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The (Hidden) Financial Flows of Terrorist and Transnational Crime Organizations: A Literature Review and Some Preliminary Empirical Results

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**The (Hidden) Financial Flows of Terrorist and Transnational Crime
Organizations:
A Literature Review and Some Preliminary Empirical Results***

by
Friedrich Schneider**
and
Raul Caruso***

Summary:

The financial means of international terror and transnational organized crime organizations are analyzed. First, some short remarks about the organization of international terror organizations are made. Second and in a much more detailed way a literature review is provided about the financing of terrorist and transnational organized crime organizations, their sources and the various methods they use. Third, an attempt is made to estimate the financial means of terror organizations with the help of a latent estimation approach (MIMIC procedure). The figures show that Al Qaeda and other terror organizations have sufficient financial means. Fourth, some remarks are made about the negative effects of terror on the economy in highly developed countries and some strategies are presented to combat (the financing) of terrorism.

Keywords: Financial flows of terrorist organizations, financial flows of transnational organized crime, Hawala banking, money laundering, transnational organized crime, terrorist organizations, kinds of terrorist financing.

JEL-Code: Classification: K42, H56, O17

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1. Introduction

Until 2009, the development of the world economy and globalization made enormous gains in economic well-being possible, but this development has always contained risks, too. One of them is (transnational) terrorism and the global number of terrorist attacks, which rose from 208 in 2003 to ca. 864 in 2008¹. The terrorist attacks on September 11, 2001 are an example of how extreme critics of globalization and of the western type of civilization fight violently against its economic advantages. The capacity of transnational organizations to generate world panic and cause intensive damage to a nation is an old and well known phenomenon. The anarchist movements at the end of the nineteenth century are a good example. For example, the late 1960s and 1970s were characterized by the rise of secular separatist and mostly left-wing terrorist groups, and since the early 1980s the emergence of *religiously motivated terrorism especially extreme Islamist movements dominated the terrorist scene*. In the latest years, transnational Terrorism has been returning to be a topic of growing interest for social scientists. First, drawing from Sandler et al. (1983) it is possible to espouse define terrorism as the “*premeditated, threatened or actual use of force or violence to attain a political goal through fear, coercion, or intimidation*”². Such a definition encompasses the four characteristics of terrorist activity as expounded by Shugart (2006), namely (i) the use of violence (or its threat) for political effect; (ii) a planned and calculated course of action; (iii) a boundless behavior outside the context of legitimate conduct of warfare; (iv) the effort to induce a disproportionate fear and feeling of insecurity among people, especially civilians³. In the case of terrorism, national and transnational (usually religious fundamentalist) Al Qaeda-style transnational terrorism (see also Sedgwick (2007)) has three basic additional features: (1) Almost unlimited operational range of religious terrorism (global theatre); (2) Global support base, with spontaneously emerging local cells; (3) Broad concept of the enemy without limitations – meaning there is no overarching goal (Islamist global domination) but ‘only’ a common enemy (usually the USA and / or the highly developed Western world). In fact, the emergence transnational Islamist terrorism, has been also widely defined as ‘Global Jihadism’ or ‘Al Qaedism’. In several countries, new terrorist groups have been emerging in the latest years. These groups may have or may have not been formally created by al-Qaeda but they have espoused al-Qaeda’s vision and strategy⁴. In some cases, would-be terrorists have been also effectively defined ‘self starters’, i.e. groups perpetrating terrorist attacks on their own initiative (Kirby, 2007). This kind of phenomenon has been occurring in the last few years, thanks to the peculiar organization of Al Qaeda which had been defined as a ‘network’ or a ‘movement’, in order to highlight the nature of an entity less structured than traditional terrorist organisations. Caruso and Schneider

¹ On the emergence of transnational terrorism, its financing and consequences for the economy see: Schneider (2004), Freytag et.al. (2009), Intriligator (2010), Lai (2007), Krueger and Malecková (2003), Addison und Murshed (2005), Kurrild-Klitgaard, P., Justensen, M.K., Klemmensen, R. (2006), Cowen (2006), Sandler and Enders (2002, 2004, 2006), Li and Schaub (2004), Tavares (2004), Brück (2004), Alexander and Alexander (2002), as well as Schneider, Brück and Meierriecks (2010).

² Sandler et al. (1983), p.37.

³ The four characteristics have been recognized by scholars as the fundamental components of terrorism. On the debate to define and conceptualize terrorism see Weinberg et al. (2004) and Schmid (2004).

⁴ See among others Rabasa et al. (2006) and Napoleoni (2005).

(2010) provide both a descriptive analysis and an empirical study on groups of transnational Islamist groups.

The ultimate goal of Al-Qaeda and its affiliates appears to be the defeat of Western civilization; to unleash a 'Global Jihad'. In fact, as noted above, Al-Qaeda is 'only' a brand with an extremely shallow hierarchy. Instead of being an organization it is rather a 'virtual business corporation'; its slogan is that 'dying is more important than killing' and 'mass murder becomes a sacred act', meaning that there are no limits to the choice of means. After the September 11, other attacks in Bali, Tunis, Istanbul, Madrid, London, Sharm el Sheikh among others have shown the global spread of the international conglomerate of Islamist terrorism. Some recurring features have been uncovered in literature: (i) a country with a free press allows that the news of a terrorist attack will immediately be spread worldwide. (ii) a location that is globally known and at which many important economic, political and religious institutions can be severely hampered by terrorist attacks (tourism, stock exchange, economic life, religious institutions). (iii) The possibility to cause maximum damage within a short time-frame

The craft of international Islamist terrorism is a modern form of terrorism, a mixture of Jihad and cynical calculations, aiming at demolishing open democracies and the Western way of life through terrorist attacks. This form of terrorism develops in the mind of a handful of analyzers and is then implemented by a couple of well-trained terrorists who were probably continuously instructed by their 'mastermind'. Of course they were ready to put their lives on the line. Their own martyrdom is not the crowning finale, but the execution as such, and the assurance of gaining the world's attention. It is obvious that the war of Islamistic terror is wearing on, and that those Al-Qaeda (and other terrorist organizations), who have lasting political, logistic and financial support can always cause shock and awe on a global scale. This approach of world-wide terror attacks perpetrated in an unpredictable pattern is pursued with the intention of spreading a permanent feeling of a state-of-emergency, which leads to increased distrust between different countries, regions and power blocks and restrains the freedom, democracy and pluralism of the Western lifestyle.

The emergence of transnational terrorism also poses to both social scientists and security practitioners the question on how is terrorism and organized crime financed, and what do we know about this financing. In fact, the very fabric of transnational terror is underpinned by complex financial sources and linkages. Moreover, in this respect, there is a growing evidence on the complex relationship between transnational terrorism and transnational organized crime. Since the mid-1970 the size of the legal international financial flows has grown to hundreds of billions of dollars a day. The same international financial system that allows commerce to flow freely between nations also provides terrorists with a way to move money around the globe within seconds. Transnational terrorism and organized crime have become a global problem, and therefore the effort to disrupt its financing ought to extend beyond borders in order to block the money wherever it is hidden and track it down wherever it moves.

The main focus of this paper lies on providing a much more detailed answer on the financing of terrorism and organized crime.

In this line a detailed analysis of the finances of terrorist and of organized crime organizations is crucial to fight terrorism by reducing their financial possibilities, so that the basis of their operations is at least limited. Such an analysis is the main goal of this paper. Chapter 2 provides an extensive literature review at about the kinds of terrorist

and organized crime financing. In chapter 3 an estimation of the amount of financial flows of Islamic terrorist organization is undertaken. In chapter 4 some implications and damages of transnational terrorism are shortly presented, and finally in chapter 5 some policy conclusions are drawn.

2. Variety and diversity in terrorist financing: A Preliminary Literature Review

The literature review is supposed to meet the two objectives: to widen the knowledge of this subject and the understanding of the main issues under debate and to focus on the literature closely related to the research topic. The body of literature on terrorist and organized crime financing, and their mechanisms is diverse and quite often very descriptive, hence here only some and important contributions are summarized, of course this selection is subjective, but - to the best of our knowledge - most areas are covered.

Needless to say, The recent literature is influenced quite heavily by Al-Qaeda's attacks in the U.S. in September 11, 2001. The case of Al Qaeda and Islamist terrorist groups is also peculiar to some extent. In fact, in this case of Bin Laden and Al-Qaeda, their economic and financial empire constitute a transnational financial engine, a considerable section of which is composed of legitimate businesses as already stated by Schneider (2002a, 2002b, 2004); Napoleoni (2005) and Comras (2005, 2007). Al-Qaeda is a terrorist network with international linkages that have been generally focused on a number of theatres of operation (sometimes in different countries), where they have managed to have money available. Their operations have been driven by a particular cause. Funding is generally specific, derived from sympathetic supporters, and especially from major crime activities. Contributions in the diaspora and monies from political and religious sympathizers have been important, too.

The high flow of funds to terrorists was substantial during the cold war ⁵ and scholars explain these flows as stemming from oil-rich regimes that began to pump large sums of money into the terrorist financial system (e.g. Libya in the 1970s and Iran under Ayatollah Khomeini, beginning in the 1980s).

Hereafter we present some channels of funding for terrorist organizations with related sources in literature. As noted above, the body of literature on terrorist and organized crime financing, and their mechanisms is diverse and quite often very descriptive. Here only some and important contributions are summarized, of course this selection is subjective, but - to the best of our knowledge - most areas are covered. To summarise in advance, the section is split in two sub-sections: first the legitimate sources of funding are analyzed. Eventually, the illegal Sources of Terrorist Financing are presented. In this respect, some illicit businesses appear to be the field of overlapping and interaction between terrorists and organized crime syndicates. As point out above, this is not a novelty. IN fact, many of the terrorist groups of the Marxist-Leninist type of the 1960s and 1970s relied on various criminal activities – particularly kidnapping, bank

⁵ See, US.(1996). Patterns of Global Terrorism 1996 <http://www.state.gov/www/global/terrorism/1996Report/overview.html>. The United States actively promotes international cooperation in condemning state sponsorship of terrorism and in bringing maximum pressure to bear against state sponsors. The Secretary of State has designated seven countries as state sponsors of terrorism: Cuba, Iran, Iraq, Libya, North Korea, Sudan, and Syria.

robberies, and extortion – to supplement their funding. Other organizations including FARC in Colombia and Shining Path in Peru financed their activities through drug trafficking (compare Yepes (2008)).

2.1 Legitimate Sources of Terrorist Financing

Not all the financing received by terrorist comes from illegal activities. Yepes (2008) argues, that the legitimate financing is related to completely legal activities conducted by charities, diaspora, and firms. The 9/11 commission pointed out a core number of financial facilitators involved in raising, moving, and storing the money Al Qaeda used – from donors primarily in the Gulf Region but also from other countries around the world. According to Comras (2007) these groups used legitimate charities and businesses as covers to develop a substantial financial network.

(1) State Sponsors

According to Yepes (2008) Afghanistan and Sudan have been sponsoring terrorist groups, e.g. it has been proven that the majority of companies and banks used by Bin Laden were located in Khartoum (Sudan) such as Faisal Islamic Bank, Ladin International, Taba investment Co. Ltd, Al Themar Al Mubarak, Al Qudarat, Islamic Bank Al Shama. According to Yepes (2008) Al-Qaeda's controlled companies in Africa included the holding company Wasi al AQUq, a Sudanese construction firm, Al-Hiraj, an ostrich farm, and shrimp boats in Kenya. In the Middle East, the group has shares in the Al-Shamal Islamic Bank and large tracks of forest in Turkey; in Asia, it has agricultural holdings in Tajikistan; in Europe and the United States, holding companies, venture capital firms, banks, and import-export companies.⁶ Further, the importance of the Al-Qaeda network in terms of correspondent banking can be seen by examining the case of the Al Shamal Islamic Bank in Khartoum, in which foreign currency accounts were set up at Al Shamal for a number of the companies belonging to Bin Laden. Shamal's correspondent banking relationships were with a variety of reputable banks such as CityBank and others, which is why Al-Qaeda was able to move money rapidly and without impediments around the world.

