

The Global Literature on Organized Crime

An Interpretive Report on the Development and Meta-Analysis of an Annotated Bibliographic Database for Canadian Policy Makers

by

Net-L3.com

Dr. James Sheptycki

and

Dr. Margaret Beare

and

Pierre-Yves Bourduas

and

Dr. Carlo Morselli

and

Lisa Taylor

and

Norman E. Taylor

prepared for

Research and National Coordination
Organized Crime Division
Law Enforcement and Policy Branch
Public Safety Canada

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EXECUTIVE SUMMARY

The organization of crime in Canada affects and is affected by broader global currents, and Canadians can learn from examples of best practices both at home and abroad. Public Safety Canada [PSC] recently sought the development of an annotated bibliographic database, populated with a current body of literature which has been assessed for its validity and relevance, together with a meta-analysis of existing global research which can inform the criminal justice enforcement community and serve as a model for the continued expansion of reliable knowledge in the field.

The following analytical report accompanies the delivery to Public Safety Canada of an expandable, updatable and electronically stored bibliographic database of research literature on the organization of crime and practical responses to it. This database is currently populated with over 300 annotated references and includes extensive search features which will support both researchers and criminal justice practitioners in their efforts against organized crime in Canada.

In this report, the authors describe the method and scope of their global search for relevant and valuable research and policy literature. As well, organized within several subject theme categories, the authors offer extensive commentary on the nature and quality of the existing research and policy literature together with detailed interpretations on the evident trends in prevention and enforcement.

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Introduction

The Government of Canada has recognized the need to update and systematize knowledge of organized crime. The organization of crime in Canada affects and is affected by broader global currents, and Canadians can learn from examples of best practices both at home and abroad. The need is for a systematic review and improved, ongoing access to the best literature from around the world that pertains to organized crime. With this in mind, Public Safety Canada [PSC] recently sought the development of an annotated bibliographic database, populated with a current body of literature which has been assessed for its validity and relevance, and an in-depth assessment of selected items which can inform the criminal justice enforcement community and serve as a model for the continued expansion of reliable knowledge in the field.

The concept of organized crime refers to a variety of phenomena, ranging from traditional gang-type activity through to complex, global networks of criminal exchange. The PSC's specifications for this project were identified in partnership with the membership of the National Coordinating Committee on Organized Crime [NCC] Research Working Group, and called for data relating "to the identification of criminal organizations; their membership; how leaders emerge; recruitment techniques; criminal activities; threat levels; and, joint task force strategies". PSC has also listed discrete examples of organized crime, namely: "fraud, money laundering, intimidation, identity theft, drugs, sexual exploitation, trafficking in persons, and the production of counterfeit goods and currency". However, the concept of organized crime is open-ended, and the foregoing list should not be viewed as being exhaustive. Thus, there was an additional requirement that the research and analysis undertaken within this project would identify gaps in current thinking about trends in the organization of crime. The primary objective of this study was to establish a clearer picture of current global scholarship and policy literature that is related to organized crime. Additional objectives included enhancing the development of practical knowledge to assist in the achievement of "valid and measureable indicators to better determine the harm that organized crime poses", and to "determine best practices when conducting research on the long term success of [counter organized crime] initiatives". Ultimately, the specifications noted that the knowledge requirement is for a product that can be used in informing decisions about how to allocate governmental resources in the response to organized crime with the expressed aim of finding ways to minimize the associated social harm. The Request for Proposals acknowledged that this is difficult because of the "the large number of potential research projects [on the organization of crime]; the variance of purpose, scope, and, methodology between the projects; and the complexity that arises from their comparison" (PSC, 2008).

There is a tremendous volume of work published every year that pertains to organized crime, but not all of it is relevant and some of it is poorly researched. What is useful is to tap into rigorous high quality research published in reputable refereed journals while leaving aside less methodologically sound work. This analytical report accompanies the delivery of an expandable, updatable and electronically-stored bibliographical database of research literature on the organization of crime and practical responses to it. The project aimed to consolidate a broad but discerning, itemized and fully annotated bibliography of research relevant to understanding the contemporary organization of crime, transnational and otherwise. The aim of this report is to illustrate how this bibliographical database can be used to inform analyses of specific aspects of organized crime. This particular analytical report does not fully exhaust the analytical potential of the existing database, but rather touches upon the most important themes in the literature that connect with the priorities of the NCC. As the database is expanded over time, it should be possible to use it as a research tool to underwrite further analyses on newly emerging topics and to update analyses of existing topic areas.

Method

The research aimed to produce a literature review that is broadly representative of global scholarship and research pertaining to organized crime using a regional focus dividing up the world into the following: North America; Latin America and the Caribbean; Europe; Eastern Europe; Africa and the Middle East; South and South East Asia; Australia and New Zealand; China and Japan. As predicted in the original research proposal, the production of useful knowledge concerning organized crime phenomena from these different regions is uneven and therefore the contents of the bibliographical database reflect this. The program of work began by classifying items under the following general headings: illicit markets; violence; criminal networks; economic crime and fraud; cybercrime; environmental crime; and organized crime prevention and harm reduction. The virtue is that these headings are broad and capture the most important and interesting general features of the phenomena of organized crime. The various sections of the analytical report that follows try to capture the practical inter-relationships that exist between these analytical categories. The research strategy adopted was that of abduction. Instead of trying to impose a rigid and abstract theoretical template (deduction) or aiming to gather all relevant information (induction), abduction begins at an intermediate level. The deductive approach brings the risk of imposing theoretical tunnel vision, while induction risks being overwhelmed with information. Abduction recognizes that research does not start from scratch and directly addresses the problem that the many and varied research publications under review in large-scale meta-analyses are not all subject to the same design parameters. It is an approach to research which is interdisciplinary and the team of researchers on the project reflects this. In this case, abduction meant approaching the field of organized crime literature through multiple entry points and organizing the exercise regionally and around the general headings mentioned previously. Abduction is a promising research strategy for understanding the organization of crime in a global context because it helps to detect patterns of similarity and difference across a complex field of research. It focuses attention and makes sense of complexity by looking for variety and then further classifying the cases-studies judged to be 'most typical' and 'most important' and 'most innovative' – the latter category referring to studies which are recognized as testing the boundaries of knowledge and understanding.

The program of research was undertaken in stages utilizing multiple points of entry into the research literature concerning organized crime phenomena. Both the word-of-mouth and library searches were used to canvass for materials to populate the database. In addition to conventional research sources, significant network research was conducted through contacts in the stakeholder community of policing and criminal justice agencies. Please see Appendix A for details.

An Overview of the Annotated Bibliographic Database

The global research into existing OC literature conducted under this project has yielded an initial database of over 300 annotated bibliographic entries. All of these database entries are accompanied by brief abstracts and other evaluative commentaries on the nature, purpose and sponsorship of the research and/or policy discussions reflected in each item. The database is fully scalable and provides researchers and practitioners in OC with a central repository which can grow over time and which can lend continuity to the assembly and ongoing evaluation of OC research materials in Canada. (Note: Detailed documentation on the operation of the database has been developed and may be obtained by arrangement with Public Safety Canada.)

To date, the database contains a total of 317 bibliographic entries as follows:

By Region of Origin

Canada and the United States	186
United Kingdom and Ireland	55
Western Europe	42
Australia and New Zealand	31
Global in Scope	13
Latin America and Caribbean	9
Central and Eastern Europe	7
China and Japan	4
Middle East and Africa	4
South Asia and Indonesia	1

By Subject Theme

Illicit Markets	148
Economic Crime and Fraud	95
OC Prevention and Harm Reduction	62
Violence	61
Environmental Crime	29
Cybercrime	26
Criminal Networks	26

Database Entries with Active Links to Files or URL Addresses

Active Link to Document in Database	62
Active Link to URL Address	145

Tabulated Selections for Additional Analysis

At the request of PSC, our research team also selected over 50 items from the larger collection for deeper analysis. This selection process was intended to highlight significant works based on a number of criteria. It also provided many of the primary sources for this interpretive report. Some items have been selected after being deemed by our research team as most typical, most important to a theme or to the field overall, and/or most innovative. Some items have been selected on the basis of their underlying methodological design or other qualitative aspects of

the research or policy work they represent. Others have been selected for their direct contribution to one or more themes of the NCC Research Program.

These tabulated selections are presented in Appendix B to this report.

