masciandaro (2004), and Schneider, Dreer and Riegler (2006).

² Compare also former estimations of the IMF (1998). However as these results are scientifically doubtful, since they are not scientifically proven. See Riegler (2004, p. 90ff).

³ Own calculations, compare chapter 5 and table 5.1.

⁴ These figures only cover cannabis products, heroin, cocaine, XTC-pills and LSD-trips. Compare BMI (2006), Suchtgiftmittelbericht (2005, p. 4).

⁵ Compare Vanempten (1994, p. 24f) and the FIU Germany: „...Cash transactions continue to play a significant role in a large number of cases. Evidently, offenders are aware and continue to deliberately exploit the advantage of “interruption of the paper trail” afforded by cash transactions. Particularly significant in this context are the very large amounts involved in some of these cash transactions..“ FIU (2004 p. 42).

knowledge we have about this difficult topic. Chapter 2 provides a short literature review, exclusively dealing with the latest empirical studies. In chapter 3, some further empirical evidence about illegal financial transactions is provided, which demand money laundering activities, and chapter 4 deals with the definition and stages of money laundering. Chapter 5 provides first estimations about the size and development of money laundering and the monetary volume of crime activities using a latent estimation approach. Finally the last chapter 6 gives a summary and ends with three conclusions.

2. Literature Review

Measuring the size and development of organized crime and/or money laundering is done by a few researchers, only. One of the most well known economists doing macro estimates of the size and development of money laundering is John Walker (2007, 2004 and 1999). His model of global money laundering is based on standard economic theory, in which he tries to develop an international input-output-model. The Walker model relies on estimates of the extent of various different types of crimes in single countries around the world, estimates of the proceeds resulting from these crimes and the probability of those proceeds being laundered. Walker determines the laundering pathways by an “attractiveness index”, which is based on a range of factors that express the opportunities and risks presented by the financial sectors/institutions in each country. He claims that his approach to quantify money laundering is arguably superior to those based on analysis of financial transactions, since there is no potential for the double counting inherent in the layering and placement stages of money laundering processes. The model defines the types of data and analyses the need to be generated in order to effectively model global transnational crime and money laundering. Walker (2007) concludes that since 2000 global money laundering may account for as much as US\$ 3 trillion p.a. and that business fraud exceeds illicit drugs as a source of laundered money. He argues that attacking the economics of crime can be an effective transnational crime prevention strategy and that economists can play a valuable role in monitoring and combating transnational crime and money laundering⁶. Peter Reuter (2007, 1983)⁷, who is

⁶ In another paper, John Walker (2004), empirically investigates the relationship between shadow economy and the production and transition of illicit drugs. He finds out that the richer a country is, *ceteris paribus*, the lower the shadow economy is and he can show in his analysis that the figures for Bolivia, Columbia and Peru suggest that quite a large percentage of the estimated shadow economy may be attributed to the coca export rate. He

quite critical to the findings of John Walker, comes to the major conclusion that neither on the national nor on the global level, credible estimates are available (Reuter (2007)). He admits that the aggregate annual figure globally is in the hundreds of billions of dollars, but whether that figure is a small number of only a few hundred billions or even a trillion is unknown according to his research. He states that the vagueness of such estimates is a result of both disagreements over how to conceptualize money laundering, as well as weaknesses in the techniques used to quantify it. As a consequence estimated changes in the volume of money laundering cannot be used as a measure to judge effectiveness of global anti-money laundering regime. He concludes that aggregate figures provide little value added for policy makers. He justifies his conclusion as follows: First, these aggregate findings conceal as much as they reveal. Second, the anti-money laundering control regime has been constructed not so much to reduce money laundering as to namely reduce income producing crimes, increase the integrity of the financial system and control corruption and terrorist financing. From this, he concludes that the volume of money laundry is more of a scientific interest than a useful outcome for counter measures. Moreover, he comes to the result that estimates of the underground economy are inherently weak in their own terms and even weaker as estimates of the volume of money laundry because so little is known about what share of proceeds, either legitimate or illegitimate, are processed in ways that are designed to conceal the origins. The attempt to estimate total earnings from each major class of illegal crime activities fails, because of a lack of systematic data systems for capturing the scale of each crime. To summarize, Peter Reuter is very sceptical of the aggregate estimates and on any attempt to estimate organized crime and money laundering, either for a single country or for the whole world.

On the other hand, Brigitte Unger (2007, 2006), quite strongly defends the research of John Walker, arguing that since the pioneer study of Walker (1994), it is possible to create a framework to measure money laundering per country and worldwide. Furthermore, she argues that Walker's model is a positive example for interdisciplinary work of criminology and economics. In her own work, Unger tries to justify the Walker model and tries to give a theoretical underpinning of the Walker model by using Tinbergen's old gravity model. The gravity model principally says that the export flows from country i to country j depend on the

concluded that for these coca producing countries, at least these analyses of the dimension of the shadow economies show premise for estimating and monitoring the value of illicit drug production.

⁷ Compare also Reuter (1985), Levi and Reuter (2006), Reuter and Truman (2004) and Reuter and Greenfield (2001).