(2) Private (Individual and Corporate) Donors

Kohlmann (2006) and Simpson (2007a, 2007b, p.10) conclude, that among the most important cases of the private donors involved in terrorist financing, is Mr. Al Rajhi and his family members, "they have been major donors to Islamic charities that are suspected by Western intelligence agencies of funding terrorism, according to CIA reports and federal-court filing by the US Justice Department. An endowment holding much of Saleh Al Rajhi's wealth gives and indication of the scale. His Web site details nearly USD 50 Mio. in direct donations within the kingdom to Islamic causes and at least USD 12 Mio. in donations abroad. The overseas money went to aid embattle Muslims in Kosovo Chechnya and the Palestinian territories and to finance Islamic instruction". According to Simpson (2007b), the U.S. Justice Department is investigating possible criminal tax-law violations by a Boston private-equity firm that manages hundreds of millions of dollars for Muslim investors in Europe and the Middle East and is affiliated with a Swiss investment group that U.S. authorities suspect of

⁶ These „facts“ are taken from *Shahar, Y. (2001). Tracing Bin Laden's money. www.ict.org; and Mintz, J. (1998). Bin Laden's Finances are Moving Target. The Washington Post.*

financing Islamic extremists. Some private corporate donors have been cited in Morigi (2004), and furthermore, Fried et al. (1975) concludes that private individual and corporate donors could be related to those individuals or enterprises that recycled Petrodollars in 1974.

(3) *Ethnic Communities and Religious Financing*

According to Comras (2007) the factor explaining religious financing consists in a “Coranic Tax”, explaining the support offered by from the richest to the poorest, and it is obligatory to pay this within the Islamic community. Charity forms a very important part of Muslim law an tradition. Furthermore Comras (2007) argues, that Al Qaeda took advantage of it to solicit funds through collection boxes at mosques and Islamic centres. Similarly Napoleoni (2005, p.22) argues that the Mosque Network seems to provide financial support for the Jihad. He writes: “The Mosque Network is as efficient as ever and continues to be the main vehicle through which Islamist organizations, countries, state-shells, armed groups and their sponsors link up and do business with each other”.

(4) *Charities*

Donations to NGOs and charities are perfectly legal in most countries, but the problem arises when some objectives of a NGO are not legal or are linked to a diversion of some of the funds legally received for illegal activities. Kohlmann (2006) and Raphaeli (2003) have highlighted how terrorist organizations have resorted to a variety of charitable as well as front and fraudulent organizations to mobilize financial resources for terrorists to carry out their actions. Raphaeli demonstrates the linkage between charity and terrorism in the case of Enaam Arnaout. Arnaout served in the office of an organization known as Maktab al Khidamat, run principally by Sheikh Abdullah Azzam and Osama bin Laden, for the purpose of providing logistical support to the Mujahideen (holy warriors) who were fighting the Soviet Union in Afghanistan. Croissant and Barlow (2007) reported in details the role of several charities in south east asia which were linked to the brother-in-law of Bin Laden, Mohammed Jamal Khalifa. In particular, Khalifa directed a Saudia Arabian charity known as International Islamic Relief Organization (IIRO). Intelligence reports indicate that IIRO was used to support local terrorist operations throughout Southeast Asia. In addition, Khalifa also established a charity labeled as the International Relations and Information Center (IRIC). According to Abuza (2008), although most operations of Islamic charities in south Asia go to legitimate social work, it is undeniable that much of the Jemaah Islamiyah’s funding comes from charities. In particular, an estimated 15 to 20 percent of Islamic charity funds in Indonesia are diverted to Islamist activities.

However, the role of charities cannot be completely disentangled from other phenomena of state-support. In this respect, it must be underlined the role of the Muslim World League founded by Saudi Arabia in 1962 in order to support the propagation of Wahhabi version of Islam. According to Looney (2006), MWL supported institutions outside of Saudi Arabia, especially in Afghanistan, Pakistan, Southeast Asia and the Middle East. In this context, Saudi public and private support has been estimated at over \$75 billion during the last four decades. Many experts have drawn a link between this monetary effort whose ultimate goal was the spread of Wahhabi Islam and the rise in appeal of al Qaeda throughout the Muslim world. This point is also stressed in Levitt (2002) and Basile (2004). The latter, in particular, also highlights the role of other two

long-lasting charities as the Benevolence International Foundation, and the Qatar Charitable Society (QCS).

(5) Legal Business

In many cases, terrorist groups establish legitimate businesses which server both to cover illegal activities or to provide employment for their members. First, the truly transnational financial engine of the Al Qaeda terrorist group and its sympathizers continue to raise money through their own business activities. The legal business support to terrorist activities are noted by Napoleoni (2005), Ehrenfeld R., (2007), Gunaratna (2003), Schneider (2004, 2008a, 2008b), Millard (2006) and Comras (2007). Following Napoleoni (2005) and Mintz (1998) the Al-Qaeda group consists of the following companies among others: In Africa, a holding company, Wadi al Aqiq, a Sudanese construction firm, Al Hiraj, an ostrich farm and shrimp boats in Kenya; in the Middle East shares in the As-Shamil Islamic Bank and large tracks of forest in Turkey; agricultural holdings in Tajikistan in Europe and the United States, holding companies, venture capital firms, banks and import-export companies⁷. The use of networks of companies and shell companies, shell bank, and offshore trusts to raise money, hide assets, and protect their identity of other financial contributors. Further, the importance of the Al-Qaeda network in terms of correspondent banking can be seen by examining the case of the Al Shamal Islamic Bank in Khartoum, in which foreign currency accounts were set up at Al Shamal for a number of the companies belonging to Bin Laden. Shamal's correspondent banking relationships were with a variety of reputable banks such as CityBank and others, which is why Al-Qaeda was able to move money rapidly and without impediments around the world. Further, the portfolio includes real estate in London, Paris and French Riviera; dairy business in Denmark; wood and paper industries in Norway; and hospital equipment in Sweden. Some scholars like Comras (2007) paid attention to the use of trusts by terrorists groups. Raphaeli (2003) reports the 3.7 USD million investment in New Jersey undertaken by an investment company known as BMI. One of the biggest investors in BMI was Yasin al-Qadi, a Saudi businessman from Jeddah considered by US authorities as a leading member of a global network that finances both Islamic good work and terrorism.. Another major investor was one of the leaders of Hamas, Moussa abu Marzuq. The government argued that the money transferred to BMI was used to finance terrorist organizations.

2.2 The Illegal Sources of Terrorist Financing

(1) Drug Trafficking

A fundamental source of funding for terrorist groups is undoubtedly the narcotic industry. In particular as pointed out by Makarenko (2003a) illicit drug trafficking had always been the most common criminal activity terrorist groups have been involved in. Since the 1970s groups such as FARC, Basque Fatherland and Liberty (Euzkadi Ta Askatasuna – ETA), the Kurdistan Workers Party (Partiya Karkaren Kurdistan – PKK) and Sendero Luminoso have all been involved in drug trafficking by well-documented evidence. This is nowadays also the case of Islamist groups. According to Yepes (2008) in May 2002 a report called “Global Overview of Narcotics-Funded Terrorist and Other

⁷ These „facts“ are taken from *Shahar, Y. (2001). Tracing Bin Laden's money. www.ict.org; and Mintz, J. (1998). Bin Laden's Finances are Moving Target. The Washington Post.*

extremist groups” was launched, prepared by the Federal Research Division of the Library of Congress and the US Department of Defence. The report examined connections between extremist groups and narcotics trafficking in the following regions of Latin America: Triborder Region (Argentina, Brazil, and Paraguay), Colombia, and Peru; in the Middle East: Lebanon, in Southern Europe (Albania and Macedonia); in Central Asia: Kyrgyzstan, Tajikistan, and Uzbekistan and in East Asia: The Philippines. The recent account by Peters (2009) documented in details the strong ties between drug-trafficking and Al Qaeda in Afghanistan and Pakistan. Paoli et al. (2007), also documented a detailed report on opium and heroin trafficking in Tajikistan. According to Hardouin and Weichhardt (2006), the Islamic Movement of Uzbekistan (IMU), has reportedly profited from the drugs smuggling out of Afghanistan and trafficking through Central Asia to both Russia and Europe. In brief, several Islamist groups in central asia have strong ties and involvement with drug trafficking (Cornell, 2005, 2006).

(2) Oil Smuggling

According to Johnson (2001) and Napoleoni (2005) another business is oil smuggling, where terror, criminal, and legitimate economies interact. Countries, where oil smuggling is a significant problem are Thailand, China, Russia, Cambodia, Iran and Tanzania. In all these countries oil smuggling earn for themselves significant profits, a substantial portion of which enters the laundering cycle. Oil smuggling is also related to arms trade.

(3) Arms / Diamonds Trafficking

Besides drugs trafficking according to Levi and Gilmore (2002), Schneider (2004, 2008a, 2008b, 2009) and Yepes (2008) arms trafficking, and illegal diamonds trade are some of the most important illegal sources of funding of terrorist groups. Raphaeli (2003) reports the activity of some Al Qaeda operatives based in Liberia in gem business in Africa. Passas and Jones (2006), highlight the role of commodities in the financing of terrorist groups by covering many areas of legal and illicit trade, foremost among these diamonds. Even the linkage between Al Qaeda and illicit diamond market is analyzed. In particular, in recent years some journalistic inquiries uncovered the links between al-Qaeda and the illicit trade in so-called "blood diamonds" bought from rebel groups in Africa⁸. Hübschle A., (2007), reports also about Al Qaeda interest in Tanzania.

The illicit arms trade demonstrates how comparatively easy it is to obtain false documentation accompanying arms shipments, especially end-user certificates. Inconsistent documentation requirements between states, and inefficient control in customs and port authorities in many states, have created an environment in which the illicit arms trade does not need to rely entirely on criminal activities:

- (1) When a state is involved in supplying arms to an embargoed state, payments often come in the form of commercial payments, such as an “oil for arms” deals to avoid bank involvement.
- (2) When an arms broker supplies an embargoed state of an insurgent/terrorist group, banks are often used because shipments are usually paid for in the form of letters of