The Interpretive Report

The project report which follows, proceeds under several headings. The first section, which looks at what we know about criminal networks and illicit markets and the role of violence in them, shows that law enforcement tactics do little to strategically change or shape illicit markets but that police interventions against violent market participants is valuable and socially necessary for the prevention of harm. The second section looks at international trends in strategic organized crime prevention and harm reduction. It identifies the existence and rigidity of the criminal law enforcement paradigm which dominates thinking about organized crime interventions and describes a loose collection of ideas (harm reduction, opportunity reduction, epidemiological and public health perspectives; administrative law approaches) as elements of a newly emerging paradigm. The research reviewed in this section cautions that an over-emphasis on criminal law enforcement is detrimental to the function of these alternative approaches, which can reasonably be expected to have a greater strategic impact over the medium to longer term. Policing remains important as part of a broad multi-agency governmental approach – especially where criminal activity also involves the use of violence – but the newly emerging paradigm emphasizes that regulation by other means is more efficacious in changing the circumstances which promote criminal opportunities.

The next section concerns the assessment of strategic impact of intelligence-led policing, both in Canada and abroad. It offers an assessment of various efforts to measure the amount and impact of organized crimes and to measure the impact that governmental interventions may have. It observes the complex methodological issues that arise because strategic impact assessment requires interdisciplinary approaches that combine a variety of perspectives besides those of law enforcement. There are no easy answers and further improvement in this domain will require improved co-operation between police professionals and the academic criminological community.

The section on money laundering and organized crime is extensive, reflecting the significant expectations there have been for counter-money laundering as a strategy for controlling organized crime and the enormous amount of research that followed on from this innovation. The research literature does not support the initial expectation that *going after the money* would significantly impact on *the life blood of organized crime*. It shows that most counter-money laundering efforts have been aimed at relatively low-level participants in relatively restricted settings for criminal opportunity (drugs and fraud). The research further suggests that improved regulation of legitimate market actors undertaking regular and routine financial business would probably have a greater impact in terms of reducing criminal opportunity for the most profitable, harmful and egregious forms of economic crime.

The next section looks at alternative strategies for organized crime prevention that are premised largely on improved administrative law oversight of operations in the legitimate business sector. All of these sections identify studies that are important, innovative and which can significantly advance our collective understanding. These sections also identify gaps in understanding and try to explain why these gaps exist and how to remedy them. The final two sections of this report focus on specific new areas in thinking about the organization of crime, namely

cybercrime and organized environmental crime. These are topic areas that tend to be overlooked or only partially understood in contemporary policy discussion, but also areas where there is emerging research literature that can fill in important gaps. The concluding section draws together some of the most important threads from the preceding analyses and ventures a set of implications, conclusions, recommendations and suggestions for further research.

Illegal Markets, Criminal Networks, and Violence in Illegal Markets

Research on illegal markets and criminal networks has been consistent for at least one key finding: that the presence of a Mr. Big or dominating gang/organization in any given market is unlikely. The features of illegal markets or criminal networks also extend to the structure and scope of violence in such settings. Overall, thinking in terms of networks and markets has emerged as an alternative to the traditional image of mafia-like hierarchical and bureaucratic-like organizations. Past studies in these areas have suggested alternative orientations for repressive controls, but little has been proposed to orient preventive measures against organized crime.

There is much research on illegal markets that highlights the challenges and, in many ways, inability for law-enforcement interventions to have any important impact. Illegal markets are typically made up of small and transient groups, making the structural features of the overall market largely competitive and, thus, difficult to control by law-enforcement interventions. This competitive environment at the individual level does not, however, translate into instability at the market level. Quite differently, illegal markets are notorious for their resilience and their capacity to absorb the shocks from external controls. Research on price stability and the costs of participating in such settings has been at the forefront of this particular issue.

Caulkins and Reuter (1998) examined price fluctuations in drug markets and identified what should be taken as a starting point for anyone interested in controlling such settings: law-enforcement controls and policies generally have a limited impact on these markets because initial prohibition increases drug prices at a higher level than if drugs were legal. The consequence of this initial impact is that the illegal market begins with a built-in buffer to subsequent (and lower level) controls, leaving traffickers and dealers a sufficient margin to adapt. The result is that prices fluctuate minimally and demand is met on a consistent basis because suppliers adjust to rising costs.

Similar results were found by Yuan and Caulkins (1998) who measured the impact of law enforcement interventions on monthly cocaine prices. Using data from the US Drug Enforcement Administration and time-series and Granger-casualty analyses, the study confirmed that law enforcement interventions did not predict or impact drug prices. In fact, when enforcement was measured in terms of the *number of seizures*, a negative relationship was found with respect to drug prices (greater intervention, lower prices). This perverse outcome was particularly the case for heroin and cocaine markets.

Caulkins, Johnson, Taylor, and Taylor (1999) add to this understanding by explaining some practical features of the drug dealing business. They provide a description of four distinct types of crack merchants based on ethnographic research on the sales revenues of 1500 crack sellers and distributors in New York City between 1989 and 1996. While the study did identify important variations in revenue levels, the monetary costs of drug distribution were modest for all levels of dealers. The authors argued that such differences should be integrated to orient law enforcement interventions at different levels of drug distribution. Efforts in the UK aimed at

'middle markets' (Pearson & Hobbs, 2001) have not shown appreciable effects at the market level. This is explained by the importance of profits over costs, an issue for Dorn et al (1998), who studied the risk perceptions and methods to reduce risk by traffickers. After interviewing 25 prisoners and informants with trafficking experience, they found that respondents simply did not recognize the risks of their activities; instead, they were more success oriented.

While most research on illegal markets does not provide an orientation for intervention efforts, there are some innovative studies that do. One body of research suggests that to understand the limits of illegal markets, the focus should shift toward individual participants. As Dorn, et al (1998) argued, illegal market participants are more sensitive to their revenues and success, as opposed to the costs of their actions. This was the centrepiece of Hoffer's (2005) ethnographic case study of a heroin market. He examined the careers and experiences of two long-term heroin dealers/users in a poor neighbourhood. His interpretation of the rise and fall of these two careers highlights a key vulnerability that may be shared by many drug trade participants. In general, a working system in an illegal market works because, in most cases, users and merchants follow a set of informal rules and respect the constraints set upon them. Hoffer found that as long as such 'respect' was met, dealing careers remained promising. Failure happened when dealers' ambitions surpassed the limits of the illegal market. What this study suggests is that intervention efforts should be more focused on those actors in illicit markets whose ambitions upset the stability of the illicit market rather than on the more simplistic approach of increasing the costs for all involved. The illegal market absorbs the costs imposed by external controls, while also hampering its own over-zealous participants.

Another avenue for more effective interventions in illegal or criminogenic markets highlights the role of legitimate market actors, referred to generally as facilitators in illegal markets. Alain (1999) exposed this important segment in his research on tobacco smuggling in Canada during the late 1980s and early 1990s. He illustrated the symbiotic relationship that was in place between Canadian cigarette manufacturers, American buyers, smugglers from native reserves at the Canadian/US border, and the Canadian public. Alain's analysis is placed particularly upon the Quebec scene, but his research review and statistical analysis of supply/demand trends is relevant to similar trends beyond this context. For example, illicit firearms markets might also be better controlled with firmer regulation of gun manufacture and sale (Cukier & Seidel, 2005). Alain found that legitimate trade actors, such as the cigarette manufacturers, were fundamental to the illegal market's sustainment. The process that he identified may appear quite straightforward, but criminal opportunity is often forgotten when thinking in terms of policy. In this instance, taxes imposed on tobacco products drove prices up and pushed Canadian consumers towards accessible products with lower prices. Networks of smugglers, formed partially by native groups, profited from the resulting criminal opportunity structure reintroducing Canadian cigarettes originally sold as surplus by Canadian manufacturers to the United States. In this case, cigarette manufacturers were the initial facilitators of an illicit market, a fact attested to because the surplus sold to the United States was in direct proportion to the re-entry of products via smuggling channels.

That illegal markets rise and adjust to the constraints set upon their consumers and participants is probably the most important thing to understand. Layne et al (2001) studied the deterrent effect of enforcement operations on drug trafficking. Based on prison interviews with high-level cocaine smugglers and statistical analyses of counterdrug enforcement operations, this study found that traffickers considered long sentences, the threat of informants, and prosecution under conspiracy charges as important deterrents. These authors speculate that successful effects on cocaine prices would result from the arrest or death of major drug traffickers. Aside from addressing the cost issue, this research also raised another feature that helps us understand

why illegal markets remain resilient even when subjected to extensive controls and constraints. Essentially, illegal market participants are not only capable of absorbing the costs of intervention, but they have also displayed creativity to find alternative transportation routes or methods that compromise the effect of interdiction operations. Such adaptation to the hostile surroundings has been the core analytical focus of research on the organization and inner workings of networks in illegal markets.