GDP of both exporting and importing countries and the distance between them. She applies this approach to the Walker model; i.e. using the modern gravity approach, in which the attractiveness to launder money depends among other factors on the bank secrecy in countries, the government attitude against corruption and crime, etc. She admits that this model needs a better micro foundation, but she clearly argues that the original Tinbergen's *ad-hoc formular* was later on progressively micro-founded. Hence, Brigitte Unger provides a first theoretical basis of the Walker model, applies it and shows that she can reach plausible estimates of money laundering and organized crime⁸. Unger (Unger et al. (2006)) estimates the amount of money laundering in the Netherlands from 18 to 25 billion Euro (year 2004/05), which is approximately 5% of the Dutch GDP. The report of Unger et al. (2006) presents a list of 25 effects of money laundering on society, which are both positive and negative and have an effect in both the short and long term. This list includes effects on crime rates, economic growth, imports, exports, statistics, terrorism, the solvability and liquidity of the financial sector. Unger et al. come to the conclusion, after identifying all effects and reviewing the literature, that most literature on money laundering effects are pure speculation and furthermore, one source refers to the other sources, without much empirical solid backup.

How much illicit money in all its forms can be observed? Baker (2007) estimates the illicit money to range between US\$ 1.0 and 1.6 trillion a year. This estimate has been adopted by the World Bank. Moreover, Baker estimates that half – US\$ 500 to 800 a year – comes out of developing and transitional economies. These are countries that often have the weakest legal and administrative structures, the largest criminal gangs of drug dealers, and, far too often, economic and political elites who want to take their money out by any means possible. In table 2.1, the global flows from illicit activities worldwide are shown. In cross-border illicit financial flows, the proceeds of bribery and theft are the smallest, at only perhaps three percent of the global total. Criminally generated funds account for some 30 to 35 percent of the global total. Commercially tax evading money, driven in particular by abusive transfer pricing and faked transactions as well as mispricing is by far the largest component, at some 60 to 65 percent of the global total.

⁸ Compare especially the latest book of Brigitte Unger (2007), in which she gives an interdisciplinary overview of the state-of-the-art of money laundering, as well as describing the legal problems of defining and fighting money laundering. In her book, she presents a number of economic models and applies them to measure the size of money laundering in the Netherlands and Australia. Compare also the book of Masciandaro, Takats and Unger (2007), in which the authors first present the general principles of money laundering, then illustrate an institutional empirical framework that is useful in evaluating the causes and effects of money laundering in the banking and financial markets. The authors also analyze the design of national and international policies aimed to combating money laundering. Compare also Walker (1999).

Table 2.1: Global Flows from Illicit Activities worldwide, years 2000/2001

Global Flows	Low (US\$ bn)	%	High (US\$ bn)	%
Drugs	120	11%	200	12.5%
Counterfeit goods	80	7.5%	120	7.5%
Counterfeit currency	3	0.2%	3	0.2%
Human trafficking	12	1.1%	15	0.9%
Illegal arms trade	6	2.0%	10	0.6%
Smuggling	60	5.6%	100	6.3%
Racketeering	50	4.7%	100	6.3%
<i>Crime subtotal</i>	331	31.2%	549	34.3%
Mispricing	200	18.9%	250	15.6%
Abusive transfer pricing	300	28.3%	500	31.2%
Fake transactions	200	18.9%	250	15.6%
<i>Commercial subtotal</i>	700	66.0%	1,000	62.5%
<i>Corruption</i>	30	2.8%	50	5.1%
Grand Total	1,061	100.0%	1,599	100.0%

Source: Capitalism's Achilles Heel, Baker 2005. Based on a review of studies of transnational crime

Another author, who is quite critical about the existing estimates and procedures capturing the size and development of organized crime and money laundering, is Petrus C. Van Duyne⁹. Van Duyne's and his coworkers' work is in general very critical and ask the question about the state of our present knowledge about organized crime and/or money laundering, which can be dealt with in a very simple manner: There is no hard or proven knowledge of the size and development of money laundering or organized crime. Neither the FATF (Financial Action Task Force), the US Administration nor the FIU (Financial Intelligence Unit) have invested in converting the image of speculation into approaching scientific insight into the phenomenon of money laundering and organized crime (compare Van Duyne (2003)). Van Duyne argues that every member state portrays the laundering and organized crime phenomenon as a global means, but none has thought of a multi-country integrated strategic information management system (compare Van Duyne and Demiranda (2002) and Van Duyne et al. (2001)). The inherent lack of knowledge about money laundering is matched by

⁹ Compare Van Duyne (2006, 2007), Van Duyne and Levi (2005) and Van Duyne, Groinhuijsin and Schudelar (2005) and Van Duyne, Maljevec, van Dijck, von Lampe and Harvey (2007).

a lack of unity and transparency. Hence, this awareness has not been translated into any further action thus far. Van Duyne argues, albeit there is little empirical knowledge, one should at any rate agree on what money laundering is supposed to mean. However, as it is the case with the term organized crime, the substance of a collectively perceived phenomenon is often taken for granted. Is money laundering really as a clear phenomenon as legislators, jurists or economists, think it is? This is an important question, following the argument of Van Duyne, because if the phenomenon is ambiguously defined, one cannot determine the volume or extent of its financial threat. Apart from this uncertainty, there is still (politically) an experienced threat of the impact of the crime money. Additionally, Van Duyne criticizes that another issue, which concerns him a lot, is the big gap between the huge sums of crime money that are thought to exist, on the one hand (by scientific estimates) and the relatively much smaller sums that are actually traced, on the other hand. There may be two explanations: One is the quite predictable law enforcement explanation, which means that one does not trace much of the money and assets because the criminals are too smart, so one needs more tools, which ends also in more money, more personal, more research funds. Another, not implausible, explanation is that much of crime money remains homeless money and instead of threatening western societies, it keeps floating around. The financial stopping places are then the banks, which gain, while the *herds* of crime money are passed through them. Van Duyne argues that the fight against criminal money management, including money laundering or other organized crime, should be driven by the simple desire to achieve the restoration of justice. The offender should not retain the money or any other criminal advantage in the first place. To summarize, Van Duyne is very critical of the ways how to estimate the size and development of organized crime and money laundering, but also against the methods of the organizations like FATF or FIU work against organized crime.