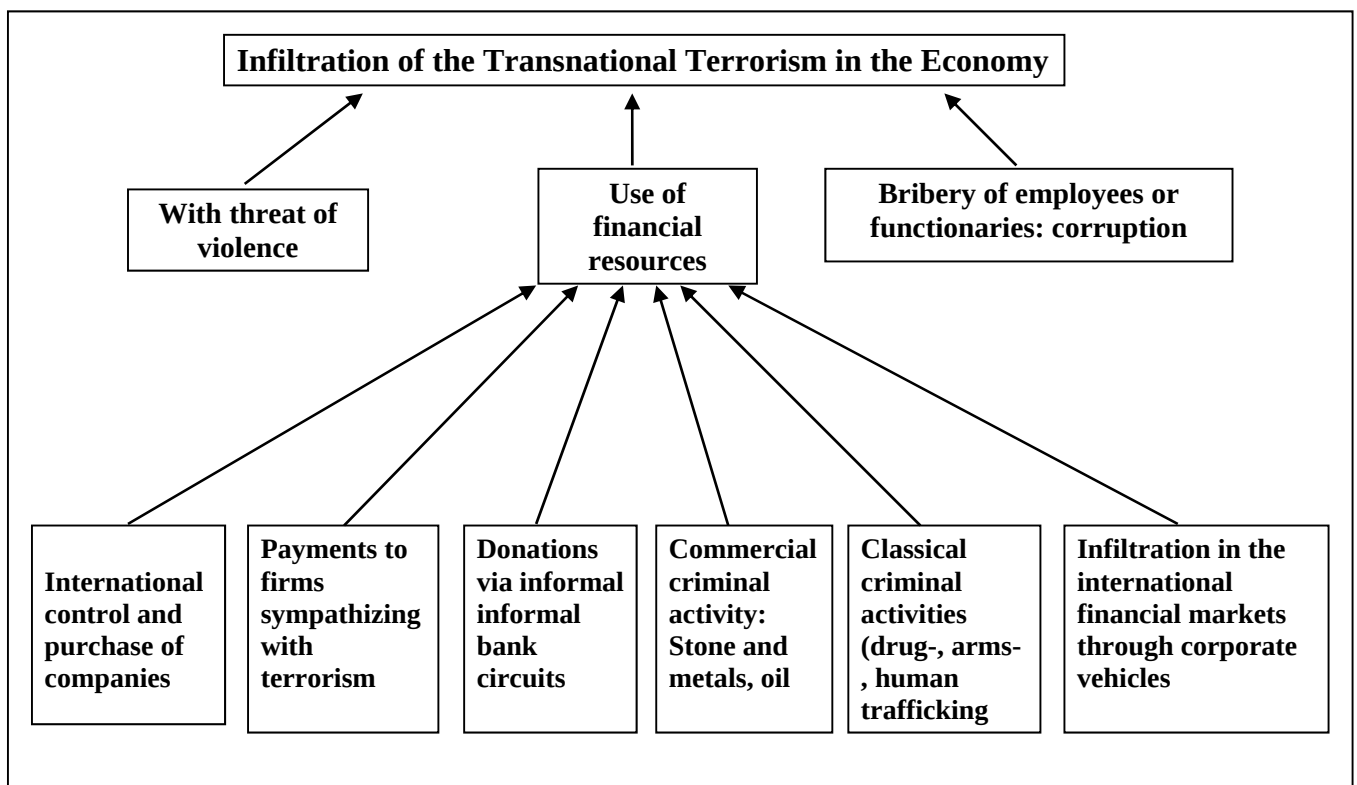
⁸ See the account by Lucy Jones on BBC news website <http://news.bbc.co.uk/2/hi/2775763.stm>

credit of by the direct transfer of hard-currency funds. In this case, money laundering becomes an important factor to ensure that the final arms destination is disguised. It is at this point that offshore banks play an important role because their facilities can ensure that any deposit or transfer is routed via several intermediary institutions; and deposits or transfers can be conducted in the name of a series of shell companies. Both of these techniques are used to hide the financial trail behind multiple administrative layers.

- (3) In situations where access to normal banking channels is very difficult (for example, as with most non-state actors), the financing of arms deals often takes a different form, most often through commodity exchanges. According to Smillie et al (2000), illicit arms transfers to Liberia and Sierra Leone were often financed with diamonds and timber concessions.

In figure 2.1 the various channels of the infiltration of the transnational terrorist groups are summarized. Figure 2.1 concentrates on the use of financial resources and clearly demonstrates that the financial means / flows stand on 5 pillars ranking from donations to criminal activities.

Figure 2.1: Infiltration of the Transnational Terrorism in the Economy



Source: Yepes (2008, p. 56)

2.3 The Informal Money Transfer (Hawala) System

Especially during the 1990s, international concern grew over the “underground banking” and its abuse by serious offenders. Some academic works by Williams (2007), Passas (2003), and El-Quorchi (2003) have explained how informal systems operate, including their risks. The Informal Value Transfers Systems (IVTS) changes from region to region (Hawala or door-to door). Some scholars (Williams (2007), El-Quorchi (2003)) argue that hawala is vulnerable to criminal abuse, and like the other financial institutions, there is evidence that money derived from drug trafficking, illegal arms sales, body part trade, corruption, tax evasion, and all kinds of fraud have indeed moved through Hawala networks.

Hawala banking still takes place up to now and there is some of literature (Passas (2005), Bunt (2007)) about the Hawala banking system, where these authors point to the need for a regulation of the Hawala system. As argued, another way to transfer criminal financial flows is the Hawala banking. According to Bunt (2007), Hawala bankers⁹ 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 obligations concerning the identification of clients, record keeping, and the disclosure of unusual transactions, to which these official financial institutions are subject.

To sum up, through the Hawala system that forms an integral part of the informal black market economy, underground bankers ensure the transfer of money without having to move it physically or electronically. When a payment needs to be made overseas, the underground banker will get in touch with a courier (or more recently using email, fax or phone) in that country informing him of the details of making the payment. If the recipient of the payment wishes to personally obtain the money, a code referring to the underground banker in the country of payment is given to the recipient. Such a system is almost untraceable since it leaves little if any paper trail. Transaction records are, if they are kept at all, being kept only until the money is delivered, at which time they are destroyed. Even when there is a paper or electronic record of sorts it is often in dialects and languages that serve as de facto encryption system.

To our knowledge there is no comprehensive study on the global flows of money related to Hawala system. Wilson (2002) reports the difficulty to produce a quantitative assessment of Hawala transfers. In order to capture the magnitude of the phenomenon, it is necessary to refer to different sources. Table 2.1 below gathers some studies and the guessestimates and estimates are presented. According to Fischer (2002, p.17) the annual turnover of the Hawala banking system in the early 70ties was already 60 billion USD in the Arabic countries; e.g. six million foreign labourers in Saudi Arabia, who are sending home 40 billion USD a year home, make substantial use of the “ethnic” Hawala system. Fletcher and Baldrin (2002, p. 119) estimate with regard to Pakistan that 2.5 billion USD inherit the country in remittances via the Hawala system in 2001; the amount of money in India’s Hindi system was 50 billion USD in 1971. Despite the

⁹ Several traditional terms, like Hundi (India) and Fei-ch’ein (China) remind one of the fact that hawala banking came 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’.

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). In Somalia the estimate is between 500 millions and 1 billion in USD, (Viles, 2008). In Afghanistan, in the city of Herat, the total funds processed by Hawaladars is about 2.3 millions USD per month, 0.7 millions directly linked to the drug trade and US\$ 1.3 million attributed to trade in legitimate goods. (Thompson, 2007).

Table 2.1 . Hawala: Guessestimates and Estimates			
Author/Source	country/area	year/period	estimated amount of informal money flows
Thompson (2007)	Afghanistan, city of Herat	unknown	2.3 million USD per month
Fischer (2002)	Saudi Arabia	unknown	40 billion USE per year
Fletcher and Baldrin (2002)	Pakistan	2001	2.5 billion USD
Viles (2008),	Somalia		0.5-1 billion, USD
Page and Plaza (2006)	global	2004	57.53 billion USD
Omer (2004)	Somalia		
Omer and El Koury (2004)	Somalia	2004	0.7-1 billion USD per year
Syed Manzar Abbas Zaidi (2010)	Pakistan	unknown	2.5-3 billion USD per year
ICG (2002)	Pakistan and Afghanistan	unknown	2-5 billion USD per year
Jessee (2006)	Pakistan	unknown	2-3 billions USD per year

According to Bunt (2007), there are at least two different perspectives on Hawala banking. From the first 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 further into the underground, further complicating the already problematic task of controlling Hawala transactions (Razavy (2005), p.292; Perkel (2004), p.210-211)). Hence, Hawala banking might be the closest thing of a free market banking, without government regulation and it functioned well for centuries. One should clearly emphasize these advantages of Hawala banking when criticizing it. 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 clients¹⁰.

3. Terrorist Financing and Money laundering

In general it is very difficult to identify trends in the Money Laundering/ Terrorist Financing (ML/TF) area, because the activity of ML/TF cannot be neither observed nor recorded in statistics¹¹. Intelligence, law enforcement investigations, and criminal prosecution try to identify trends in connection with ML/TF. According to the Money Laundering and Terrorist Financing Typologies (FATF-GAFI 2005), the ML/TF activity could be classified by:

- (i) predicate or other related offence,
- (ii) country or region,
- (iii) financial sector involved,
- (iv) development stage of the financial market, and
- (v) weak points or vulnerabilities in AML/CFT system.

The 9/11 terrorists took advantage of the lack of a financial system control, which gave them the ability to transmit and receive money with relative anonymity and to find the financial resources to carry out their plans of Al-Qaeda inspired groups and other terrorist organizations. The terrorist financing mechanisms that have emerged since September 2001 are characterized according to Geraldo et al (2007), p. 11) by “*the use of formal and informal global financial system that terrorists can easily manipulate.*” According to the evolution of terrorist financing explained above, it has been argued by Giraldo et al. (2007) and in the Wilton Park Report (2007) that the intelligence process to fight against terrorist financing should combine expertise from different fields to detect the various indicators and trends. The experts according the Wilton Park Conference point out that the current indicators and trends of terrorist financing are the important challenges that face international cooperation. The following list sums up the constraints presented by intelligence agencies to follow the money trail:

- (1) The need for examining financial transactions will oblige national security intelligence personnel and law enforcement agents to deal with accountants and banking and financial experts if they want to follow the money trail.
- (2) Recognizing that it is necessary to analyze the suspicious activities reports collected as well as to share this information between Financial Intelligence Units of the various countries.
- (3) Information should be disseminated at a local level because terrorist organizations are engaged in organized crime networks.

¹⁰ Compare also Richard (2005) and Rider (2004).

¹¹ Compare here Bierstecker (2002), Costa (2005), Pieth (2005) and Schneider (2008a, 2008b).

- (1) The intelligence process against terrorist financing requires the cooperation of governments, and that of the multilateral institutions dealing with financial integrity and transnational intelligence.

3.1 Some Common Aspects of Transnational Crime and Terrorist Groups Financing

Similarities between transnational crime and terrorist groups are fully described by Schneider (2008a, 2008b, 2009), Sanderson (2004); Gilmore (2004), Shelley (2005); Wilkinson (2005); Makarenko (2002, 2003a, 2003b, 2003c), Bovenkerk and Abou Chakra (2004), Bell (2003) and Koh (2006). They are:

- (1) Both are generally rational actors,
- (2) both use extreme violence and the threat of reprisals,
- (3) both use kidnappings, assassinations, and extortion,
- (4) both operate secretly, though at times publicly in friendly territory, and
- (5) both defy the state and the rule of law (except when there is state sponsorship).

According to Masciandaro (2004, 2005, 2006), Picarelli (2006), Shelly (2007) and Yepes (2008) the issues of transnational crime, money laundering, and the financing of terrorism have the following common aspects:

- (1) They can use wire transfers or electronic payment systems to move money through multiple jurisdictions.
- (2) They engage in a variety of criminal activities like traffickers and other criminal syndicates. However, the line is now becoming less defined, since terrorists often resort to crime and cooperate with criminals in generating money, obtaining arms and explosives. According to Makarenko (2003a, 2003b) criminals are likely to use terrorism tactics and random violence in pursuits of revenues:
 - (i) Drug, arms and human trafficking¹², trading in precious stones (diamonds) and other commodities,
 - (ii) smuggled cash, cigarettes, and other addictive goods,
 - (iii) counterfeit goods, and
 - (iv) kidnapping.

Both groups benefit from: shell companies, offshore bank facilities. Money laundering experts¹³, for instance, argue that both groups use a technique known as a “starburst”: A deposit of dirty money is made in a bank with standing instructions to wire it in small, random fragments to hundreds of other bank accounts around the world, in both onshore and offshore financial centres. Tracking down the money becomes very difficult, since

¹² Makarenko (2003a), p. 66 writes: “The most common criminal activity terrorist groups have been involved in is the illicit drug trade. Since the 1970s groups such as FARC, Basque Fatherland and Liberty (Euzkadi Ta Askatasuna – ETA), the Kurdistan Workers Party (Partiya Karkaren Kurdistan – PKK) and Sendero Luminoso have all been linked to the drug trade by well-documented evidence. Since the early 1990s additional groups such as Hizbullah and the IMU have also realised the financial utility of participating in the illicit drugs trade. It is alleged that Hizbullah continues to protect heroin and cocaine laboratories in the Bekaa Valley; and evidence strongly indicated that the IMZ – prior to the Afghan campaign – controlled drug trafficking routes into Central Asia from northern Afghanistan”.