Assessing adaptations to intervention efforts calls for an understanding of the structural or organizational features underlying the illegal market at various levels. Using data from federal, state and local drug investigations on markets structures in 1995, 1996 and 1997 in the Washington-Baltimore area, Eck and Gersh (2000) tested two hypotheses concerning the structure of illicit markets: one represented by hierarchically organized distribution networks and one represented by small, ephemeral groups of traffickers. They found that drug markets were more consistent with a cottage-industry representation in which traffickers were evolving in small, competitive groups.

Another study by the Matrix Knowledge Group (2007) illustrated how high level drug dealers and overall illicit markets operate. This research, based on face-to-face interviews with 222 inmates convicted of serious drug-related offences, offered an overview of individual-level, firm-level, and market-level conditions. The authors found that drug markets were fragmented in that participants involved at high levels were only knowledgeable about their own operations and had limited knowledge about the activities of others. They also found that barriers to entry for people with contacts were small and that trust was of critical importance. Finally, concerning the strategic responses of dealers, the majority expanded their operations in accordance with alternative sources of supply. The study's conclusions are consistent with previous appraisals in that the adaptive capacities revealed both a poor risk trade-off and an unrealistic sense of feeling untouchable on the part of dealers who had been operating for some time with a consistent level of success.

Another important study guiding understanding of illegal drug markets was conducted by the Gruppo Abele (2003). The aim of the research was to assess the scope and social organization of ecstasy markets in three European cities: Amsterdam, Torino, and Barcelona. Based on court files, official documents, media reports, and interviews conducted with market participants and law enforcement officers, the research found that the distribution and use of ecstasy was closely linked to the dance and techno-music culture. More importantly, the organization of these markets revolved around closely-knit networks in that synthetic drugs were predominantly sold in private settings among relatives, friends and acquaintances. Even in semi-open settings in or near clubs, discos and raves, trust and knowledge of various informal 'codes' and interaction rules characterized transactions. Overall, the market was largely decentralized, highly informal, with low entry barriers, and the involvement of a myriad of individuals, small groups and loosely organized networks.

That illegal markets are largely competitive and, thus decentralized, has also been a recurring finding in research beyond drug settings. İçduygu and Toktas (2002) assessed the organizational structure of human trafficking and smuggling at irregular border crossings in the Middle East. Based on three field studies in Turkey between 1998 and 2002 and in-depth interviews with irregular migrants, smugglers, and traffickers, the authors found that smuggling and trafficking operations are more likely to be organized and supervised by independent individuals of small groups working in wider networks than in criminal syndicates or mafia-style operations.

Another ambitious study that came to similar conclusions was conducted by Desroches (2005), who explored the experiences and organization of high-level drug traffickers in Canada. Desroches' focus was on success in this cocaine market. Based on interviews with 70 convicted drug traffickers and supplemented by interviews with investigators and the analysis of investigative files, the research found that most traffickers operated as independent wholesalers. There was no evidence of a monopoly or cartel in the Canadian drug market. Although some large criminal organizations did exist, most enterprises were relatively small in size. Violence was used on occasion, but most respondents emphasized that threats alone were generally sufficient. Violence was considered harmful to business since it attracted significant and unwanted attention (see discussion below).

Throughout recent years, there has been a strong rise in the number of studies that apply a social network perspective to the study of illegal market organization. Such research on criminal networks in various illegal market settings is consistent with the decentralized and competitive features that emerge from illegal market studies. In a recent book, Morselli (2008) set out to study the inner workings of drug trafficking operations and stolen vehicle networks that were targeted by various law-enforcement interventions and disruptions. The case studies compiled in this book address many of the analytical paths raised above. Using communication data of law-enforcement electronic and physical surveillance material, Morselli applied basic social network analytical methods based on concepts of centrality, density, and geodesic concepts and found a series of patterns that were consistent with illegal market research. Most criminal networks were indeed indicative of small and transient groups in that they were essentially the result of mere partnerships and resource pooling between a few well-connected participants. Participants from legal occupational settings (facilitators) helped structure drug trafficking activities by not only serving as identity fronts and contributing their professional expertise, but by also providing necessary contacts. Key participant positioning was extremely variable with one participant serving as a main coordinator for one criminal operation and easily displaced by one or more co-participants in subsequent operations. The status of a key participant was volatile in that the loss of one main participant in the network was quickly replaced by new leader(s). Brokers, and not bosses or kingpins, emerged as the key participants across criminal networks – in short, participants who were able to serve as bridges between disconnected groups and individuals were more valuable to the networks than any organizational head. Most importantly, law-enforcement interventions contributed to keeping illegal market participants competitive and adaptive by consistently decentralizing a criminal network. Morselli synthesized these case study findings in a framework that stresses flexibility as the main asset for illegal market and criminal network structures.

Research on criminal networks has also focused more particularly on street gangs and their presence in various illegal markets. McGloin's (2007; 2005) studies solicited specific information from law enforcement personnel experienced in addressing gang activity in order to analyze the organizational structure of street gangs in Newark, New Jersey. In common with Morselli, her findings showed that these groups were also of a flexible order. Based on a series of focus group interviews with law-enforcement officials, she found that Newark street gangs generally lacked cohesion and that gang members were best described as being part of social systems of independent criminal entrepreneurs rather than hierarchical, stable organized crime syndicates. There was no single encompassing gang network. If there was any structural component keeping the network in place, it was due to a handful of cut-points represented by individuals who connected members between different gangs (brokers, in other words).

Research on violence in illegal markets also points to the major challenges facing policing efforts to contain such problems and the importance of addressing the phenomenon from alternative

perspectives. Curtis and Wendel (2007) examined the effects of law enforcement interventions on violence in drug markets. Their study was based on ethnographic observations of the changes in drug markets and violence in New York City over a 20-year period. They ended up proposing that enforcement operations should be targeted so as to adjust drug markets and participants to act in ways less likely to produce violence and social disorder. According to this study such adjustments are best achieved through brief interventions of limited scope by law enforcement. These increase the likelihood of suppressing escalating violence on an intermittent basis and have the eventual effect of reconfiguring markets and increasing mediation efforts and the avoidance of violence therein.

Similarly, Zaluar (2001) studied the situation of young favelados involved in drug dealing in Rio de Janeiro. His description of the socio-demographic environment in three districts of Rio was based on fieldwork conducted between 1997 and 2000. Zaluar concluded that governmental and non-governmental organisations should focus on projects promoting the social pacification, and not repression, of gang warfare. Morselli et al (2008) similarly exposed the limits of zero tolerance and repressive law-enforcement efforts to positively effect violence in drug markets. Using time-series analyses, they focused on all homicides and tentative homicides between biker gangs and illegal drug merchants in southern Quebec during the late 1990s. The authors found that lethal violence in such markets was cyclical and subject to important rises every ten years or so. Police intervention was rarely needed to reduce violence during cycle peaks because third party interventions within the criminal market generally fulfilled its mediating role. More serious problems emerged when criminal group polarization was attained in the illegal market and two identifiable factions emerged. At this point, traditional third party mediators within the illegal market were lacking and attrition within factions or police intervention were the only options left to reduce the escalating violence. In the case of the biker gang violence of the latter 1990s, the main problem with the law-enforcement intervention that took place was its mandate to contain both the violence and the drug market in which the violence was taking place. Because the focus extended far beyond the specific problem at hand (the violence), the intervention effort took seven years to reach any serious outcome. Also, and consistent with Curtis and Wendel's conclusion, law-enforcement controls were neither specific nor short-term. They were, on the contrary, too wide-scoped and ambitious in their long-term aims, thus leaving little room for drug markets and participants to adjust to rising hostility within (violence) and beyond (the police) the market.

The research on the interactions of illegal markets, criminal networks, and violence in illegal markets affords some lessons. It shows that criminal law enforcement has a limited impact on illicit markets but that licit actors in illicit markets may be a point of vulnerability. Generally, the research shows the adaptability and fluidity of criminal networks – the flexible order of crime. Where police intervention seems most urgent and effective is in response to violence. Criminal law enforcement in illicit markets is most effective when it focuses on market participants implicated in violence.