In his study, Dobovsek (2007) analyses that those criminal organizations have moved in the past period to the economic sectors in order to strengthen economic power, but he is more and more able to recognize that pressure is moving on state politic through their networks. His analysis shows that persons committing organized crimes had moved into the second phase of development of criminal organizations into the sphere of economy. According to Dobovsek, it seems that they already have moved into a third phase – movements into politics. In this kind of meaning, the organized crime is appearing like the fifth branch of state authority, because it is influencing with great amount of money, corruption, networking and extortion, on state

economy and policy and that is why Dobovsek suggests that one should closely analyse how organized crime developed to find answers for the future.

According to Bunt (2007), Hawala bankers¹⁰ are financial service providers who carry out financial transactions without a license and therefore without government control. They accept cash, cheques or other valuable goods (diamonds, gold) at one location and pay a corresponding sum in cash or other remuneration at another location. Unlike official banks, hawala bankers disregard the legal obligations concerning the identification of clients, record keeping, and the disclosure of unusual transactions, to which these official financial institutions are subject. Despite the growing competition by formal remittance services, the use of hawala banking has probably not declined. According to a recent estimate by the IMF, (especially Asian) migrants transfer 100 billion dollars per annum to family members and relations in their country of origin through the official financial system. In addition, a similar amount of money is transferred in the form of goods, cash, and through underground bankers (IMF 2005). According to Bunt (2007), there are at least two different perspectives on hawala banking. From one point of view, hawala banking is regarded as a centuries-old institution which has not yet outlived its usefulness. Low-income workers and migrant workers in particular supposedly put more trust in hawala bankers than in formal banks. This viewpoint emphasizes the problem associated with subjecting hawala banking to the same rules as formal banks. Regulation either through registration or licensing is seen as ineffective because it will simply push the system farther underground, further complicating the already problematic task of controlling hawala transactions (Razavy 2005: 292; Perkel 2004: 210-211). From the opposite point of view, Bunt (2007) argues that hawala banking is described as ‘underground banking’, a system that flies under the radar of modern supervision of financial transactions. Underground banking is considered a threat to the effectiveness of anti-money laundering measures and the fight against terrorist financing. To prevent underground bankers from becoming a safe haven for criminals and terrorists, they should be subject to the standard regulations regarding record keeping, disclosure of unusual transactions and identification of clients.

¹⁰ Several traditional terms, like Hundi (India) and Fei-ch’ein (China) remind one of the fact that hawala banking sprang up independently in different parts of the world. At present, a range of other terms is used to refer to the same phenomenon, such as ‘informal banking’, ‘underground banking’, ‘ethnic banking’ or ‘informal value transfer system’.

What conclusions can be drawn from this short and selective literature review? First, we observe a wide range of estimations about the size of laundered money and of financial means of organized crime institutions. Second, it is quite often not clear what definition is used and how the estimations are achieved. Third, the studies should at least develop some theoretical reasoning and develop hypotheses about the size and development of financial means of organized crime.

3. Some further Evidence about Illegal (criminal) financial transactions and necessity of money laundering

Apart from the “official” economy there exists an “Underground Economy”, which characterizes an illegal economy including all sorts of criminal activities, which are in conflict with the legal system, e.g. like human trafficking or drug dealing. The worldwide turnover generated by criminal operations reached a size of 1.3 in 1998 to 2.1 trillion USD in 2003 and, of course, are the object for money laundering processes (see table 3.1). Some authors like Agarwal and Agarwal estimate even a higher figure from 2.0 to 2.5 billion US\$ in 2005.

As table 3.2 shows, in 2006 in Austria and in Germany turnover from criminal activities, which were laundered, are much smaller and reach a size of 903 million Euro and 7,903 million Euro, respectively; in 2004 nearly 28 Million EURO of “black” money was frozen by Austrian authorities.¹¹

A major characteristicum of organised crime is the tight and disciplined structure of the criminal organization in combination with criminal activities done on a large scale. In 2004 in Germany, for example, 620 investigations linked to organised crime were made; the total amount of the damages identified reached 759 Million Euro with estimated profits amounting to 1,337 million Euro, however, provisionally seized assets only added up to a total value of 68 Million Euro in the course of these investigations.¹²

¹¹ Compare BMI (2005).

¹² Compare BKA (2005, p. 14 and 16).

Table 3.1: Estimates of Money Laundering and/or Organized Crime Financial Volume

Origin/Study	Year	Volume (worldwide)
National Criminal Intelligence Service (NCIS; Washington D.C.; USA)	1998	1.3 trillion USD
	2001	1.9 trillion USD
	2003	2.1 trillion USD
UN-Estimates (New York; USA)	1994/ 1998	700 billion to 1 trillion USD
International Monetary Fund and Interpol (Washington D.C; USA)	1996	500 billion USD
Ilöd Takats (2007)	2005	600 – 1,500 billion USD
Raymond W. Baker (2007, 2005)	2002	1,000 – 1,600 billion USD
M. D. Agarwal and Aman Agarwal (2006)	2005	2,000 – 2,500 billion USD
M. D. Agarwal and Aman Agarwal (2004)	2002	500 – 1,000 billion USD
The Economist (London)	1997	400 billion USD
	2001	600 billion USD
Sam Kerry	1997	420 billion -1 trillion USD
Michael Schuster	1994	500-800 billion USD
John Walker	1998	2.85 trillion USD

Source: Own calculations and reference list.