¹³ See: Koh (2004), Schneider (2004, 2008a, 2008b, 2009); and Masciandaro (2004).

getting legal permission to pursue bank accounts in multiple jurisdictions can take years. Napoleoni (2005, p.33) argues, “You build a long chain of representative offices at the end of which there is a shell company registered offshore, and you are lucky, if you get to the end of the chain. Financial investigations often run into a blind alley always through, somewhere, in a tiny offshore office”.

3.2 The Main Differences between Organized Crime and Terrorist Groups Financing

It is obvious that there are many differences between organized crime and terrorist groups with respect to financing. To some extent it is possible to make a distinction in the roots and operational characteristics:

(1) Terrorist Financing

A number of scholars (Napoleoni, Krueger, Yepes) explain terrorism through religion, development of socio-political causes, and even the economy is sometimes important. Typical operational characteristics of terrorist groups and their financing are:

- (i) low costs / low technology made possible some recent attacks with a great impact on human lives, on nations, and on economies (e.g. 9/11 New York, Madrid, London and Mumbai).
- (ii) Flexible and decentralized organizations with independent decisions and actions.
- (iii) Common ideology with indiscriminate targets (no purpose related to profit).
- (iv) Financial means are needed to plan and execute (future) terrorist attacks; there is only a limited need to hide assets.
- (v) Self-financing with possible criminal activities but also obtaining money from legal sources (e.g., donations and charity organizations). Terrorists use different sources of money, depending on their motivations, their mode of operations, and the resistance they face from law enforcement. Quite often the money starts off clean, becoming “dirty” only when the terrorist crime is committed later on. Hence, terrorist enterprises use clean money to commit crimes. The money sometimes consists of legally obtained resources that are used for a limited period of time and of smaller amounts of money to prepare attacks.

(2) Organized (Transnational) Crime Turnover and Money Laundering¹⁴

Dirty money is earned through various criminal activities, like drug, weapon and human trafficking. How much illicit crime money in all its forms can be observed? Baker (2005) 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

¹⁴ For a detailed analysis see Schneider (2008a, 2008b and 2009), Schneider and Windischbauer (2008), Schneider, Dreer and Riegler (2006), and Takats (2007).

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.

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: Baker (2005), p. 175.

In the next step the main characteristic of money laundering is to make dirty money appear legal (compare Walker (2000, 2004, 2007)). There are numerous methods of money laundering; in table 2.2 the 12 most important methods are shown. Which of these methods is mostly used, depends on the crime activity and on the specific institutional arrangements in a country where the criminal money is “earned”. For example, in the drug business method, business ownership, is quite often used. In the drug business and in big cities smaller amounts of cash are earned by drug dealers in a

lot of different spaces, which they infiltrate in to cash intensive operations such as restaurants which are especially well suited for money laundering purposes. But also cash deposits (the so called smurfing method) or illegal gambling is quite often used. Obviously, these methods clearly show, there are a number of ways to launder money. It might be more efficient to reduce the crime activities then to fight against these methods.

Table 2.2: The Methods of Money Laundering¹⁾

1)	Wire transfers or electronic banking	The primary tool of money launderers to move funds around in the banking system. These moves can conceal the illicit origins of the funds or just place the money where the launderers need them. Often the funds go through several banks and even different jurisdictions.
2)	Cash deposits	Money launderers need to deposit cash advances to bank accounts prior to wire transfers. Due to anti-money-laundering regulations they often 'structure' the payments, i.e. break down large to smaller amounts. This is also called 'smurfing'.
3)	Informal value transfer systems (IVTS)	Money launderers need not rely on the banking sector, other transfer providers, such as the hawala or hindi are readily available to undertake fund transfers. These systems consist of shops (mainly selling groceries, phone cards or other similar items), which are also involved in transfer services. IVTSs enable international fund transfers, as these shops are present in several jurisdictions.
4)	Cash smuggling	Money launderers might mail, Fedex or simply carry cash with them from one region to another, or even to different jurisdictions.
5)	Gambling	Casinos, horse-races and lotteries are ways of legalizing funds. The money launderer can buy (for 'dirty' cash) winning tickets – or in the case of casinos chips – and redeem the tickets or the chips in a 'clean' bank check. Afterwards, the check can be easily deposited in the banking sector.
6)	Insurance policies	Money launderers purchase single premium insurance (with dirty cash), redeem early (and pay some penalty) in order to receive clean checks to deposit. Longer term premium payments might make laundering even harder to detect.
7)	Securities	Usually used to facilitate fund transfers, where underlying security deals provide cover (and legitimate looking reason) for transfers.
8)	Business ownership	Money might be laundered through legitimate businesses, where laundering funds can be added to legitimate revenues. Cash-intensive operations, such as restaurants, are especially well suited for laundering.
9)	Shell corporations	Money launderers might create companies exclusively to provide cover for fund moves without legitimate business activities.
10)	Purchases	Real estate or any durable good purchases can be used to

		launder monies. Typically, the item is bought for cash and resold for clean monies, like bank checks.
11)	Credit card advance payment	Money launderers pay money in advance with dirty money, and receive clean checks on the balance from the bank
12)	ATM operations	Banks might allow other firms to operate their ATMs, i.e. to maintain and fill them with cash. Money launderers fill ATMs with dirty cash, and receive clean checks (for the cash withdrawn) from the bank.

¹⁾ Source: Unger (2007, pp.195-196).

Schneider (2008a, 2008b) estimates with the help of the MIMIC estimation procedure that money laundering from organized transnational crime has increased from 1995 USD 273 billion (1,33% of official GDP) to USD 603 billion (or 1,74% of the official GDP) 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 world wide basis in 2006 USD 600 billion are estimated to be laundered coming only from the drug (crime) business.

Unger (2007) estimates the amount of laundered money and their top 20 destinations, which is shown in table 2.3 over the time span 1997-2000. Here two estimates are presented, one by Walker (1999, 2007) and one by the IMF. The Walker figure is with 2.850 billion USD much larger then the IMF figure with 1.500 billion USD (both figures are for the year 2005). Walker's figures have been criticized as much to high which was one reason why the IMF estimates have been choosen, too. Table 2.3 clearly shows that two thirds of worldwide money laundering was sent to the top 20 countries listed. One should realize, that most of these countries are very established, well developed and have a quite sizeable legal/official economies. What is also amazing, that there are only a few microstate offshore countries (OFCS) and tax heavens among them (Cayman Islands, Vatican City, Bermuda and Liechtenstein)¹⁵. The majority of countries that attract money laundering flows are economic prepotencies at not tiny unimportant countries. The United States has the largest worldwide share of money laundering of almost 19%, followed by the Cayman Islands (4,9%), Russia (4,2%), Italy (3,7%), but also smaller countries like Switzerland (2,1% of worldwide money laundering), Liechtenstein (1,7%) and Austria (1,7%) are also quite attractive. If one takes the lower IMF value for Austria, Switzerland and in the United Kingdom, roughly 5.5 % of the total amount is laundered, which comes close to roughly 10% of official GDP of the three countries. However, it should be clearly stated that it is not clear whether this money is only laundered in these countrie or stays in these countries. It might leave these countries when it was laundered. In general, table 2.3 clearly demonstrates, how important the amount of laundered money is and that two thirds of this are concentrated in 20 countries.

Bagella, Busato and Argentiero (2009, pp.881) use a theoretical two-sector dynamic general equilibrium model to measure ML for the United States and the EU-15

¹⁵ Compare also Masciandaro (2005, 2006), Masciandaro and Portolano (2004), Zdanowicz (2009), Truman and Reuter (2004), and Walker and Unger (2009):

macro areas over the sample 2000:01-2007:01 at a quarterly frequency. Their series are generated through a fully micro-founded dynamic model, which is appropriately calibrated to replicate selected stochastic properties of the two economies. Their model (and the analysis) has a short run perspective, and for this reason, the paper discusses the stochastic properties of the Hodrick-Prescott filtered series. Bagella et al. (2009, pp.881) got the following results: First the simulations show that ML accounts for approximately 19 percent of the GDP measured for the EU-15, while it accounts for 13 percent in the US economy, over the sample 2000:01-2007:04. Second, the simulated ML appears less volatile than the corresponding GDP. As regards the EU-15 macro area, the simulated statistics suggest that ML volatility is one-third of the GDP ones; for the US economy, the same statistics produce a figure of two-fifths. Considering these estimates one must admit, that they are pretty high and unfortunately no consistent check was done by Bagella et. al, whether such figures are plausible.

Table 2.3: The Amount of Laundered Money and Top 20 Destinations of Laundered Money, Year 2005¹⁾

Rank	Destination	% of worldwide money laundering	Walker estimate 2.85 trillion US\$ Amount in billion US\$	IMF estimate of 1.5 trillion worldwide Amount in billion US\$
1	United States	18.9%	538,145	283,500
2	Cayman Islands	4.9%	138,329	73,500
3	Russia	4.2%	120,493	63,000
4	Italy	3.7%	105,688	55,500
5	China	3.3%	94,726	49,500
6	Romania	3.1%	89,595	46,500
7	Canada	3.0%	85,444	45,000
8	Vatican City	2.8%	80,596	42,000
9	Luxembourg	2.8%	78,468	42,000
10	France	2.4%	68,471	36,000
11	Bahamas	2.3%	66,398	34,500
12	Germany	2.2%	61,315	33,000
13	Switzerland	2.1%	58,993	31,500
14	Bermuda	1.9%	52,887	28,500
15	Netherlands	1.7%	49,591	25,500
16	Liechtenstein	1.7%	48,949	25,500
17	Austria	1.7%	48,376	25,500
18	Hong Kong	1.6%	44,519	24,000
19	United Kingdom	1.6%	44,478	24,000
20	Spain	1.2%	35,461	18,000
	SUM	67.1%	1,910,922	1,006,500

1) Source Unger (2007, page 80)

From a global perspective for 2000, the IMF (2003, 2001) as well as the World Bank estimate that 2-4% of the world gross domestic product (GDP) stem from illicit (criminal) sources. Agarwal and Agarwal (2006) estimate 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 (4,444 trillion US\$ in 2006) to be contrasted against an observed figure of US\$ 500 billion to one trillion in 2004 from the same authors (Agarwal and Agarwal (2004)). Recent IMF estimates on money laundering by the drug traffickers, who “introduce” the proceeds gained through the selling of drugs into the legitimate financial market, amount to 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.

In their latest study again Walker and Unger (2009, page 821) undertake an attempt, measuring global money laundering and the proceeds of transnational crime that are pumped through the financial system worldwide. They criticize that methods such as case studies, proxy variables, or models for measuring the shadow economy all tend to under- or overestimate money laundering. They present a model, which is a gravity model which makes it possible to estimate the flows of illicit funds from and to each jurisdiction in the world and worldwide. This “Walker Model” was first developed in 1994, and used and updated recently. The authors show that it belongs to the group of gravity models, which have recently become popular in international trade theory. Using triangulation, they demonstrate, that the original Walker Model estimates are compatible with recent findings on money laundering. Once the scale of money laundering is known, its macroeconomic effects and the impact of crime prevention, regulation and law enforcement effects on money laundering and transnational crime can also be measured. Walker and Unger (2009, p. 849-850) conclude, that their model still seems to be the most reliable and robust method to estimate global money laundering, and thereby the important effects of transnational crime on economic, social and political institutions. Rightly they argue, that the attractiveness and distance indicator in the Walker model are a valid first approximation, but are still quite ad hoc. A better micro-foundation for the Walker Model will be needed in the future. For this, the behavior of money launderers, and in particular what makes them send their money to a specific country, is important. Hence, Walker and Unger (2009, p. 850) argue that an economics of crime micro-foundation for the Walker Model would mean that, similarly to international trade theory, behavioral assumptions about money launderers have to be made. The gravity model must be the (reduced form) outcome of their rational calculus of sending their money to another country and possibly getting caught, but potentially making large profits.