International Trends in Strategic Organized Crime Prevention and Harm Reduction

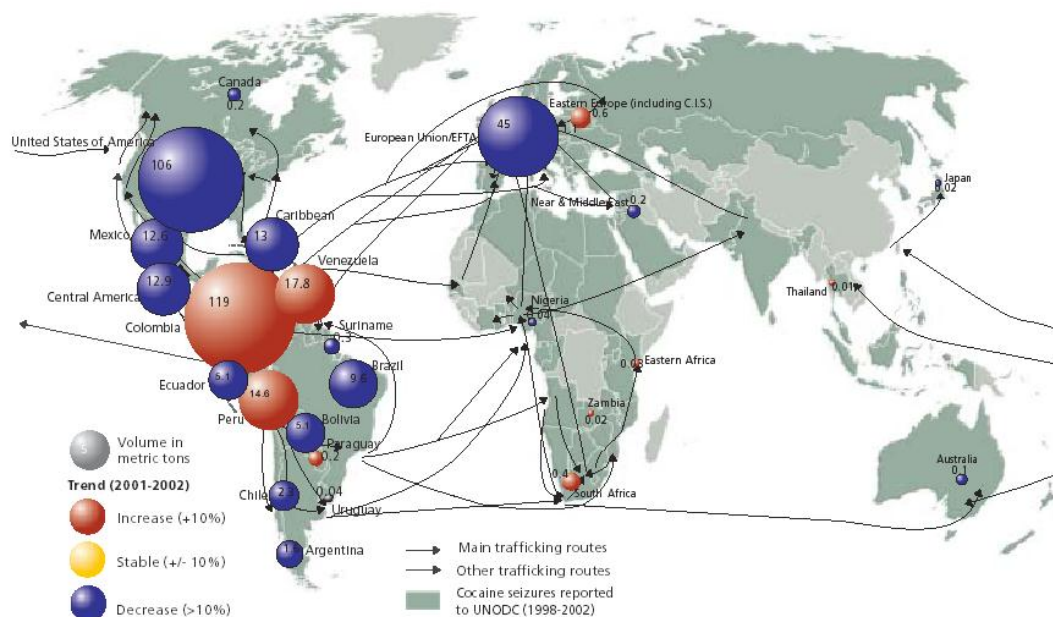
Law enforcement approaches continue to dominate the landscape of counter organized crime strategy and tactics internationally. This is especially evident globally with regard to illicit drugs

since transnational drug prohibition is the historical *paradigm example of transnational policing* (Sheptycki, 2000). At the micro level, the policing of street level drugs markets has been intensively studied internationally (Aitken, et al, 2002; Dixon & Maher, 2002; Dixon & Maher, 2005; May et al, 2000). These studies indicate that tactical enforcement strategies have, at best, short-term impacts, but that these impacts tend to result in the medium to longer term in displacement rather than reduction. Criminal law enforcement efforts against illicit drug markets have only intensified since the 1980s despite a lack of evidence regarding their efficacy. There has been innovation in tactical law enforcement, for example combining network and *hot spot* analysis to develop more targeted interventions at the retail level (Stovin & Davies, 2008), but again there is no evidence that the strategic outcome is a lessening of the harmful effects of illicit drugs.

Economic analyses of the internal dynamics of retail drug markets based on empirical evidence are rare, but the findings are very revealing. An outstanding example is a study by Levitt and Venkatesh (2000) based in part on a detailed analysis of actual accounting books of a successful criminal drug retail operation in a large American city. This study sheds economic light on the question as to why this type of criminal enterprise is so resistant to law enforcement intervention – there is an enormous pool of potential participants ready to capitalize on the market opportunities of the illicit drugs economy. The international literature tends to put in doubt any likely future effectiveness of law enforcement attempts to control illicit drug markets by focusing on retail drugs markets. At their best, policing operations against street level markets include mixed measures, including targeted arrests, situational crime prevention techniques and social crime prevention. Strategically, these ultimately do not and cannot impact on actual levels of demand, although at the tactical level they may do something to reduce and contain the damage which open drug markets create for the neighbourhoods in which they operate (Edmunds et al, 1996). Studies have also focused on so-called *middle markets* (Pearson & Hobbs, 2001) and there has been an attendant law enforcement effort to disrupt criminal drugs markets at this level as well as acting against global drugs transshipment (See map below. Source: UK National Criminal Intelligence Service, 2004).

Figure 1 – Cocaine Seizures 2001 - 2002

Map 11: Cocaine* seizures 2001 - 2002: extent and trends (countries reporting seizures of more than 0.01 tons (10kg.))



* Cocaine seizures presented in this map do not include seizures in liquid form.

Note: Routes shown are not necessarily documented actual routes, but are rather general indicators of the directions of illicit drug flows.

Strategic estimates of street drug prices available internationally tend to show a downward trend over time. These trends undermine a bedrock assumption for counter-drugs law enforcement – that it can shape the drugs market, raising prices and thereby suppressing sales volume. Estimates released by the United Kingdom National Intelligence Service in 2004 show falling prices over the previous four years (see following table):

Figure 2 – Falling Drug Prices

UK drug prices 1999-2004;

Source National Criminal Intelligence Service (NCIS) 2004

UK average drug prices 1999 to 2004 As at December each year	Herbal Cannabis (£ per ounce)	Cannabis Resin (£ per ounce)	Cocaine (£ per gram)	Crack (£ per 0.2g rock)	Heroin (£ per gram)	Ecstasy (£ per dose)
1999	89	100	63	20	65	11
2000	82	85	65	23	70	9
2001	80	77	60	21	63	7
2002	83	81	56	20	61	6
2003	72	66	55	19	62	5
2004	72	61	51	18	55	4

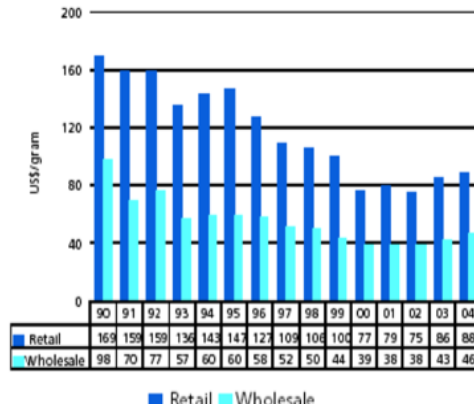
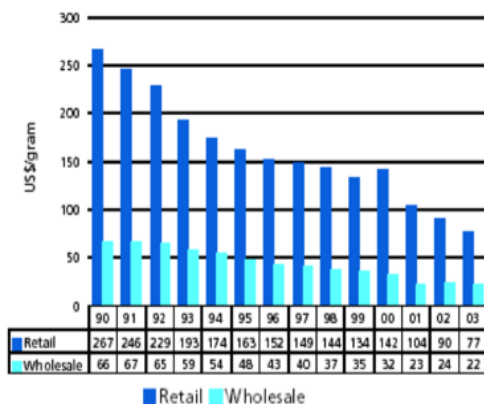
Moreover, the UN World Drug Report for 2005 revealed estimates of cocaine wholesale and retail prices for both the USA and Europe (the two major consumer markets for the drug) over a thirteen year period which also shows broadly falling trends (see chart below):

Figure 3 – Cocaine Prices

Cocaine retail and wholesale prices, 1990-2003

USA (US\$ per gram)

Europe (US\$ per gram)



There is nothing new in these trends. Announcing the development of the new standard measure for the *Global Interception Rate* (GIR) in 1999, the UN Office for Drug Control and Crime Prevention reported that “despite the improved performance of law enforcement, far larger amounts of illicit opiates and cocaine are being consumed than was the case in previous years” (Newman, 1999, p. 180). Woodiwiss and Bewley-Taylor (2005) chart the political construction of the global enforcement regime over time and show in detail how the *war on drugs* has advanced in the face of opposition and in spite of a lack of evidence that it was having any positive effects. The alternative paradigm in the drugs field has been a loose amalgam of harm reduction, social crime prevention, public health and community capacity building but all of this work has been over-determined by the continuance of criminalization which guarantees the existence of an enormous underground drugs economy, only one segment of an increasingly lucrative global ‘shadow economy’ (Flemming et al, 2000).

Over the past decade a growing body of research evidence from the field of public health has revealed that law enforcement activity targeted at the retail and user end of the illicit drugs market has substantial potential to produce harmful health and social impacts, including disrupting the provision of health care to injection drug users [IDU], increasing risk behaviour associated with infectious disease transmission and overdose, and exposing previously unaffected communities to the harms associated illicit with drug use (Kerr et al, 2005). This has prompted innovative thinking in the form of public health and harm reduction strategies. This paradigm was radically advanced by the Swiss heroin maintenance experiments in the 1990s (National Families in Action, 1999). This experiment showed that it is medically feasible to provide an intravenous heroin treatment program under highly controlled conditions where the prescribed drug is injected on site, in a manner that is safe, clinically responsible and acceptable to the community, and that participants reported improvements in health and social functioning, a decrease in criminal behaviour and in the use of illicit heroin. Follow-up results five years later suggested that heroin prescription causes a strong and stable decrease in criminal involvement of most patients, and that treatment effects seem to hold in the post-treatment rates found in records related to use and possession of heroin which remain comparatively low and stable, indicating that most program dropouts do not re-engage in (public) use of illegal heroin (Ribeaud, 2004). This study is not singular. There are many examples from around the world where public health perspectives, harm reduction thinking, crime prevention and regulatory strategies have been reconfigured and this is not only in the field of drugs policy (eg. Bouloukos et al, 2003).