Table 3.2: Estimation about “criminal” cash in Austria and Germany and facts about criminal activities¹⁾

	1994	1995	1996	2001	2002	2003	2004	2005	2006
Suspicious transaction reports under § 41/1 BWG Austria (cases)	346	310	309	288	215	236	349	417	502
Suspicious transaction reports pursuant to the Money Laundering Act Germany (cases)	2873	2759	3019	7284	8261	6602	8062	9126	9743
Sum of criminal cash flow Austria	189 Mio €	80 Mio €	102 Mio €	516 Mio €	619 Mio €	692 Mio €	735 Mio €	843 Mio €	903 Mio €²⁾
Sum of criminal cash flow Germany	3,590 Mio €	3,740 Mio €	4,120 Mio €	4,430 Mio €	4,957 Mio €	5,520 Mio €	6,177 Mio €	7,239 Mio €	7,903 Mio €
Sum of "frozen money" Austria	22 Mio €	27 Mio €	6 Mio €	32 Mio €	8 Mio €	2.2 Mio €	28 Mio €	99.3 Mio €	116,3 Mio €²⁾
Charges Austria (§165 StGB)	20	50	13	74	115	112	100	70	88
Charges Austria (§278a StGB)	34	27	19	89	132	131	159	165	172

¹⁾ Origin: Own calculations (indirect analysis on basis of estimates on shadow economy and class. criminal activities) and Siska, Josef, 1999; BMI, 2003 and 2006; FIU 2005 und 2006.

²⁾ Preliminary value

The areas and amount of organized crime in Middle-Europe is quantified following Siska (1999) and by own calculations (compare figure 3.1). The largest part of it is made of drug trafficking (30%), followed by the illegal trade of arms with 20 per cent as well as the “white collar” economic crimes, as shown in figure 3.1. In order to return the earnings generated by criminal activities into legal businesses, some kind of “transformations” or money laundering has to be done.



Opposite to these classical criminal activities, shadow economy activities contain the production of (in principle) legal goods and services with an value added for the official economy and where the illegality comes from avoiding taxes and social security payments and violating labour market regulations. Hence shadow economy (i.e. in principal legal activities, but with holding tax and social security payments, and violating other labour market regulations) and underground (crime) economy are quite different activities, which can not be summed up to one underground economy (typical crime activities, like burglary, drug dealing, etc.) because the latter usually produces no positive value added for an economy. This means, they can not be treated as a complement to the official GDP, whereas

to the traditional shadow economy can be seen as a complement to the official GDP, of course for both economies we have overlapping areas¹³.

4. Definition and stages of money laundering

Money laundering is necessary, because nearly all illegal (crime) transactions are done by cash, and because cash leaves no traces on information carriers like documents or bank sheets.¹⁴ An important role for money laundering is played by drug-trafficking, with total revenue of 500 to 1,000 billion USD equally to nine per cent of the worldwide trade.¹⁵ These immense sale volumes and profits of drug-trafficking need to be laundered: One million USD in 20 dollar-notes weighs approximately 55 kg; the same sum in five dollar-notes scales 220 kg.¹⁶ The UNDOC World Drug Report 2005 reports that during the observation period (2001-2003) about 200 million people, who correspond approximately to 5 per cent of the world's population, consumed drugs at least once. Therefore the extent of the illegal drug-market is enormous: "The value of the global illicit drug market for the year 2003 was estimated at USD 13 billion at the production level, at USD 94 billion at the wholesale level (taking seizures into account), and at USD 322 billion based on retail prices and taking seizures and other losses into account. Obviously, the size of the global illicit drug market is substantial. The value, measured at retail prices, is higher than the GDP of 88% of the countries in the world".¹⁷

4.1 (Legal) Definition of Money Laundering

The term „Money Laundering“ was again used in 1973 during the Watergate Scandal and therefore it has no original legal definition but a colloquial paraphrase describing the process of transforming illegal into legal assets.¹⁸ Based on US approaches a supranational definition of money laundering was created by the United Nations Convention on Drugs and an EU-council directive, which had to be converted into the national law of all Member States.

¹³ Schneider (2000, 2004, 2005), and Schneider, Dreher and Riegler (2006).

¹⁴ Compare Vanempten (1994, p. 24f), Masciandaro (2004).

¹⁵ Compare Bongard (2001, p. 55 and p. 181).

¹⁶ Compare Siska (1999, p. 28).

¹⁷ UNDOC (2005, p. 5 and p. 127).

¹⁸ Compare Ertl (2002, p. 8).

The council directive 91/308/EEC of June 1991 of money laundering is the following:

“...Money laundering` means the following conduct when committed intentionally:

- 1) the conversion or transfer of property, knowing that such property is derived from criminal activity or from an act of participation in such activity, for the purpose of concealing or disguising the illicit origin of the property or of assisting any person who is involved in the commission of such activity to evade the legal consequences of his action,
- 2) the concealment or disguise of the true nature, source, location, disposition, movement, rights with respect to, or ownership of property, knowing that such property is derived from criminal activity or from an act of participation in such activity,
- 3) the acquisition, possession or use of property, knowing, at the time of receipt, that such property was derived from criminal activity or from an act of participation in such activity,
- 4) participation in, association to commit, attempts to commit and aiding, abetting, facilitating and counselling the commission of any of the actions mentioned in the foregoing paragraphs.