4. The Amount of Financial Flows and the Ways of Financing Islamistic International Terror Organizations

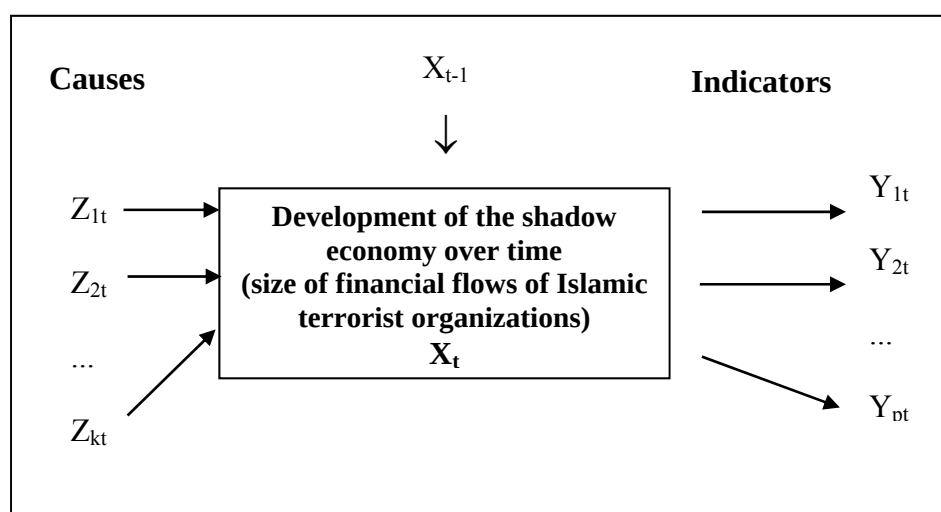
The financing of cells of (Islamistic) terrorist organizations is conducted independently, and financial transactions are deliberately targeted at single cells in order to avoid moving larger sums and calling attention. Usually these transactions are carried out with the help of traditional trading companies (for example within the scope of exporting honey in the Middle East). They are camouflaged to an extent that makes tracing them nearly impossible. This form of transactions is barely distinguishable from normal

import/export or other monetary dealings.¹⁶ Hence, in this chapter an attempt is made to estimate the amount of financial flows and to analyse the ways of financing international terror organizations. Before showing the results the estimation procedure is shortly described.

4.1 Estimation Procedure (latent estimator MIMIC approach)

As the size of financial flows of the Islamic terrorist groups is an unknown (hidden) figure, a latent estimator approach using a MIMIC (i.e. **m**ultiple **i**ndicators, **m**ultiple **c**auses estimation) procedure is applied. This method has quite successfully been used to estimate the size of the shadow economy and is now shortly described.¹⁷⁾ This estimation procedure is called the “model approach” which explicitly considers the multiple causes of as well as multiple indicators of the hidden variable. The method is based on the statistical theory of unobserved variables, which consider multiple causes and multiple indicators of the phenomenon (size of the shadow economy, size of the financial flow of (Islamistic) terror organizations). A factor-analytic approach is used to measure the hidden economy (here size of financial flows of the terrorist organizations) as an unobserved variable over time. The unknown coefficients are estimated in a set of structural equations within which the “unobserved” variable cannot be measured directly. The MIMIC (multiple-indicators multiple-causes) model consists in general of two parts, the measurement model links the unobserved variables to observed indicators. The structural equations model specifies causal relationships among the unobserved variables. In this case, there is one unobserved variable, the size of the financial flows of (Islamistic) terrorist organizations. It is assumed to be influenced by a set of indicators for these financial flows, thus capturing the structural dependence of these financial flows on variables that may be useful in predicting its movement and size. The interaction over time between the causes Z_{it} ($i = 1, 2, \dots, k$), the size of these financial flows X_t , and the indicators Y_{jt} ($j = 1, 2, \dots, p$) is shown in figure 3.1.

Figure 3.1: Development of the shadow economy (size of financial flows of Islamic terrorist organizations) over time



¹⁶ See: Schneider (2004, 2002a, 2002b).

¹⁷⁾ For a detailed discussion compare Schneider and Enste (2000) and Schneider (2005).

4.2 The Estimation Results

As causes for the estimation of the size of the financial flows of the Islamistic terrorist groups we have the following variables:

- (1) number of active members and active supporters (positive sign expected);
- (2) tribute payments from Islamic countries (positive sign expected);
- (3) financial flows from wealthy people and from Islamic religious organizations in Islamic countries (positive sign expected);
- (4) illegal amount of diamond trading (positive sign expected);
- (5) illegal amount of drug trading (positive sign expected); and
- (6) GDP per capita in Islamic countries (negative sign expected).

As indicators we use the following variables:

- (1) the cash flows in Islamic countries (positive sign expected);
- (2) the rate of GDP adjusted for the means of all Islamic countries (negative sign expected), and
- (3) the amount of currency trading (positive sign expected).

Figure 3.2

In Figure 3.2 the estimation (MIMIC approach) of the financial flows (unobserved / latent variable) of over 8 terrorist organizations and over the period 1999 to 2006 is shown. If we first turn to the causal variables, the number of active members and number of supporters, the tribute payments from Islamistic countries, the financial flows from wealthy people and from Islamic religious organizations have the expected sign and the estimated coefficients are highly statistically significant. This is also true for the causal variable, amount of illegal drug trading, which has the expected sign and is statistically significant. The amount of illegal diamond trading and GDP per capita in Islamic countries have the expected signs, but are not statistically significant using the usual confidence intervals. Hence, out of the 6 variables 4 turn out to be highly statistically significant. If I now turn to the indicator variables, all 3 have the expected signs and are statistically significant. Starting with the variable cash currency flows in Islamic countries and continuing to the one, the amount of currency trading between Islamic countries as well as the rate of GDP. This estimation shows, that there is systematic relationship between the major courses of financial sources for the financing of Islamistic terrorist groups and important indicator variables.

The MIMIC method has the disadvantage, that one gets only relatively estimated values and not absolute ones, hence one has to calibrate these values with the help of other estimations into absolute ones. Doing this¹⁸ we achieve the following two results. The main results are shown in tables 3.1 and 3.2. The first can be demonstrated in the case of Al-Qaeda.

Tables 3.1 and 3.2

¹⁸ See here Schneider (2008a, 2008b, 2009)

Considering table 3.1 one realizes that over 1999-2004 the annual financial flows (i.e. the budget) of Al-Qaeda varies between 20 to 50 million USD per year. What is the origin/source of these annual financial flows? This is shown in the second part of table 3.1. The drug business (mainly transporting drugs) contributes 30-35%, donations and tribute payments of governments of wealthy individuals, and of religious groups vary between 35-50% and classical crime activities (i.e. blackmail and mostly kidnapping) contribute between 10-15%.

In table 3.2 a rudimentary overview is given about the preliminary results of the financial flows of Arabic and Islamistic terror organizations. Table 3.2 shows that the financial flows of these Islamistic terror organizations are quite small but (compared to the ones of the organized crime scene) but that they have enough financial means to train and to equip well their active terrorist members in order to create a maximum of destruction. If one compares these financial flows with the overall figure of “dirty or crime money” given by the IMF these financial flows of Islamic terrorist organizations are of minor importance with respect to magnitude: The IMF calculates that the total sum of “dirty money” being whitewashed through the financial system ranks between 500 billion USD and 1,500 billion USD a year, which amounts up to 3% and 5% of the gross world product. The financial flows of Islamic terrorist organizations range between 0,9 and 5,8% of the total sum of “dirty money”.

Table 3.1: The Financial Flows and the Kind of Finances of Al-Qaeda and other Terror Organizations

Annual financial flows (budget) of Al-Qaeda (Average 1999-2006)	20-50 mill. \$
Ways of financing of terror organisations (using the example of Al-Qaeda)	
Drug business (mainly transporting drugs)	30-35%
Donations from governments or wealthy individuals or religious groups	20-30%
Tribute payments from Islamic countries	15-20%
Number of active members and supporters (including classical crime activities like kidnapping, blackmail, etc.)	10-15%
SUM	75 – 100%

Source: Own calculations and Schneider (2010).

Figure 3.2: Estimation (latent estimator approach) of the financial flows (budget) of Islamistic terrorist groups using causes (determinants) and traces (indicators), MIMIC estimation procedure, combined cross section and time series over 8 Islamistic terrorist org. and over 1999 to 2006

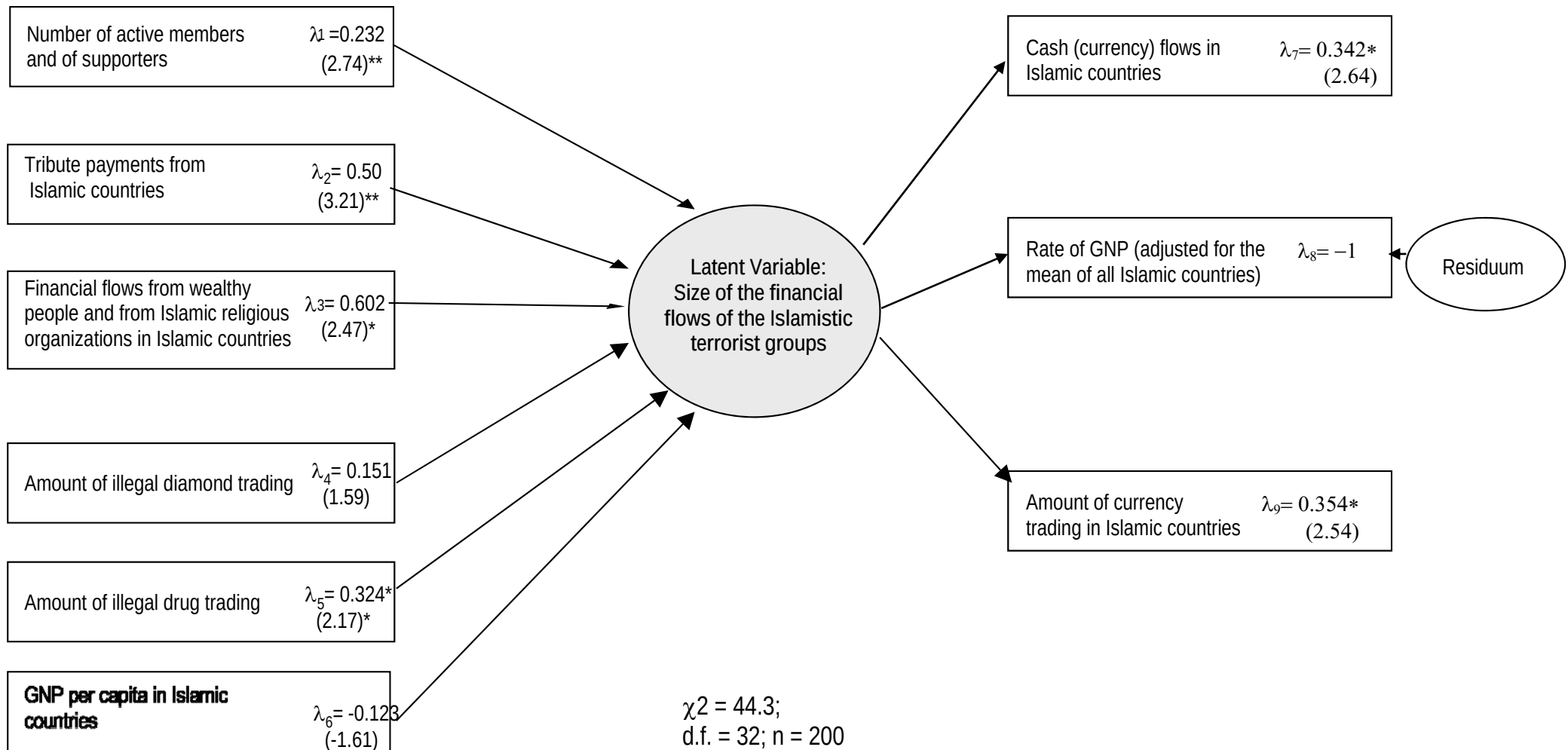


Table 3.2: Preliminary (Incomplete) Overview of Financial Flows of Arabic Islamic Terror Organizations

Name	Members (worldwide) Average over 1999-2006	Current financial flows (annual budget) Average over 1999-2006
Al-Qaeda	1500-3000	20-50 mill. \$
Front Islamique du Salut (Algeria)	ca. 400	ca. 5 mill. \$
Hamas	ca. 2000	ca. 10 mill. \$
Hizbullah	ca. 10.000	ca. 50 mill. \$
Arabic Mujahedin (terror) organisations:		
- Irak	ca. 800	ca. 5 mill. \$
- Iran	ca. 600	ca. 5 mill. \$
- Libyan	ca. 600	ca. 10 mill. \$
- Egypt (Egyptian Islamic Jihad; most likely united with Al-Qaeda; islam./arab.)	ca. 600	ca. 8 mill. \$

Source: Own calculations and Schneider (2010).