The public health approach has even been applied to firearms with rather different implications than those found in the drugs field (Cukier & Sidel, 2005). That this should be so is perhaps not surprising since, as Agozino et al (2009) argue, gun control should be easier than drug control:

Figure 4 – Gun Control vs. Drug Control

Guns	Drugs
Built in factories	Grown clandestinely
Serial numbered	Unregistered
Metal – easily detected	Vegetable – hard to detect
Manufacturers registered	Growers undocumented
Distributors licensed	Distributors unlicensed
Purchase documented	Purchase undocumented

Source: Agozino et al (2009, p. 17)

Internationally speaking, criminological thought has shown considerable innovation in the face of the obvious challenges. The rise of *crime science* (Tilley & Laycock, 2007) and the sharpening of organized crime prevention thinking through opportunity reduction (van de Bunt & van der Schoot, 2003) have given teeth to alternative approaches to countering organized crime. A candidate for the most internationally important national criminological study of organized crime is the 1998 report by Fijnaut et al entitled *Organized Crime in the Netherlands*. This study was initially prepared for the All Party Commission of Inquiry of the Dutch Parliament investigating the regulation and use of undercover policing. It analysed contemporary manifestations of organized crime in the country and sought answers to important questions not often asked as to the relationships between organized crime and the legitimate and underground sectors of the Dutch economy. This is the first study of its kind in Europe to allow academic criminologists unrestricted access to police files and other sources of raw police data. It brought together evidence and rigorous methodological and analytical thinking in a ground-breaking attempt to evaluate organized crime systematically. The degree of co-operation between academic criminologists, police intelligence analysts and policy practitioners at all levels of government in the Netherlands is rivaled in few other countries. Consequently, the analytical use of police intelligence – together with alternative sources of open intelligence – in developing innovative strategies in the face of organized crime phenomena is sophisticated (eg. Klerks, 2007).

Alternative strategies in organized crime prevention have been systematized for a Canadian readership by Schneider (2001) who outlines five categories of approaches:

- Non-traditional criminal justice approaches
 - Community crime prevention; information/education/awareness programs; advocacy organizations; community policing
- Public policies, programs and agencies *outside* criminal justice
 - Regulatory policies, programs and agencies; currency and suspicious activity reporting; tax policies; civil sanctions; government commissions; military; national security.
- Private sector
 - Individual companies; professional and industry associations; anti-fraud and money laundering software; private policing and forensic accounting.
- The academic sector
 - Research centres and public policy think tanks
- Multi-jurisdictional and multi-sectoral cooperation
 - International enforcement partnerships; public/private partnerships; centralization of various powers in one agency.

Internationally, this literature concludes generally that the most innovative approaches to countering organized crime combine criminal, civil, regulatory, and administrative sanctions. Increasingly, there is a shifting focus in criminological thinking towards more prevention-oriented policies. This paradigm suggests that when *police* are providing enforcement tools they are doing so from a multi-agency perspective which recognizes that specialized organized crime units are only part of the enforcement strategy, and that there is a need to place a greater

reliance on community mobilization and reassurance policing. With this shift has come a re-alignment in thinking about the sectors of organized crime and criminological features, and gaps in knowledge and understanding have come to be recognized, although perhaps not very widely. The shift in thinking has exposed very substantial gaps about the policing of organized cybercrime and environmental crime (see relevant sections of this report).

The paradigm shift in thinking means dropping the war on crime rhetoric and its narrow, zero-tolerance tactics, but it does not mean that the need for policing disappears. This broad shift in thinking has clarified one point: that changing the underlying conditions of clandestine markets has dramatic effects on the environment in which policing is being carried out. For example, in Europe – where gun regulation is generally of high order – the integration of public health and community safety approaches in thinking about youth gun-crime prevention has made considerable advances. Shaw (2000) demonstrates the feasibility of implementing a range of youth support, recreational, cultural, education and training programs, within a broad community and institutional partnership which includes municipal authorities and public attorneys, police, local business and community organizations, and the state university. The relative rarity of youth gun-crime in Europe generally attests to the positive outcomes of this overall policy. In the United States, where firearms regulation is very uneven and irregular and gun-related crime is high-volume crime (in public health terms, it is of epidemic proportions) the conditions for local policing are very different. In the United States two populations, adult career criminals and juveniles, are legally prohibited from purchasing handguns nearly everywhere. However, Pierce et al (2003) show that under conditions of mass ownership of handguns, there are a variety of ways in which these prohibitions may be breached. In the absence of a functioning regulatory system for firearms, American criminology has been forced to find ways for local law enforcement to concentrate scarce resources in intensive law enforcement operations (Sherman, 2001). These experiments produce significant outcome measures, and even suppress gun-crime for their duration, and yet in terms of the strategic indicators, the gun-crime problem in the United States remains largely unaffected. The United Kingdom has been successful in pursuing a policy of strict firearms regulation for many years to the strategic advantage of front-line police. The contrasts for policing practice are many, but it is revealing that imitation firearms are the more prevalent concern in the gun-gang-crime nexus there than are functioning automatic weapons. In the UK, firearms homicide is a relatively rare occurrence. There, guns account for only 11% of murders in the poorest districts whereas they account for 29% of murders in the least poor areas (Squires, et al, 2008). Ironically, under a policy of strict gun control, the more affluent the area the more likely it is that guns will be used to commit murder. Nevertheless, even under conditions of successful legal regulation such as the UK, there remains a residual problem of gun-crime which is understandably of considerable public concern at all levels of society and which thus remains a focus for police.

Innovative studies of illicit gun markets in the UK (Hales & Silverstone, 2005) have used a combined analysis based on offender interviews, open source information and police data. These have been very helpful at defining the nature of the problem and helping to refine the policy response options. This particular study emphasizes the social nature of gun crime, useful in informing thinking about social crime prevention measures, but it also reveals other aspects of the workings of the illicit economy. Other studies have systematically compared the structure and social character of illicit markets in heroin, stolen cars and women trafficked for the purposes of sexual exploitation (Bruinsma & Bernasco, 2004) using network analysis techniques. The links between clandestine and licit markets have been probed intensively by academic criminologists, for example with regard to the trade in art and antiquities (Tijhuis, 2006). Criminologists have shown, on the basis of empirical evidence, that transnational criminal markets are linked by complex networks of actors that are *local at all points* (Hobbs,

1998). The organization of crime is not a unitary phenomenon. Internationally, the criminological appreciation of the resulting complexities has begun to grow, and new ways of thinking about the strategic organized crime prevention and harm reduction are beginning to emerge.

Intelligence-led Policing and Strategic Impact Assessment of Organized Crime: Canada in the International Context

There is currently an active interest in developing a viable method to assess the harm done by organized crime in Canada. One key publication is the Porteous *Organized Crime Impact Study* (1998). This report aimed to study the *other side* of the organized crime question. That is, rather than focusing on outcome measures such as arrest and seizure rates as has been traditional in law enforcement circles, it attempted to evaluate the *impact* of organized crime and to think ahead, to how best to measure the impact of counter measures. The report used a descriptive model and devised different calculations in order to map the impact of: illicit drugs, environmental crime, selected contraband, economic crime, alien smuggling, counterfeit products, money laundering, and motor vehicle theft. Any measurement of *impact* relates at least to some extent to the measurement of the size of the illicit market, which is estimable but difficult to actually measure. This methodological difficulty led to some serious and apparent discrepancies in the estimated size of the illicit drugs market in British Columbia: \$349 million versus \$653 million. As a consequence the measure of impact on these markets can be nothing but guesses. Another similar example from this report is the estimate of between \$5 billion and \$17 billion laundered through Canadian financial institutions each year. This again means that there is no reliable figure against which impact might be measured.