Knowledge, intent or purpose required as an element of the abovementioned activities may be inferred from objective factual circumstances.

Money laundering shall be regarded as such even where the activities which generated the property to be laundered were perpetrated in the territory of another Member State or in that of a third country....”

Source: Council Directive 91/308/EEC of 10 June 1991 on prevention of the use of the financial system for the purpose of money laundering, Brussels.

4.1.1 Germany

Germany’s Criminal Code determines in § 261 punishments in case of money laundering:

*Anyone who hides, obscures the origin of, or prevents or jeopardizes the determination of the origin, the finding, the forfeiture, the confiscation or the seizure of an object which originated from a felony committed by another person or a misdemeanour committed by another person or by a member or criminal association shall be punished by a term of imprisonment of up to five years or by a fine.*¹⁹

¹⁹ English translation of Germany’s penal code. See <https://www.imolin.org/amlid/showLaw.do?law=6301&language=ENG&country=GER>

The object must be due from an illegal act of another person and both concealment and thwarting are punishable. However no punishment is possible if assets are disguised which have arisen from one's own crimes or offences. The statutory framework of a maximum penalty is an imprisonment of five years; in case of gang membership (or organized crime) or operation on a commercial basis an imprisonment up to ten years can be imposed.

4.1.2 Austria

In Austria the definition of money laundering or criminal code reads:

Anyone who conceals or disguises the origin of property that originate in the crime of another, particularly by giving false information, in legal proceedings, regarding the origin or true nature of those property items, the ownership or other rights to them, the power of disposition over them, their transfer or their whereabouts, shall be punished with imprisonment for a term of up to two years or with a monetary fine of up to 360 daily rates.²⁰

In Austria according to the existing law money laundry means the process of converting profits from criminal activities with the goal to hide their illegal origin. The intention of money laundering comes from all assets resulting from criminal activities, which explicitly contradict the legal code, among them for example terrorist organisations. However, a person can only be prosecuted who owns assets of another person which are due either from a crime or from offences that are enumerated in § 165 StGB, as for instance bribery, smuggling or falsification of documents. As a result there is no penalty for any kind of „white washing“ one's own criminal assets. In contrast to other legal systems there exists no separate money laundering law in Austria, criminal offence is regulated in the Austrian's penal code (StGB), in addition numerous obligations exist in the banking law (BWG), in the GeWO, the gambling law, etc.

4.2 Criminological characteristics of Money Laundering

All monetary assets (cash and book money (electronic bank transfers)) or their surrogates as well as non-monetary assets such as moveable goods and real estates, which are generated

²⁰ English translation of Austrian's penal code of 1993. See <https://www.imolin.org/amlid/showLaw.do?law=5951&language=ENG&country=AUS>

directly or indirectly from a criminal action (or are intended for the realization of such an activity), are considered as an object of money laundry. The intended purpose of the transformation is to wash illicit/criminal assets in a form of legal transferability. The proceeding is thereby characterised by a criminal intention to systematically transform, mix, transfer, convert and deceive the true origin or nature of incriminated objects.

4.3 The Steps of “Cash” Money Laundering

Money laundering takes basically place in the following three steps/stages:

In step one, illegal profits are placed (the placement), which means the physical infiltration of cash (coming from crime) into the financial system. In step two, this money is then converted into book money (primary and secondary deposit), which is finally followed by a layering process (stacking of illegal funds). These sophisticated steps (or “acts”) are used to hide the origin of the money by creating complex financing transactions between different states and piling up several layers of dealings. Reintegration and parking of this illegal money, which shows no connection to organised crime and is converted into visible asset, make up the third step through investments in a business, industrial enterprises, tourism projects, etc.

4.3.1 Step 1: “The Placement“

At the first initial step, termed “placement”, profits from criminal activities are infiltrated into a legal bank/economic system; at this stage there is an increased risk of being revealed or detected. The following two different methods are commonly used:

(1) Primary deposit

Using primary deposits one understands immediate placement of criminal revenues into a legal financial system without attracting attention of regulatory agencies. With the help of „structuring“ and „smurfing“ limiting amounts are undermined in order to avoid identification, obligations to report and documentation required. Besides, money is split up systematically in small partial amounts as to permit inpayment in several bank accounts below respective identification and declaration limits, e.g. in Austria these regulations don't apply to savings deposits up to a figure of 15,000 Euro.

Another method of placement tries to influence the control mechanisms of the institutes of the financial sector in terms of purchasing existing banks or starting-up new banks in offshore countries. („company havens“ or „bank havens“). Moreover, to bribe the bank employees, is a

commonly used (illegal) instrument to place criminal money: Thereby many attempts are made to bribe bank employees in order to allow a direct infiltration of criminal money without attracting attention of supervisory authority. Depositing criminal currency to bank accounts abroad provides another opportunity to enter the legal financial or economic system as well.

(2) Secondary deposit

Unlike the primary deposit of criminal money, secondary deposit is an indirect infiltration of money supply into the Bank system and thus a conversion into book money through interconnection of a natural or legal person. This happens by changing the financial institutions, e.g. incriminated money is converted into other assets via front men, who trade with an account of a third party, or by using other person's names in order to open an account or to open a company or to buy an insurance policy.