5. Summary and Conclusions

In this paper it is firstly and shortly elaborated how Islamistic terrorist organizations work and how effective they can be. Second and in a much more detailed way a literature review is provided about the finances of terrorist and organized crime organizations, their sources and the various methods they use. Also a short discussion is provided with respect to the interaction of organized crime and terrorist organizations. Then in part 3 with the help of a latent estimate approach it is investigated how large the financial flows of some Islamistic terrorist organizations are and what are their ways of financing. Finally in part 4 some short remarks are made about the economic implications and damages of transnational terrorism, which is really sizeable.

5.1 Strategies to Tackle the Financing of Terrorism

On the basis of the results of this paper, a double step strategy is needed to overcome the failings and discrepancies between countries in building a more coordinated global strategy against the financing of terrorism and of organized crime.

In the first step, the states should recognize that they should pay much more attention to the adequate criminalization of terrorist financing, to establish a clear approach towards informal transfer systems, to establish consistent freezing of assets and an approach towards international legal cooperation. This strategy should contain the following aspects / measures:

- (1) achieve a common definition of terrorism and a definition of the financing of terrorism;
- (2) take into account the increasing global nexus between crime and terror and its negative effect on the global economy;

- (3) create a global index of country vulnerability to terrorist financing to improve the capacity of international community to monitor and control key safe havens used by terrorist financiers;

In a second step states / countries should be able to redesign their strategy against terrorism finances taking into account not only previous weaknesses but also a recognition that one size model does not fit all, especially when there are cash economies and failed states involved. The following points should be taken into account when building up the new strategy:

- (1) The traditional risk-based approach to combat the financing of terrorism must be redefined and newly implemented, because a high number of recommendations from international bodies have created a number of requirements that overlap efforts and undermines efficiency. A high level interagency is needed to harmonize the national efforts on combating of the financing of terrorism.
- (2) The policy makers should design a strategy to manage and map different levels of analysis (EU, National and Cross Borders); then they should think about determining the main information requirements how to combat the financing of terrorism.
- (3) This change of strategy would compel the international organizations to provide clear policy guidance to the private sector. There is a question of how much information law enforcement agencies should get from financial sector in order to maximize the efficiency of data collection, and thus contribute to keeping financial institutions informed of the new patterns, indicators and typologies relevant to fighting against terrorist financing. The complexity of terrorist financing requires a coordination of public and private sectors, and law enforcement and intelligence agencies need to advice financial institutions on what kind of data they need.
- (4) In the case of prosecutions, one of the largest challenges law enforcement faces, is in compiling evidence around a terrorism case. There is a large amount of information that will never be seen in a court room, because it cannot be verified. There is a conflict between collecting evidence for courts (law enforcement) and collecting information to inform government (intelligence agencies).
- (5) More and better information exchange is another fundamental component of combating the financing terrorism. There still remain many legal barriers when two or more jurisdictions are involved and when gathering information in one country is a criminal offence if data privacy and bank secrecy laws remain in place. This poses many restrictions on which institutions can disclose data in their possession (compare e.g. SWIFT “case”). The current legal framework of most countries is not designed to deal efficient with the combating the financing of terrorism, because financial institutions must comply with five players: institutions, regulators, law enforcement agencies and society.

5.2 General – Strategies for Combating Terrorism¹⁹

The threat of terrorism (and organized crime) to the world economy can be countered through the following six politico(-economic) measures:²⁰

- (1) Combating poverty, especially in countries with fundamentalist religions;

¹⁹ See Winer (2002), Ware (2004), Kurrild-Klitgaard, Justensen and Klemmensen (2006), Lai (2007), Piazza (2008), Endres and Sandler (2002, 200&) and Indridason (2008).

²⁰ Similar recommendations are made by Krueger and Malecková (2003), Li (2005), Piazza (2008a), Abadie (2006), Li (2005), Li and Schaub (2004), Williams (2007) as well as Llussa and Tavares (2008).

- (2) ensuring and strengthening democratic basic rights, freedom of speech, tolerance and openness;
- (3) intellectual confrontation of (esp. radical) Islamism; financial support of moderate streams;
- (4) law and order measures alone, like the death penalty, do not help since they turn terrorists into martyrs;
- (5) complying with human rights when dealing with terrorists and a moderate rhetoric; and
- (6) building growth-stimulating institutions in the native regions of terrorists.

6. References

- Abadie, A. (2006), Poverty, Political Freedom, and the Roots of Terrorism, *The American Economic Review*, 96(2), pp. 50-56.
- Abadie, A. and J. Gardeazabal (2008), Terrorism and the World Economy, *European Economic Review*, 52/1, pp. 1-27.
- Abuza Z., (2008), The Social Organization of terror in Southeast Asia: the Case of Jemaah Islamiyah, in Biersteker and Eckert, (2008), (eds.) Countering the financing of terrorism,
- Abuza Z., (2003), Funding Terrorism in Southeast Asia: The Financial Network of Al Qaeda and Jemaah Islamiya, *Contemporary Southeast Asia*, Vol. 25, 2003
- Addison, T. and M. Murshed (2005), Transnational Terrorism as a Spillover of Domestic Disputes in Other Countries, *Defence and Peace Economics*, 16/2, pp. 69-82.
- Agarwal, J. D. and Aman Agarwal (2004): Globalization and International Capital Flows, *Finance India*, Vol. 19/1, pp. 65-99.
- Agarwal, J. D. and Aman Agarwal (2006): Money Laundering: New Forms of Crime, and Victimization, *paper presented at the National Workshop on New Forms of Crime*, Victimization, Department of Criminology, University of Madras, India.
- Alexander, D. and Y. Alexander (2002), *Terrorism and Business: The Impact of September 11, 2001*, Transnational Publishers.
- Bagella, Michele, Busato, Francesco and Amedeo Argentiero (2009), Money Laundering in a Microfounded Dynamic Model: Simulations for the U.S. and the EU-15 Economies, *Review of Law and Economics*, 5/2, 2009, pp. 879-902.
- Basile M., (2004), Going to the Source: Why Al Qaeda's Financial Network Is Likely to Withstand the Current War on Terrorist Financing, *Studies in Conflict & Terrorism*, 27:169-185,
- Baker, Raymond W. (2005): *Capitalism's Achilles Heel – Dirty Money and How to Renew the Free-Market System*, Hoboken, N.J.: John Wiley and Sons.
- Bantekas, I. (2003): The International Law of Terrorist Financing, *The American Journal of International Law*, 97/2, pp. 315-333.
- Barth, J., T. Li, et al. (2006): Economic Impacts of Global Terrorism: From Munich to Bali, *Capital Series*, Milken Institute, pp. 1-38.
- Bell R.E., (2003), The confiscation, forfeiture and Disruption of Terrorist finances, *Journal of Money Laundering control*, vol. 7, n.2, pp. 105-126.
- Biersteker, T. (2002): Targeting Terrorist Finances: The New Challenges of Financial Market Globalisation, in *Worlds in collision. Terror and the Future of Global Order*, Palgrave and Macmillan, pp. 74-85.
- Biersteker, T., Eckert S.E., (2008), (eds.) Countering the financing of terrorism,
- Blomberg, S. B., G. D. Hess and A. Orphanides (2004), The Macroeconomic Consequences of Terrorism, *Journal of Monetary Economics*, 51/5, pp. 1007-1032.

- Brechner, J. (2007): Un frente extremista cerca de Estados Unidos? Terroristas del Caribe, *El Comercio*, 18 October, Lima, Peru.
- Brown, J. R., J. D. Cummins, C. M. Lewis and R. Wei (2004), An Empirical Analysis of the Economic Impact of Federal Terrorism Reinsurance, National Bureau of Economic Research, *NBER Working Paper* 10388, Washington D.C..
- Brück, Tilmann (2004), An Economic Analysis of Security Policies, *Defence and Peace Economics*, 16/5, pp. 375-389.
- Bovenkerk and Abou Chakra (2004), Terrorism and organized crime, forum on crime and society, UNODC, vol.4, n1-2.
- Bunt, Henk van D. (2007), *The Relation between Organized Crime and Informal Markets: The Role of Hawala Bankers in the Transfer of Proceeds from Organized Crime*, CRIMPREV, Gant University, Gant, Belgium, *Discussion Paper*.
- Caruso R., Locatelli A., 2008. Deadly Contests: An Economic Note on al Qaeda's Reward System, *The Economics of Peace and Security Journal*, vol. 3, n. 2, 62-67.
- Caruso R., Schneider F., (2010) Al Qaeda and Jihadist Terrorism in the light of contest theory: a theoretical note and empirical evidence over the period 2002-2007.
- Caruso R., Schneider F., (2010), The Socio-Economic determinants of terrorism and political violence in Western Europe (1994-2007). *forthcoming in European Journal of Political Economy*
- Chen, A.H. und T. Siems (2004), The Effects of Terrorism on Global Capital Markets, *European Journal of Political Economy*, 20/3, pp. 349-366.
- Comras, V. (2005): Al Qaeda Finances and Funding to Affiliated Groups, *Strategic Insights (Center for Contemporary Conflict)*, pp. 1-16.
- Comras, V. (2007): Al Qaeda Finances and Funding to Affiliated Groups, *Terrorism Financing and State Responses*, Stanford, pp. 115-133.
- Cornell S., (2006), The Narcotics Threat in Greater Central Asia: from Crime-Terror Nexus to state infiltration, *China and Eurasia Forum Quarterly*, vol. 4, n.1, pp. 37-67
- Cornell S., (2005), "Narcotics, Radicalism and Armed Conflict in Central Asia: The Islamic Movement of Uzbekistan," *Terrorism and Political Violence* 17, 4, pp. 619-639.
- Costa, A. M. (2005): Drugs, Crime and Terrorism Financing. Breaking the links, *Conference on Combating Terrorist Financing*, Vienna, UNODC, pp. 1-7.
- Costigan S.S., Gold D., (2007), (eds.), *Terroronomics*, Ashgate Publishing,
- Cowen T., (2006), Terrorism as a Theater: Analysis and Policy Implication, *Public Choice*, vol. 128, pp. 233-244.
- Croissant A., Barlow D., (2007), Following the Money Trail: Terrorist Financing, and Government Responses in Southeast Asia, *Studies in Conflict & Terrorism*, 30:131-156,
- De Goede M., (2003), Hawala Discourses and the war on terrorist finance, *Environement and Planning*, vol. 21, pp. 513-532
- Drakos, Kostas (2004), Terrorism – Enclosed Structural Shifts in Financial Risk: Airline Stocks in the Afterperiod of the September 11th Terror Attacks, *European Journal of Political Economy*, 20/2, pp.435-446.
- Drakos, Kostas (2009a), *The Determinance of Terrorist Shocks Cross Market Transmission*, Economics of Security, Working Paper 17, DIW, Berlin, Economics of Security, September 2009.
- Drakos, Kostas (2009b), *Cross Country Stockmarket Reactions to Major Terror Events: The Role of Risk Perception*, Economics of Security Working Paper 16, DIW Berlin, Economics of Security, September 2009.
- Drakos, K., Kutun, A.M. (2003), Regional Effects of Terrorism on Tourism in Three Mediterranean Countries, *Journal of Conflict Resolution*, 47/5, pp. 621-641.
- Eaton, L. (2007): U.S. Prosecution of Muslim Group Ends in Mistrial. *New York Times*, 23 October, New York.