In 2000, the RCMP developed the Sleipnir Model, detailed in *The Long Matrix for Organized Crime: An Analytical Technique for determining Relative levels of Threat posed by Organized Crime Group* (Strang, 2000). *Project Sleipnir* uses a rank-ordered set of attributes to measure the *threat* of organized crime (potential or real). It utilizes the *consensus of experts* or *Delphi* approach to determine the weight to be given to the various attributes. Organized crime groups were placed along one axis and the attributes along the other. They identified 19 attributes (including corruption, violence, infiltration, expertise, mobility, stability, monopoly, links to criminal extremist groups). The matrix uses a system of colour-coding, reflecting evaluations of the *degree* of the attribute (High, Medium, Low to Nil, Unknown). Identified groups can be evaluated *over time* to check on changes within the criminal organization, possibly due to law enforcement or to changes in the market. The success of this model is dependent on the ability to accurately rank the attributes and to identify the organized crime groups to place into the model. A number of shortcomings have since been pointed out. Given an international appreciation of the loose and fluid nature of criminal operations, the model may be less able to rank these than with the more traditional hierarchical operations. The *Sleipnir* methodology focuses on groups and is less able to capture the more fluid networks that interact within illicit markets. Moreover, the consensus of experts for *Sleipnir* appears to have been obtained from a very small circle and this is evident in the nature of some of the gaps in knowledge – for example concerning organized cybercrime, organized environmental crime and a variety of economic and financial crimes – produced by the methodology (Sheptycki, 2003).

In 2001, a large study was completed to assist the Federal-Provincial-Territorial (FPT) Working group on organized crime, supported by the Ministry of the Solicitor General. This report was prepared by Stephen Schneider and titled *Organized Crime Data Collection and Impact*

Assessment Framework (2001). An important observation was that across Canada, *organized crime* was being defined and statistically captured in a variety of non-uniform ways. Different data gathering systems, different definitions, and different sharing policies are in place to make any national calculations of organized crime practically impossible, problems very similar to those identified in the United Kingdom (Sheptycki, 2004; Innes & Sheptycki, 2004). Schneider's research aimed to determine how the Provincial and Federal governments could facilitate the accurate collection of statistical data on organized crime, while measuring its impact on Canadian society, and to develop a framework for doing these things. Based on his survey, Schneider determined that the priorities of the FPT Working Group members were drug trafficking, money laundering, outlaw motorcycle gangs, economic crime and the trafficking in women. He discovered that there was very little quantitative research conducted into these priorities in Canada and that the relevant statistical data was limited to only the long-standing priorities (i.e. drugs/smuggling etc.), and further that the statistical data sources were weak. Over-all, the conclusion was that:

“The lack of reliable data, the difficulty in isolating offenses committed by criminal organizations, the wide-ranging impact of organized crime on society, the need to quantify indirect and intangible impacts, and the necessity of invoking highly subjective assumptions will result in broad quantitative estimates which for some FPT priorities may be largely unreliable”. (Schneider 2001, p.vii)

These findings led to two additional projects: one to determine, via the Delphi method, what *ought to be the operational definition* for the data collection on organized crime (Beals et al, 2002). The second was a *pilot* feasibility study carried out by Statistics Canada (Statistics Canada, 2002). The Statistics Canada study concluded:

- Distinguishing between organized crime groups is becoming more difficult. In some instances, organized crime groups are forging new alliances and are working collaboratively together. In addition, there is an increasing number of multi-cultural criminal organizations.
- The data collected by intelligence units are stored in a qualitative, text format rather than in a quantitative format, which makes it difficult to analyze and collect statistics. The intelligence information is also stored in separate systems from the Records Management Systems which feed crime statistics.
- It would be a “major” respondent burden for intelligence personnel to complete any type of annual survey due to the confidential nature of the data combined with the difficulty in information retrieval from these systems.
- Police Intelligence files contain information that has not been verified and may not be accurate. Sources of the information include informants/agents. This causes additional sensitivity to the release of any information that may put investigations or undercover officers at risk.

Due to these findings, the report concluded that at this stage, all that could be done would be to consider short-term issue driven research and in the long-term, to modify the incident-based Uniform Crime Reporting Survey [UCR2] to include, among other information, the criminal organizations data. The existing literature does not say if this was accomplished, but neither are subsequent reports based on any such new measures. This research was followed by a three-phase project attempting to determine the impact of criminal money laundering in Canada (TCI, 2003). This topic will be discussed under our analysis of money laundering gaps and trends.

The difficulties that Canadian policing agencies have been experiencing in the attempt to refine a methodology for measuring the strategic impact of organized crime and counter organized crime policy are replicated elsewhere in the world. Project Krystal (1999), developed in Queensland Australia, stressed that organized crime becomes a function of the market for illicit goods and services, rather than a function of the illegal groups that supply the goods. This project, undertaken by law enforcement crime analysts, was one of the first to emphasize the loose, fluid, network aspect to many serious *organized* criminal operations. The Krystal model is referred to as the Risk Assessment Model, or the RAM formula. Threat (how likely is it that the subject will succeed in the illegal activity) x Harm (magnitude of damage or injury, or perception of damage or injury) = Risk (assessment of the likelihood that the harm may occur and have its predicted impact. Threat is further determined in the following manner using measurements of very low, low, medium, high, and very high:

Desire x Confidence = Intent

Resources x Knowledge = Capability

Intent x Capability = Threat

Threat x harm = Risk

Although these provide a superficial mathematical formulation and the method does include a five point scale, this calculus appears no better at producing a strategic view of organized criminality than is the *Sleipnir* model. However, the Australian acknowledgement of *criminal networks* was widely imitated in law enforcement circles. In the 2000 UN Centre for International Crime Prevention Report entitled *Transnational Organized Crime: Dangerousness and Trends*, the term was used by the majority of countries who portrayed their OC groups to be networks of *criminals with loose associations*. That report concluded that while some OC groups are highly structured, many other operations are not, and there is an advantage to the loose structure: they are highly adaptable and resilient to external conditions including changing enforcement policies. They are *lighter on their feet* and they do not need to rely on fixed family or ethnic members to supply the best service at the best cost (p. 59). A closer reading of the document reveals that the main preoccupations remain fixated on *the usual suspects* and that a holistic and strategic view is lacking.

In *Reporting on Organized Crime: A Shift from Description to Explanation in the Belgian Annual Report on Organised Crime* (2001), Christopher Black includes the RCMP's *Sleipnir* model as well as a discussion on the *Krystal Matrix* in his analysis of various alternative methods of measuring *threat*, but he develops an alternative model. His research introduced other factors into the model building exercise: the notion of networks, plus the linkages between legal and illegal activities, and an emphasis placed on understanding the environmental context within which the criminal activities take place. This approach is based on the *spectrum-based* theory of Dwight Smith (1980) who argued that regardless of the organizational style or the ethnic background of participants, organized criminal activity "takes place across a spectrum including legal and criminal businesses". Organizational structures coalesce around both the opportunities posed and the individuals available to take them up. For example, the loan shark is *an entrepreneur in the banking business*. Likewise, the drug dealer is a *wholesaler*. According to this view, the focus is on both the illicit and licit ends of a spectrum because understanding how these *markets* operate at both ends improves the criminal intelligence function, and avoids slipping back into a focus on more rigid groups. This approach is more strategic in outlook. Quoting Albanese:

“Changing the criterion of risk assessment from identifying high-risk individuals and groups to high-risk illicit markets requires an understanding of important market variables. Prior work on illicit markets and organized crime makes it clear that supply, demand, regulators, and competition are crucial variables to measure to determine markets at risk. Unlike most contemporary efforts to assess risk of organized crime, the model proposed here focuses on assessment of products/markets at highest risk (rather than on offenders or groups). Correct identification of these product markets will lead police to the organized crime groups they are looking for. Targeting only the crime groups themselves fails to anticipate future changes in organized crime involvement in new and different products and locations”(2008).

The model advanced by Black involves a *long-term methodology* to understand: the organizations of OC based upon the criminological and police file data; the *counter strategies* used by both OC and by law enforcement to counter opposition; an extensive understanding of the markets and the linkages between legal and illegal operations and societal demand; and a *harm* model (Black uses the Australian RAM model). This approach may eventually prove useful due to the in-depth analysis of the multiple factors that ought to be considered in the strategic assessment of current and future harm/impact from a variety of forms of organized crime. However, the analytical task is significant and would require substantial interdisciplinary know how. The shift from law enforcement process measures such as arrests, contraband seized and the like, to outcome measures that show with clarity that policy implementation is having positive social effects, continues to be very challenging. It is precisely this sort of imaginative leap that is required because, as Castle – an RCMP crime analyst – recently observed, “while outcome measures are more challenging to identify than process measures, this fact alone does not minimize the need to demonstrate the connection between organized crime enforcement and its presumed outcomes to a greater degree of certainty” (2008, p. 135).