Indirect placement can also be accomplished by forwarding the displacement of the money laundering into life insurance companies, financial service providers and exchange offices. Currently such activities or "offers" are sent via email or quoted at homepages to occupy as a "financial agent", to provide (German or Austrian) banking accounts, which are used to remit illegal proceeds so as to veil transfer ways.²¹

A further technique to launder money is the setting-up of front companies, which in opposition to front men are corporate bodies, that infiltrate black money on their banking accounts and therewith into the financial system by means of feigned turnovers. This works only if such firms have a cash-intensive business (e.g. gastronomy, import-export companies, car trade, hotel sector, auctioneers and galleries). For example 25,000 customers of life insurances are under strong suspicion of laundering black money by single payments worth of one billion euro.²²

4.3.2 Step 2: „Layering“

In step 2, the so-called layering stage, criminals attempt to conceal the source of illegal income through a great deal of transactions by moving around black money. Transaction intensity and transaction speed are increased using multiple transfers and transactions, electronic payment systems plus diverging jurisdictions, and inefficient cooperation of criminal prosecution between countries often simplify/facilitate the layering processes as

²¹ See http://www.daserste.de/plusminus/beitrag_dyn~uid,7x6o6i1cla2hntlx~cm.asp

²² See <http://archiv.tagesspiegel.de/archiv/18.11.2005/2180342.asp>

well. A legitimization of capital transfer is thereby accomplished by over- and under invoicing at international commercial transactions, by charging fictive goods or services in form of winding up transactions or by back to back loan business. In this case money launderers lodge a certain amount of money to a banking account (or plausibly prove securities adequate at value on another bank) in order to subsequently retrieving the same sum as bank loan afresh/again. If so a money launderer raises his own capital and is though in possession of a proof of origin concerning the bank loan.

Quite common is also the misuse of financial derivatives and swaps by the same token occurring commonly among money launderers to cloud/hide the original derivation of criminal funds. Here two offshore companies, which are merely separate de jure but de facto controlled by just one person, arrange an option contract, by taking each either “long” or “short” position. The loss of one is compensated by the profit of the other. Financial volume of offshore-centres adds up to approximately 10-12 billion USD, furthermore it is assumed that annual growth amounts 15 per cent.²³

4.3.3 Step 3: “Integration”

In this third step infiltration of transformed and transferred capital into the official economy by means of financial investments (specific deposits, stocks) or property (direct investment in real estates and companies) is primarily completed in countries²⁴ promising high growth rates and little control.

4.4 Latest Developments in Money Laundering

New (mostly electronic) technologies in the area of payment transfers allow economic transactions without any restriction by legal and territorial barriers or by state controls. The following three are meanwhile known:

4.4.1 Electronic Purse („Prepaid Cards“, „Smart Cards“)

These smart cards, storing money electronically, seem appropriate to money laundering activities, especially the “white cards” since no account is necessary and loading as well as discharging are proceeded completely anonymously. Hence money laundering counter-

²³ Compare IMF (2002) and Schneider, Dreher and Riegler (2006).

²⁴ Riegler (2004, p. 41).

measures include limitations of the storable money, the transaction volume and the number of cards per person, additionally a card assignment to an authorised account is required.

4.4.2 „Online-Banking“

Online Banking designates world-wide financial transactions in the internet; money laundering at the same time can be prevented if orders carried out by the internet are depending on legitimised accounts.

4.4.3 „Cybermoney“

In the internet (“ecash”), unfortunately, the only possibility to identify virtual money is given when the change of real cash into virtual money by a cybermoney-emitter takes place. However this “handicap” is avoided by criminals through acquiring cyber-money emitters.²⁵ By paying with cybermoney there is no linking to an account, consequently no paper trail is left. The danger of malpractice is minimized if the usage of ecash services obligatory depends on an existing account relationship. Whereas FATF especially names the identification of customers as a major problem when using the internet for money laundering activities. All forms of payment transactions regarding new technology should therefore be carried out through legitimised accounts.²⁶

5. Quantification/Estimation of the Volume of Money Laundering

The estimation (as shown in table 3.1) of the volume of money laundering (size or the financial means of organized crime)²⁷ is an extremely difficult task, mainly due to the lack of adequate data, a problem which holds true not only for single countries but also on a worldwide basis. Hence, all existing estimations are afflicted with large errors (+/-20.0%) and can only be seen as preliminary scientific estimates or in some cases even “guesses”.

Apart from a first major difficulty of diverging definitions of the term „money laundering“ on the national and the international level a second one arises, as particularly the transaction-

²⁵ Compare Altenkirch (2002, p. 63ff).

²⁶ See <http://www.ex.ac.uk/~watupman/undergrad/ron/laundering.htm>

²⁷ Some results are shown in table 3.

intensive layering stage can lead exceedingly to potential double and multiple counting problems. Furthermore many estimates (or guestimates) quite often are made for specific areas (e.g. drug profits) or are based on figures that are wrongly quoted or misinterpreted or just invented without a scientific base!