- Ehrenfeld R., (2007), *Funding Evil: how Terrorism is Financed and the Nexus of Terrorist Organizations*, in Costigan S.S., Gold D., (2007), (eds.), *Terronomics*, Ashgate Publishing,
- El Quorchi, M., S.M. Maimbo, et al. (2003): *Informal Funds Transfer Systems: an Analysis of the Informal Hawala System*, Washington, DC, International Monetary Fund, pp. 1-53.
- Enders, W. and T. Sandler (2002), Patterns of Transnational Terrorism, 1970-1999: Alternative Time-Series Estimates, *International Studies Quarterly*, 46/2, pp. 145-165.
- Enders, W. and T. Sandler (2006), *The Political Economy of Terrorism*, Cambridge: Cambridge University Press.
- Enders, W. and T. Sandler (2008), Economic Consequences of Terrorism in Developed and Developing Countries: An Overview, *Terrorism, Economic Development, and Political Openness*, P. Keefer and N. Loayza, Cambridge University Press: New York, pp. 17-47.
- Ergül, Ergin (2004): Justizministerium, Abteilungsleiter des Direktoriums für Internationales Recht und Auswärtige Beziehungen, Cook, Democracy, January 2004, S. 10 – 13, www.terror.gen.tr/deutsch/artikel.
- FATF (2004): Report on Money Laundering and Terrorist Financing, *Typologies 2003-2004*, Paris.
- FATF (2005): Report on Money Laundering and Terrorist Financing, *Typologies 2004-2005*, Paris.
- FATF-GAFI (2005): *Third Mutual Evaluation Report on Anti-Money Laundering and Combating the financing of terrorism, Norway*: 1-160.
- FATF-GAFI (2006): *Third Mutual Evaluation Report on Anti-Money Laundering and Combating the financing of terrorism. Portugal*: 1-165.
- Feiler G., (2007), The Globalization of Terror Funding, *Mideast Security and Policy Studies* No. 74
- Fischer, Howard, S. (2002), *Hawala – What is it and How to Emasculate it*, California, Beverly Hills, Study.
- FIU: Financial Intelligent Unit des Fürstentums Liechtenstein (2001): Jahresbericht available at www.ilv.li/pdf, , S. 11.
- Fletcher, N. and Baldwin, J. (2002), Money Laundry Counter Measures with Primary Focus upon Terrorism and the U.S. Patriot Act 2001, *Journal of Money Laundering Control*, 6/2, (2002), pp.105-136.
- Frey, B. S. and S. Luechinger (2008), Three Strategies to Deal with Terrorism, *Economic Papers* 27/2, pp. 107-114.
- Frey, B. S., S. Luechinger and A. Stutzer (2007), Calculating Tragedy: Assessing the Costs of Terrorism, *Journal of Economic Surveys*, 21, pp. 1-24.
- Freytag, A., J. Krueger, D. Meierrieks and F. Schneider (2009), The Origins of Terrorism: Cross Country Estimates on Socio-Economic Determinants of Terrorism, *Discussion Paper*, University of Linz, Department of Economics, Linz 2009.
- Fried, E. R., C. L. Schultze, et al. (1975): *Higher Oil Prices and the World Economy: the Adjustment Problem*, Washington, Brookings Institution 197-226.
- Gaibullov, K., Sandler, T. (2008), Growth Consequences of Terrorism in Western Europe, *Kyklos* 61/3, pp. 411-424.
- Gilmore, W. C. (2004): *Dirty money: the Evolution of International Measures to Counter Money Laundering and the Financing of Terrorism*, Strasbourg, Council of Europe Pub.
- Gilpin, R. (2001): *Global Political Economy. Understanding the international Order*, Princeton University Press.
- Giraldo, J. K. and H. A. Trinkunas (2007): *Terrorism financing and state responses: a comparative perspective*, Stanford, Calif., Stanford University Press: 1-20, 282-296.

- Gross, K., P. R. Brewer and S. Adlay (2009), Confidence in Government and Emotional Responses to Terrorism After September 11, 2001, *American Politics Research* 37/1, pp. 107-128.
- Gould E.D., Stecklov G., (2009), Terror and the Costs of crime, *Journal of public economics*, vol. 93, n.11-12, pp. 1175-1188
- Gunaratna, R. (2003): *Inside Al Qaeda: Global Network of Terror*. London, Hurst & Company.
- Hardouin P., Weichhardt, R., (2006), Terrorist fund raising through criminal activities, *Journal of Money Laundering Control*, vol.9, n.3, pp. 303-308
- Hübschle A., (2007), Terrorist Financing in Southern Africa: Are we making a mountain out of a molehill, ISS paper 132
- Hutchinson, S. and P. O. Malley (2007): A Crime-Terror Nexus? Thinking on Some of the Links between Terrorism and Criminality, *Studies in Conflict & Terrorism*, 30/12, pp. 1095-1107.
- IMF (2001): *Financial System Abuse, Financial Crime and Money Laundering*, Washington, DC, Monetary and Exchange Affairs and Policy Development.
- Indridason, I. H. (2008), Does Terrorism Influence Domestic Politics? Coalition Formation and Terrorist Incidents, *Journal of Peace Research*, 45/2, pp. 241-259.
- International Crises Group, (2002), Pakistan: Madrasas, Extremism and the Military.
- Intriligator, M., (2010), The Economics of Terrorism, *Economic Inquiry*, vol.48, n.1, pp. 1-13.
- IWF (1996): Money Laundering and the International Financial System, International Monetary Funds, *Fiscal Affairs Department*, Washington D.C.
- IWF (1998): Money Laundering: The Importance of International Counter Measures, *statement by Michael Camdessus* at the plenary meeting of the Financial Action Task Force on Money Laundering, Paris.
- IWF (2002): Money Laundering: New Facts, Washington (D.C.), 2002
- Jessee D.D., (2006), Tactical Means, Strategic Ends: Al Qaeda's Use of denial and Deception, *Terrorism and political violence*, vol. 18, pp. 367-388
- Johnson, J. (2001): In Pursuit of Dirty Money: Identifying Weaknesses in the Global Financial System, *Journal of Money Laundering Control*, 5/2, pp. 122-133.
- Jones L., (2003), Al-Qaeda 'traded blood diamonds', BBC news, available on line at <http://news.bbc.co.uk/2/hi/2775763.stm>
- Jurith E, (2004) "Acts of terror, illicit drugs and money laundering", *Journal of Financial Crime*, Vol. 11 Iss: 2, pp.158 – 162
- Kirby A., 2007. The London Bombers as 'Self-Starters': A Case Study in Indigenous Radicalization and the Emergence of Autonomous Cliques, *Studies in Conflict and Terrorism*, Vol. 30, No. 5, 415-428.
- Koh, J.-M. (2006): *Suppressing terrorist financing and money laundering*, Berlin: Springer.
- Kohlmann, E. F. (2006): The Role of Islamic Charities in International Terrorist Recruitment and Financing, *DIIS Working Paper*, Copenhagen, Danish Institute for International Studies.
- Krueger, A.B., Malečková, J. (2003), Education, Poverty and Terrorism: Is There a Causal Connection?, *Journal of Economic Perspectives*, 17/4, pp. 119-144.
- Kurrild-Klitgaard, P., Justensen, M.K., Klemmensen, R. (2006), The Political Economy of Freedom, Democracy and Transnational Terrorism, *Public Choice*, 128, pp. 289-315.
- Labévière, R. (2002): *Dollars for Terror*. The United States and Islam, New York, Algora Publishing.
- Lai, B. (2007), Draining the Swamp: An Empirical Examination of the Production of International Terrorism, 1968-1998, *Conflict Management and Peace Science*, 24/4, pp. 297-310.

- Levi, M. and W. Gilmore (2002b): Terrorist Finance, Money Laundering and the Rise and Rise of Mutual Evaluation: A New Paradigm for Crime Control, in: *Financing Terrorism*, Netherlands, Kluwer Academic Publishers, pp. 87-115.
- Levitt M.A., (2002), The Political economy of Middle East Terrorism, *Middle East Review of International Affairs*, vol. 6, n.4, pp. 48-65
- Li, Q. (2005), Does Democracy Promote or Reduce Transnational Terrorist Incidents?, *Journal of Conflict Resolution*, 49/2, pp. 278-297.
- Li, Q. and D. Schaub (2004), Economic Globalization and Transnational Terrorism: A Pooled Time-Series Analysis, *Journal of Conflict Resolution*, 48/2, pp. 230-258.
- Llusa, F. and J. Tavares (2008), Economics and Terrorism: What We Know, What We Should Know and the Data We Need, in: *Terrorism, Economic Development, and Political Openness*, P. Keefer and N. Loayza (editors), Cambridge University Press: Cambridge (Mass.), pp. 233-254.
- Looney R., The Mirage of Terrorist Financing: The Case of Islamic Charities, *Strategic Insights*, Volume 5, n.3
- Luck, E. C. (2005): The Uninvited Challenge: Terrorism Targets the United Nations, in: *Multilateralism under Challenge: Power, International Order and Structural Change*, Tokyo, United Nations University and the Social Science Research Council, 2005: pp. 336-355.
- Ly P.E., (2007), The Charitable activities of terrorist organizations, *Public Choice*, vol. 131, n. 1-2, pp.177-195
- Makarenko, T. (2002): A Model of Terrorist-Criminal Relations, *Jane's Intelligence Review*.
- Makarenko, T. (2003a): Tracing the dynamics of the illicit arms trade, *Jane's Intelligence Review*.
- Makarenko, T. (2003b) "A model of terrorist-criminal relations." *Janes's Intelligence Review*.
- Makarenko, T. (2003) and Sanderson, T.M. (2004). Transnational Terror and Organized Crime: Blurring the Lines. *Sais Review*, XXIV (1):49-61.
- Masciandaro, D. (2004): *Global Financial Crime: Terrorism, Money Laundering and Off Shore Centres*, Aldershot, (England), Burlington, Ashgate.
- Masciandaro, D. (2005): Financial Supervisory Unification and Financial Intelligence Units, *Journal of Money Laundering Control*, 8/4, pp. 354-371.
- Masciandaro, D. (2006): *Offshore Financial Centres and International Soft Laws: Explaining the Regulation Gap*, Second Annual Conference: Società Italiana di Diritto ed Economia, Roma, pp. 1-49.
- Meter, E. (2003): *Providing Global Public Goods: Managing Globalization*, Dordrecht: Kluwer, Academic Publisher.
- Millard, G. H. (2006): Business of Crime: the Enterprise of Crime and Terror – the Implications for Good Business, *Journal of Financial Crime*, 13/3, pp. 277-282.
- Mintz, J. (1998): Bin Laden's Finances are Moving Target. *The Washington Post*, 28 August: A01.
- Moid U. Ahmad, Athar Mahmood, (2009), Zakat fund – concept and perspective, *International Journal of Monetary Economics and finance*, vol.2, n.2, pp. 197-205
- Morigi, A. (2004): Multinazionali del terrore. Alessandria, Piemme,
- Mueller, Christoph (1992): Geldwäscherei: Motive – Formen – Abwehr: Eine betriebswirtschaftliche Analyse, *St. Gallen*.
- Napoleoni, L. (2005): *Terror Incorporated: Tracing the Dollars behind the Terror Networks*, New York, Seven Stories Press.
- Navias, M.S. 2002. Finance warfare as a response to international terrorism. *The Political Quarterly*, 73(s1):57-79.
- Newman, E. (2007): Weak States, State Failure and Terrorism, *Terrorism and Political Violence*, 19/4, pp. 463-488.