This will require greater transparency and openness between the various law enforcement agencies involved and academic criminologists. Developments in Europe bear this out. In 2001, a report entitled *Towards a European Strategy to Prevent Organized Crime* was issued, proposing the development of a knowledge-management process that would produce annual explanatory reports rather than merely descriptive ones. The objective was for an annual *strategic* report, more threat, trend, assessment and future oriented than previously has been the case. The strategic assessment would assist with future planning within the EU and Member States, by the Police Chiefs Task Force (PCTF) and Europol. Van Duyne and Vander Beken (2009) had difficulty in obtaining basic information from the compilers of the *Organized Crime Situation Report (OCSR)*, even being denied an opportunity to review the questionnaire prior to it being sent out. Eventually, they did receive access to some information in the possession of Dutch authorities and therefore subject to Access to Information legislation. Under the scrutiny of social scientists, the methodological errors in the collection of the data were obvious. According to them, the needless secrecy combined with a hesitation to work with experts to appropriately avoid methodological errors speaks more to a policy of *knowledge denied* rather than *knowledge management* (p.277).

Where do all of these models leave us? Perhaps cumulatively we learn that determining risk and impact are *activity specific* and that it is difficult to model criminal opportunity according to a single calculus. The evidence from Canada and abroad also indicates that the existing information environment for intelligence analysis concerning organized crime is sub-optimal. Lastly, we learn that the organization of crime takes many forms – from the highly structured to the loosest of networks (and many have linkages connecting them); and, into both legitimate businesses as well as, via corruption, into the power and influence domains of major social

institutions of government and economy. These are complex matters to unravel, and this suggests that perhaps the first gap to bridge in Canada is between academic criminology and the relevant policy community.

Money Laundering and Organized Crime

Beginning in the 1980's, the literature on the phenomena of money laundering [ML] has burgeoned. There were initially very significant expectations about the impact of this revolution in crime control on organized crime which has yielded mixed results at significant costs.

Money Laundering Part 1: Estimating the Amount of Global and/or National Money Laundering

One of the applications of the information technology revolution of the 1980s was the invention of the system of electronic world-wide money transfer. The electronic money now pulsing through the information systems of financial institutions around the world is dynamic and fluid. It is very hard to actually determine the amount of *money* in the global money system (Flemming et al, 2000; Sheptycki, 2000). Given the indeterminate size of the global money system, any estimate of money laundering should be treated with great caution.

In the United States, Peter Reuter is an acknowledged expert on a variety of illicit markets and one who is not easily swayed by *hard numbers* (Reuter, 1986, p. 807). Reuter has long argued that *numbers* are not mere decorations, they are the essence of enforcement campaigns which serve to justify what may be extraordinarily intrusive policies. The reason why Reuter's points are particularly applicable to our discussion of money laundering is due to the nature of *electronic* money and its so-called laundering. In *Chasing Dirty Money: the Fight Against Money Laundering* (2004) he states:

“A sustained effort between 1996-2000 by the FATF [Financial Action Task Force] to produce such estimates [of money laundering] failed. In fact, no direct estimates exist of how much money passes through the financial system, whether broadly or narrowly defined, for the purposes of converting illegal gains into a non-traceable form”(p.9).

He does not dismiss the effort to investigate the phenomena entirely and lists some essential requirements of the quest to arrive at a reliable estimate. Previous approaches have been either macroeconomic or microeconomic, both of which according to Reuter, are flawed. The macro approach starts from the premise that all revenue upon which no tax is paid will need to be laundered and therefore, determining the size of the underground economy will reveal a money laundering figure. He reviews the literature on the *currency-demand* approach (Tanzi, 1980; Schneider & Enste, 2000) concluding it is too general and that, at best, the various estimates reveal that there is a substantial potential demand for money laundering services, but little basis for concluding whether it is *hundreds of millions* or *trillions of dollars*. Separate national estimates range from 2 to 17 percent of GDP and close observers at the global level reveal that the process is at best one of educated guessing, yielding wide variation (Beare & Schneider, p. 49).

Microeconomic measurement strategies have also failed because there are too many *unknowns*. The approach requires that all of the different types of organized crimes have to be listed, and income estimates generated for each. It is also necessary to estimate how much of this profit is actually laundered and not simply spent. Efforts to estimate these only partially revealed how

many linkages and blurred relations exist between licit and illicit commerce. After discussing these attempts, Reuter concludes that figures are *cobbled together*. Such figures are useful in institution building. As Reuter observes, if having an approximation of total income from a certain crime is useful to a congressional hearing or regulatory proceedings, “then an organization will be found to produce such a number” (2004, p.22).

Others are less skeptical. Peter Quirk’s influential *Macroeconomic Implications of money Laundering IMF Working Paper 96/99* was written while he was an adviser to the IMF’s Monetary and Exchange Affairs Department. Quirk concedes that “large variations in estimates have led to reliance on *consensus* numbers, like the undocumented assertion in 1994 by the *Financial Times* that the amount of money laundering worldwide annually was roughly \$500 billion” (Quirk, 1997, p. 8). He relies on a different type of *consensus estimates* – those created by law enforcement, including Interpol, and other institutional officials, rather than economists’ “built up estimates by crime category based on street knowledge; sampling; detailed medical, social and financial/tax records”. Using these data, a *consensus* measure of between 2 and 5 per cent of GDP was agreed, but even these numbers are to some extent speculative.

Efforts to measure the extent of money laundering have been ongoing in Australia for more than a decade (Walker, 1999; 2000a; 2000b; 2006). Walker began the attempt to measure the extent of money laundering in Australia by reviewing official statistics and surveying *expert opinion* on money laundering (i.e., operational police serving on specialist squads, police statisticians, crime researchers). Walker found available official statistical data inadequate to the task of measurement. Walker suggested that government agencies – including police, the Australian Customs Service, Australian Taxation Office, the National Crime Authority (whose mandate is to counteract organized criminal activity and reduce its impact), the Australian Bureau of Statistics, and others – should compile comprehensive statistics on the extent of money laundering. At that time, these agencies did not systematically compile such statistics, and this hampered the efforts of AUSTRAC. The major sources underlying Walker’s measurement estimate were:

- official statistics from various agencies
- a survey of law enforcement entities
- a questionnaire sent to all federal, state and territorial police services
- information from the Australian Bureau of Statistics on the Understatement of Income Data
- data from AUSTRAC regarding reports of suspect financial transactions and the flow of finance through Australian banks and international transfers

Walker concluded that between \$1 and \$4.5 billion of *hot money* was generated in Australia and laundered in Australia and overseas, and that the most likely figure was \$3.5 billion. He called for further research internationally so that similar measurements could be taken for comparative purposes. He also attempted to estimate the size of the money laundering globally. The method for doing so is interesting. Walker took crime statistics from the UN Centre for International Crime Prevention database (which contains the number of recorded crimes per year in almost 100 countries). Beginning with the 1995 AUSTRAC estimate for Australia, Walker then estimated the total amount of laundered money for each type of crime and divided that amount by the number of those types of crimes recorded per year in Australia (e.g., \$50,000 per recorded fraud offence; \$100,000 per recorded drug trafficking offence). He then took these figures and applied them to the estimated numbers of crimes recorded in each country (from the UNCJ database). He then extrapolated the amount of *hot money* in each country, after being factored up or down on the basis of local GNP, since the proceeds per crime in any given

country were assumed to be proportional GNP per capita. Figures were generated for the amount of money generated for each crime in each country and estimates of that which was then available for money laundering. Walker compared his findings with estimates from news clippings and found few discrepancies. He concluded by recommending that more research be conducted in countries where little data exists in order to improve the accuracy of his estimates. Based on his model, the U.S. acts as an origin country for 46.3 per cent of the world's laundered money. In terms of the flow of laundered money, including within the U.S., the U.S. ranks first with 18.5 per cent. Walker suggests that the global output of money laundering is as high as U.S. \$2.85 trillion per year, most of which is concentrated in the U.S. and Europe.

It is likely that efforts to measure dirty money will continue to be mired in the immeasurability of the global money system more generally. Moreover, and as Reuter also observed, all laundered money does not do the same amount of harm. Therefore, compounding the difficulty of measuring the harm associated with illicit proceeds is the additional problem of gauging its actual impact on society.

Money Laundering Part 2: Market Specific Research and Analysis of Police Files

An alternative approach is to look directly at police case files in order to derive a figure of the criminal economy. This runs the same risk that any measure of crime activity limited to police data has, namely that it is more a measure of police activity than it is a measure of crime itself.