5.1 Estimation methods

Generally one can make a distinction between direct and indirect methods of quantification:

Direct methods focus on recorded (“seized”/confiscated) statements of illegal payments from the public authorities and hence should provide – at first glance – a first rough estimate. However, to get an overall/total figure one has to estimate the much bigger (undetected/“Dunkelziffer”) volume, where quite often this turns out to be extremely difficult. Methods, which here are quite often used are the discrepancy analysis of international balance of payment accounts, or changes in cash stocks of national banks.²⁸

Indirect methods try to identify the volume and development over time of money laundering activities with the help of causes and indicators. First, the various causes (e.g. the different criminal activities, income distribution) and indicators (confiscated money, prosecuted persons, income per capita) are identified and second, an econometric estimation is undertaken. When choosing such econometric regression estimation technique, for example, the dependent variables is the drug supply (output evaluated at market prices) and the independent variables are drug selling prices, confiscation (drug volume), number of addicted people, intensity of punishment, etc. As already argued these are only partial results and the difficulty arises to get an overall figure and an estimate how much of these criminal turnover is used for laundering purposes.

5.2 The MIMIC Procedure

In the MIMIC estimation procedure the volume and development of money laundering or the financial amount of organized crime is treated as a latent (i.e. unobservable) variable. This estimation procedure uses various causes for more laundering (i.e. various criminal activities) and indicators (confiscated money, prosecuted, persons, etc.) to get an estimation of the latent variable, the volume of money laundering. One big difficulty using this method is that one gets only a relative estimated value of the size and development of the money laundering and

²⁸ Compare Riegler (2004, p. 65ff).

one has to use the absolute values of other estimations in order to transform/calibrate the relative values from the MIMIC estimation into absolute ones.

In this paper a first attempt is made, to undertake a MIMIC estimation of the amount of money laundering or profits from criminal activities for 20 OECD countries over the years 1994/95, 1997/98, 2000/2001, 2002/2003, 2003/04 and 2004/05. I derive the following three major hypotheses:

- (1) Theoretically I expect the more illegal (criminal) activities (e.g. dealing with drugs, illegal weapon selling, increase in domestic crimes, etc.), take place, the more money laundering activities will occur, *ceteris paribus*.
- (2) The more unequal the income distribution and the lower official GDP per capita is, the higher money laundering activities will be, *ceteris paribus*.
- (3) The better the legal system is functioning the less money will be laundered, *ceteris paribus*.

The results of the mimic estimation are shown in figure 5.1. From the nine causal variables six are statistically significant and the quantitatively most important coefficient is the one of criminal activities of illegal drug selling, which also has the highest statistical significance. It is followed by the estimated coefficient of criminal activities of illegal weapon sellings and then the one of criminal activities of illegal trade with human beings. A state which has a better functioning of a legal system, has a lower amount of money laundered or profits from criminal activities. The coefficient has the expected negative sign and is statistical significant. If domestic crime activities increase, the amount of money laundering increases. Again, the coefficient has the expected positive sign but is statistically just not significant. If a country has a very unequal income distribution, *ceteris paribus*, the amount of money laundering increases, but this coefficient is just at a 10% confidence level, statistically significant. If we turn to the indicator variables, the variable “confiscated” money has the expected positive sign and is highly statistically significant. Also the more people are prosecuted due to criminal records, the less money is laundered, hence the number of prosecuted person has the expected negative influence on the amount of money laundering. The test statistics of this MIMIC estimation are satisfactory. But it should be clearly said, that the data is quite erroneous, rather incomplete and the estimation is not robust.

In order to calculate the absolute values of the size of the shadow economies from these MIMIC estimation results, I use already available estimates of aggregated figures (shown in table 3.1) and with the help of these values, only aggregate results of the 20 OECD countries could be calculated for the years 1995 to 2006, the results are shown in table 5.1. Again, it should be explicitly mentioned, that these are very rough, preliminary calculations, and they show an increasing volume of laundered money over time. In the year 1995 the volume of money laundering or money laundering turnover had a size of 273 billions USD and this values increases to 603 billions USD in the year 2006. In principle, these are rough figures and as already mentioned with a large error, but the clearly show a strongly increasing trend over time.

Figure 5.1: MIMIC estimation of the amount of money laundering for 20 highly developed OECD countries over the periods 1994/95, 1997/98, 2000/2001, 2002/2003, 2003/04 and 2004/05.