- Omer A., (2002), A report on Supporting Systems and Procedures for the effective regulation and monitoring of Somali remittance companies (Hawala). UNDP.
- Omer A., El Koury G., (2004), Regulation and supervision in a vacuum: the story of the Somali remittance sector, *Small Enterprise Development*, vol. 15, n.1, pp. 44-52
- Page J., Plaza S., (2006), Migration Remittances and Development: A review of Global evidence, *Journal of African Economies*, vol. 15, n.2, pp.245-336
- Paoli L., Rabkov I., Greenfield V.A., Reuter P., (2007), Tajikistan: The Rise of a Narco-State., *Journal of Drug Issues*.
- Passas, N. (2004): Law Enforcement Challenges in Hawala-related Investigations, *Journal of Financial Crime*, 12/2: 8.
- Passas N., Jones K., (2006), Commodities and terrorist financing: Focus on Diamonds, *European Journal on Criminal Policy and Research*, vol. 12, n.1, pp. 1-33
- Peace, F. F. (2007): Foreign policy: The States that Failed us, Washington, etc.: *Carnegie Endowment for International Peace*, July-August.
- Perkel, William (2004), Money Laundering and Terrorism: Informal Value Transfer Systems, *American Criminal Law Review*, 41/2, pp. 183-211.
- Peters G., (2009), How Opium Profits the Taliban, *peaceworks* n.626, United States Institute of Peace.
- Piazza, J.A. (2008), Do Democracy and Free Markets Protect Us From Terrorism?, *International Politics*, 45, pp. 72-91.
- Picarelli, J. (2006): The Turbulent Nexus of Transnational Organised Crime and Terrorism: A Theory of Malevolent International Relations, *Global Crime*, 7/1, pp. 1-24.
- Picarelli, J. T. and L. I. Shelley (2007): *Organised Crime and Terrorism, Terrorism Financing and States Responses: A comparative Perspective*. Stanford, Stanford University Press, pp. 39-55.
- Pieth, M. (2002): *Financing terrorism*. Dordrecht, Boston, Kluwer Academic Publishers, vi, 216 p.
- Rabasa A., Chalk P., Cragin K., Daly S.A., Gregg H.S., Karasik T.W., O'Brien K.A., Rosenau W., 2006, *Beyond al-Qaeda. Part 1. The global jihadist movement*, Rand, Santa Monica, CA, USA.
- Razavy, Mark (2005), Hawala: An Underground Haven for Terrorist of Social Phenomenon? *Crime, Law and Social Change*, Vol. 44/2, pp. 277-299.
- Raphaeli, N. (2003): Financing of Terrorism: Sources, Methods and Channels, *Journal of Terrorism and Political Violence*, 15/4, pp. 59-82.
- Reuter, C. (2004), Parasiten des Zorns. Wie Al Khaïda neue Akteure rekrutiert, *Internationale Politik*, February, pp. 12-20.
- Richard, A. C. (2005): *Fighting Terrorist Financing: Transatlantic Cooperation and International Institutions*, Center for Transatlantic Relations, Johns Hopkins University, 2005.
- Rider, B. (2004): The War on Terror and Crime and the Offshore Centres, in: *Global Financial Crime: Terrorism, Money Laundering and Offshore Centres*, Aldershot, Hants, England, Burlington, VT, Ashgate: pp. 61-95.
- Rudner R., (2006), Using Financial Intelligence against the funding of terrorism, *International Journal of Intelligence and Counterintelligence*, vol. 19, n.1, pp. 32-58
- Sanderson, T. M. (2004): Transnational Terror and Organized Crime: Blurring the Lines, *Sais Review* XXIV (1): 49-61.
- Sandler T., Tschirhart J.T., Cauley J., (1983), A Theoretical Analysis of Transnational Terrorism, *The American Political Science Review*, vol.77, n.1, pp.36-54
- Sandler, T. and W. Enders (2004), An Economic Perspective on Transnational Terrorism, *European Journal of Political Economy*, 20/2, pp. 301-316.

- Schaeffer E.C., (2008), Remittances and Reputations in Hawala Money-Transfer systems: Self-Enforcing exchange on an international scale, *The Journal of Private Enterprise*, vol. 24, n.1, pp. 1-17.
- Schmid A.P., (2004), Frameworks for Conceptualising Terrorism, *Terrorism and Political Violence*, vol. 16, n.2, pp. 197-221
- Schneider, Friedrich (2002a): The Hidden Financial Flows of Islamic Terrorist Organisations: Some Preliminary Results from an Economic Perspective. *Discussion Paper*, Department of Economics, University of Linz, Austria, presented at „The Economic Consequences of Global Terrorism“, DIW, Berlin, 14. – 15. 6.2002.
- Schneider, Friedrich (2002b): Die verborgenen Finanzströme islamistischer Terrororganisationen: Einige vorläufige Erkenntnisse aus volkswirtschaftlicher Sicht. In: *Die Friedenswarte/Journal of International Peace and Organization* 77/3, S. 293 – 312.
- Schneider, Friedrich (2004): The financial flows of Islamic Terrorism, in: Masciandaro, Donato (ed.), *Global Financial Crime: Terrorism, Money Laundering and Offshore Centres*, Aldershot (Great Britain): Ashgate, 2004, pp.97-126.
- Schneider, Friedrich (2005): Shadow Economies Around the World: What do we Really Know?, *European Journal of Political Economy* 21/3, pp.598-642.
- Schneider, Friedrich (2008a): Turnover of Organized Crime and Money Laundering: Some Preliminary Empirical Findings, *Discussion Paper*, Department of Economics, University of Linz.
- Schneider, Friedrich (2008b): Money Laundering from Revenues from Organized Crime: Some Preliminary Empirical Findings, *revised version of a paper* which was presented at the Conference „Illicit Trade and Globalization“, CES-ifo Venice Summer Workshop, Venice National University, San Servolo, July 14-15, 2008.
- Schneider, Friedrich (2009): Die Finanzströme von Organisierter Kriminalität und Terrorismus: Was wissen wir (nicht)?, *Vierteljahreshefte zur Wirtschaftsforschung, DIW Berlin*, 78/4, pp. 73-87.
- Schneider, Friedrich and Enste, Dominik (2000), Shadow Economy: Causes, Size and Consequences, *Journal of Economic Literature*, Vol. 38/1 (March 2000), pp. 77-114.
- Schneider, Friedrich, Dreer, Elisabeth und Wolfgang Riegler (2006): *Geldwäsche: Formen, Akteure, Größenordnung – Warum die Politik machtlos ist*, Wiesbaden: Gabler-Verlag.
- Schneider, Friedrich und Windischbauer, Ursula (2008): Money Laundering: Some Facts, *European Journal of Law and Economics*, 26/4, pp.387-404.
- Schneider, Friedrich, Tilman Brück und Daniel Meierrieks (2010): *The Economics of Terrorism and Counterterrorism: A Survey*, Discussion Paper, DIW Berlin, Germany, and Department of Economics, Johannes Kepler University Linz, Austria.
- Sedgwick, M. (2007): Inspiration and the Origins of Global Waves of Terrorism, *Studies in Conflict & Terrorism*, 30: 97-112.
- Shahar, Y. (2001): Tracing Bin Laden's money: Easier said than done, Israel, www.ict.org.
- Shelley, L. (2005): The Nexus between Terrorism and Organized Crime, in: *Confronting Terrorism Financing*, Lanham, MD (etc.): University Press of America, pp. 29-33.
- Shugart II W.F., (2006), An Analytical history of terrorism, 1945-2000, *Public Choice*, n. 128, pp. 7-39
- Simpson, G. (2007a): U.S. Tracks Saudi Bank Favored by Extremists. *The Wall Street Journal*, 26 July, New York: A10.
- Simpson, G. (2007b): U.S. Investigating Firm Tied to Muslim Investors. *The Wall Street Journal*, January 31, pp. 1-2.
- Siqueira K., Sandler T., (2010), Terrorist Network, support and delegation, *Public Choice*, n. 142, pp. 237-253
- Siska, Josef (1999): *Die Geldwäscherei und ihre Bekämpfung in Österreich, Deutschland und der Schweiz*, Wien: Linde-Verlag.

- Smillie et al (2000). *The Heart of the Matter: Sierra Leone, Diamonds and Human Security*. Canada: Ontario, Partnership Africa.
- Takats, Ilöd (2007): A Theory of "Crying Wolf": The Economics of Money Laundering Enforcement, *Paper presented at the Conference "Tackling Money Laundering"*, University of Utrecht, Utrecht (The Netherlands), November 2-3, 2007.
- Tavares, J. (2004), The Open Society Assesses its Enemies: Shocks, Disasters and Terrorist Attacks, *Journal of Monetary Economics*, 51/5, pp. 1039-1070.
- Jyoti Trehan, (2002) "Terrorism and the Funding of Terrorism in Kashmir", *Journal of Financial Crime*, Vol. 9 Iss: 3, pp.201 - 211
- Truman, E.M. and Peter Reuter (2004), *Chasing Dirty Money: Progress on Anti-Money Laundering*, Institute for International Economics, United States: Washington, November 2004.
- Tupman W.A., Ten Myths about terrorist financing, *Journal of Money Laundering Control*, Vol. 12 No. 2, 2009, pp. 189-205
- Unger B., (2009), Money Laundering - A Newly Emerging Topic on the International Agenda, *Review of Law and Economics*, vol.5, n.2.
- UNO (2004): *World Drug Report*, United Nations Office for Drug and Crime Prevention (UDCCP), Oxford-New York.
- UNO (2005): *World Drug Report*, United Nations Office for Drug and Crime Prevention (UDCCP), Oxford-New York.
- US-Defence Department (1996): *Patterns of Global Terrorism 1996*, from <http://www.state.gov/www/global/terrorism/1996Report/overview.html>.
- Viles T., (2008), Hawala, Hysteria and Hegemony, *Journal of Money Laundering Control*, vol. 11, n. 1, pp. 25-33
- Wahab, B. (2006). How Iraqi oil smuggling greases violence. *Middle East Quarterly*, vol. 13, n.4, pp. 53-59
- Walker, John (2000): Money Laundering: Quantifying International Patterns, *Australian Social Monitor*, 2/6, pp.139-147.
- Walker, John (2004): A Very Temptative Exploration of the Relationship between Shadow Economy and the Production and Transit of Illicit Drugs, New York: *UNODC document*.
- Walker, John (2007): Measuring Global Money Laundering, *Paper presented at the conference "Tackling Money Laundering"*, University of Utrecht, Netherlands.
- Walker, John and Brigitte Unger (2009), Measuring Global Money Laundering: The Walker Gravity Model, *Review of Law and Economics*, 5/2, p. 821-853, DOI: 10.2202/1555-5879.1418.
- Ware, M. (2004): Responding to Terrorism and Achieving Stability in the Global Financial System: Rational Policy or Crisis Reaction, *Journal of Financial Crime*, 11/4, pp. 380-397.
- Weinberg, L, Pedahzur, A., Hirsch-Hoefler, S., (2004), The Challenges of Conceptualizing Terrorism, *Terrorism and Political Violence*, vol. 16, n. 4, pp. 777- 794
- Wilkinson, P. (2005): International Terrorism: The Changing Threat and the EU's Response, *Cahier de Chaillot* 84.
- Williams, P. (2007): Warming Indicators and Terrorist Finances, *Terrorism financing and state responses: a comparative perspective*, Stanford, Calif., Stanford University Press: 72-92.
- Wilson J.F., (2002), Hawala and other Informal Payments Systems: An Economic Perspective, IMF.
- Wilton Park Report (2007): Combating Financing of Terrorism, *Conference WP852*.
- Winer, J. (2002): *Globalization, Terrorist Finance, and Global Conflict-Time for a White List? Financing terrorism*, Dordrecht and Boston: Kluwer Academic Publisher, pp. 5-40.

- Yepes, Verdugo (2008): International Cooperation in the Fight against Terrorist Financing, *Dissertation*, 2008, Universitat de Barcelona, Barcelona, Spain.
- Zaidi Manzar Abbas S., (2010), Understanding the Appeal of Taliban in Pakista, *Journal of Strategic Security*, vol. 3, n.3, pp. 1-14.
- ZDANOWICZ, JOHN S., (2009), Trade-Based Money Laundering and Terrorist Financing, *Review of Law and Economics*, vol.5, n.2, 855-878