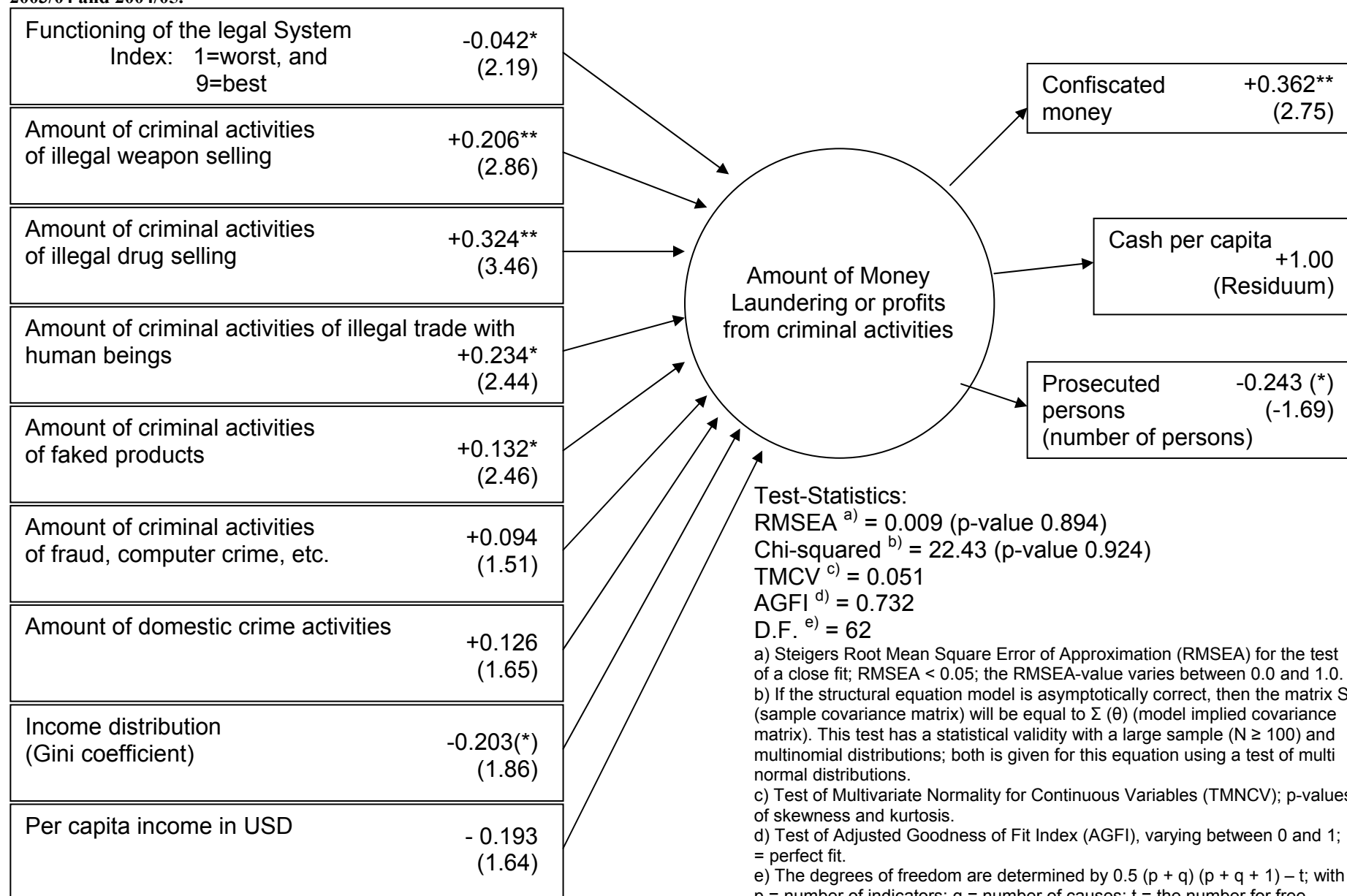


Table 5.1: Calculations of the Volume of Money Laundering of 20 OECD countries using the MIMIC Estimations

Year	Volume of money laundering (billion USD for 20 OECD countries)	20 OECD countries
1995	273	Australia, Austria, Belgium, Canada, Denmark, Germany, Finland, France, Greece, Great Britain, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Switzerland, Spain and USA.
1996	294	
1997	315	
1998	332	
1999	359	
2000	384	
2001	412	
2002	436	
2003	475	
2004	512	
2005	561	
2006	603	

Source: Own calculations, calibrated figures from the MIMIC estimations.

6. Summary and Conclusions

In this paper an attempt is made to review the applied literature of money laundering to define money laundering, to explain the money laundering stages and to tackle the quite difficult topic of estimating the volume of money laundering. The paper reaches the following three key results:

First, the necessity of money laundering is explained as since nearly all illegal (criminal) transactions are done by cash. Hence, this amount of cash from criminal activities must be laundered in order to have some “legal” profit, to do some investment or consumption in the legal world.

Second, after defining money laundering, and after explaining the three stages (steps), placement, layering and integration, the paper tries a quantification and estimation of the volume and development of money laundering activities. With the help of a MIMIC estimation procedure, the amount of money laundering and/or the profits from criminal activities are estimated using as causal variables various types of criminal activities, the functioning of the legal system, per capita income and income distribution and as indicators confiscated money, cash per capita and prosecuted persons.

Third, to get a figure of the extent and development of money laundering over time is even more difficult. This paper collects all available findings and tries to undertake some own

estimations with the help of a latent estimation procedure (MIMIC) and shows that organized money laundering has increased from 1995 273 billion USD to 603 billion USD in 2006 for 20 OECD countries (Australia, Austria, Belgium, Canada, Denmark, Germany, Finland, France, Greece, Great Britain, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Switzerland, Spain and the United States). On a worldwide bases in 2006 338 billion USD are estimated to be laundered coming only from the total drug (crime) business. These figures are very preliminary with a quite large error, but give a clear indication how important money laundering and the turnover of organized crime nowadays is. The sum of cash flow of all laundered money in Austria (Germany) was in 1994 189 million (3,590 million) and in 2006 903 million (7,903 million) Euro.

From these preliminary results I draw the following three conclusions:

- (1) Money laundering or the financial means of organized crime are extremely difficult to tackle. It's defined almost differently in every country, the measures taken against it are different and vary from country to country and it is not so all clear what really money laundering or the financial means of organized crime are.
- (2) To fight against money laundering or against the financial means of organized crime is also extremely difficult, as we have no efficient and powerful international organizations, which can effectively fight against organized crime and money laundering.
- (3) Hence, this paper should be seen as a first start/attempt in order to shed some light on the grey area of money laundering or the financial means of organized crime and to provide some better empirical bases.

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