A 2003 TCI Report entitled *Methodologies for Measuring the Impacts of Organized Crime-Related Money Laundering Activities on Canada* – gained through an Access to Information request – suggests that three pieces of research are feasible: the size and amount of money laundering in Canada; a calculation of the amount of lost taxes; and a determination of the impact of organized crime money laundering [OCML] on the reputations of financial institutions. This report maintains that answers to these questions would be determined with additional research at a cost “on the order of \$350,000 to \$500,000”. The report targets three specific areas: credit card fraud, auto theft and marijuana grow-ops. Keeping in mind the amounts of money laundered as a result of criminal activity in major financial institutions, it is not very clear why these three areas should be the priority, other than the fact that police agencies might be expected to be in possession of some relevant data. Some of these data are available but most “require a series of estimations and/or assumptions to be made” (p.17). This narrow focus on money laundering may have some tactical interest for law enforcement, but its value as a possible strategic intelligence product is likely to be limited.

- ***Police Case Analysis***

With reference to RCMP files that were closed between 1993-1998, Beare and Schneider (1990; 2007) carried out two studies looking at, among other things, the impact resulting from the anti-laundering legislation, the training given to the banks and other businesses dealing in cash, and the publicity surrounding the threats caused by money laundering. Virtually any financial exchanges can be manipulated in such a way that laundering could occur. Professionals dealing with illicit financial transactions require methods that allow for exchange on an on-going basis. These reports identified specific institutional sectors of business and finance as offering viable opportunities for such schemes:

Business and Finance Sectors Vulnerable to Illicit Transactions		
Deposit-taking institutions	Currency-exchange houses	Securities markets
White-collar professionals, such as lawyers and accountants	Incorporation and operation of companies	Miscellaneous laundering via 'big purchases' (eg. vehicles, boats, planes, gems, jewelry, etc.)
Real estate markets	Insurance sector	Travel agencies
	Legalized gambling – casinos and track schemes	

The three following charts, from Beare and Schneider (2007), highlight relevant information. (A caveat is in order for Charts 1 & 3 since the measure concerning the insurance sector does not account for cases where insurance was purchased in order to protect illicit goods, but was not itself part of a laundering scheme, thus inflating its value.) The first chart illustrates the key sectors used in money laundering. Chart 2 reveals the proportion of types of deposit institutions involved in proceeds of crime investigations (POC). Chart 3 reveals, in proportional terms, the varieties of professionals coming into contact with the proceeds of crime. It is clear from the Financial Action Task Force [FATF] mutual evaluation for Canada (2008) that most of the anti-money laundering effort in Canada is directed towards the illicit drug market: “suspected drug case disclosures were most prevalent and revealed the activity of small, homogenous networks of individuals” (p. 20), although fraud cases “were the largest in terms of scope, volume of transactions and dollar value” (p. 20). According to this report, fraud is more complex than are drug cases. The report also mentions that 80% to 85% of the major files put together by police Integrated Proceeds of Crime Units related to *organized crime groups*, and *outlaw motorcycle gangs* are mentioned as the only example of such. This leaves the reader with the presumption that the tools of financial surveillance are focused largely upon money laundering where the predicate offences are mainly *street offences* (eg. retail drug markets) rather than *suite offences* (eg. corporate fraud).

Figure 5 – Money Laundering and Economic Sectors

Chart 1. Economic sectors and other assets used for money laundering

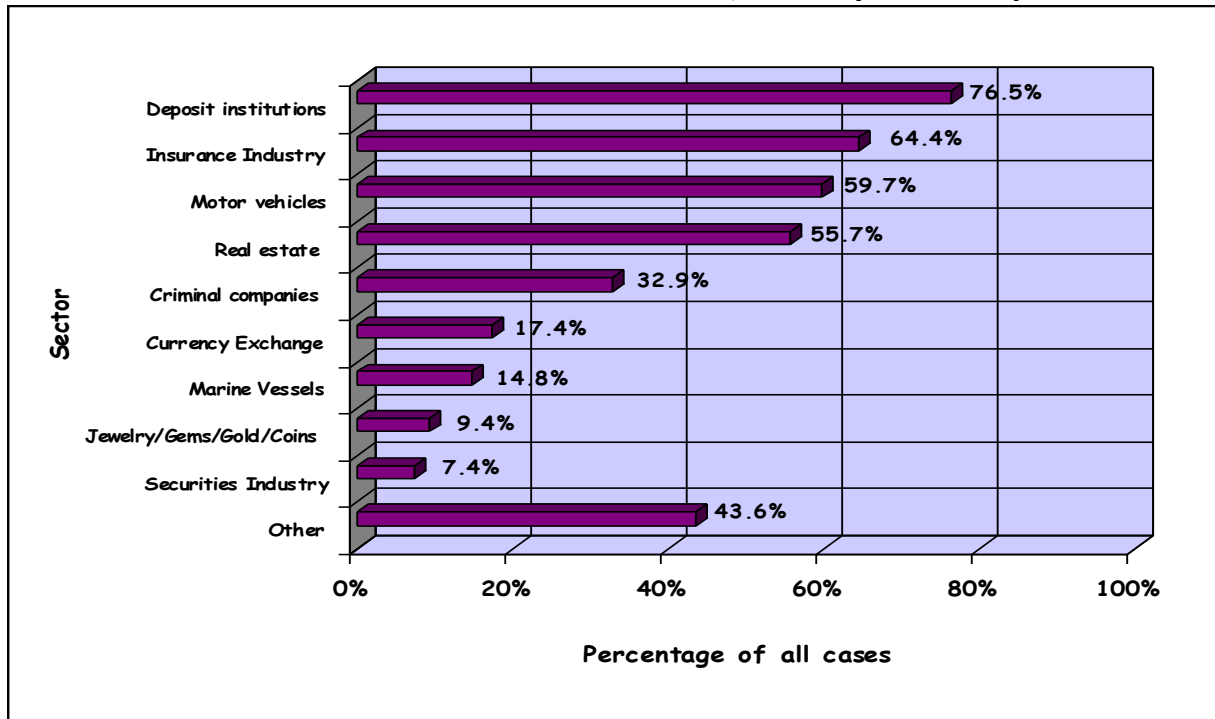


Figure 6 – Money Laundering and Deposit Institutions

Chart 2. Types of deposit institutions implicated in POC cases

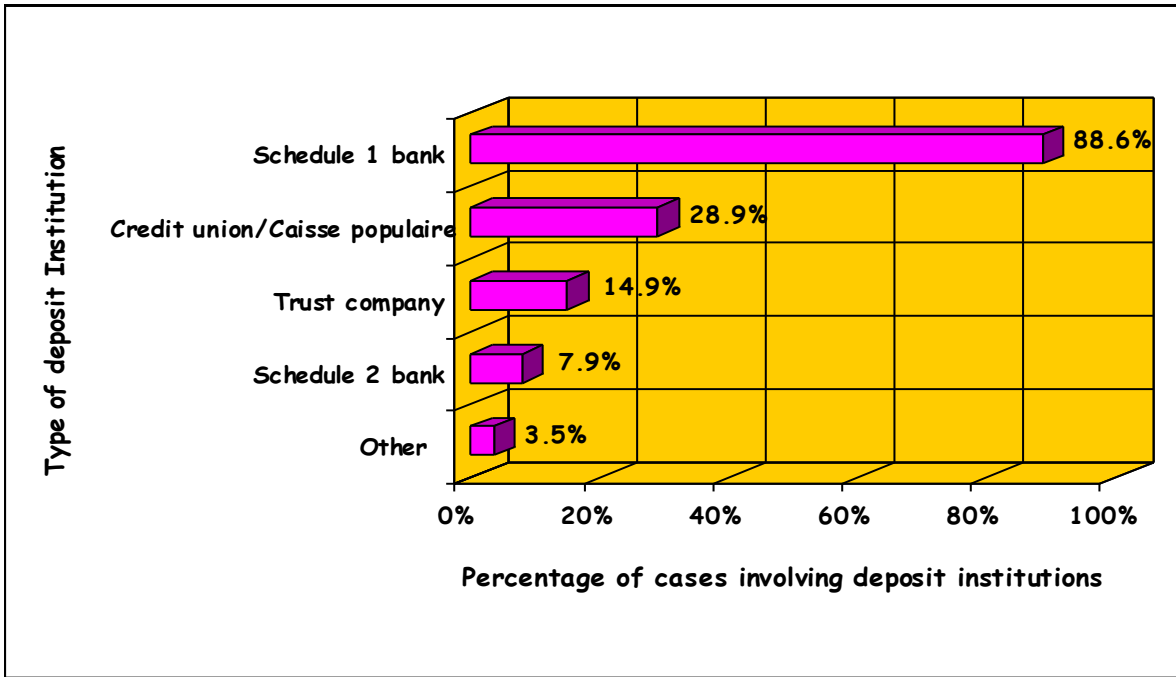
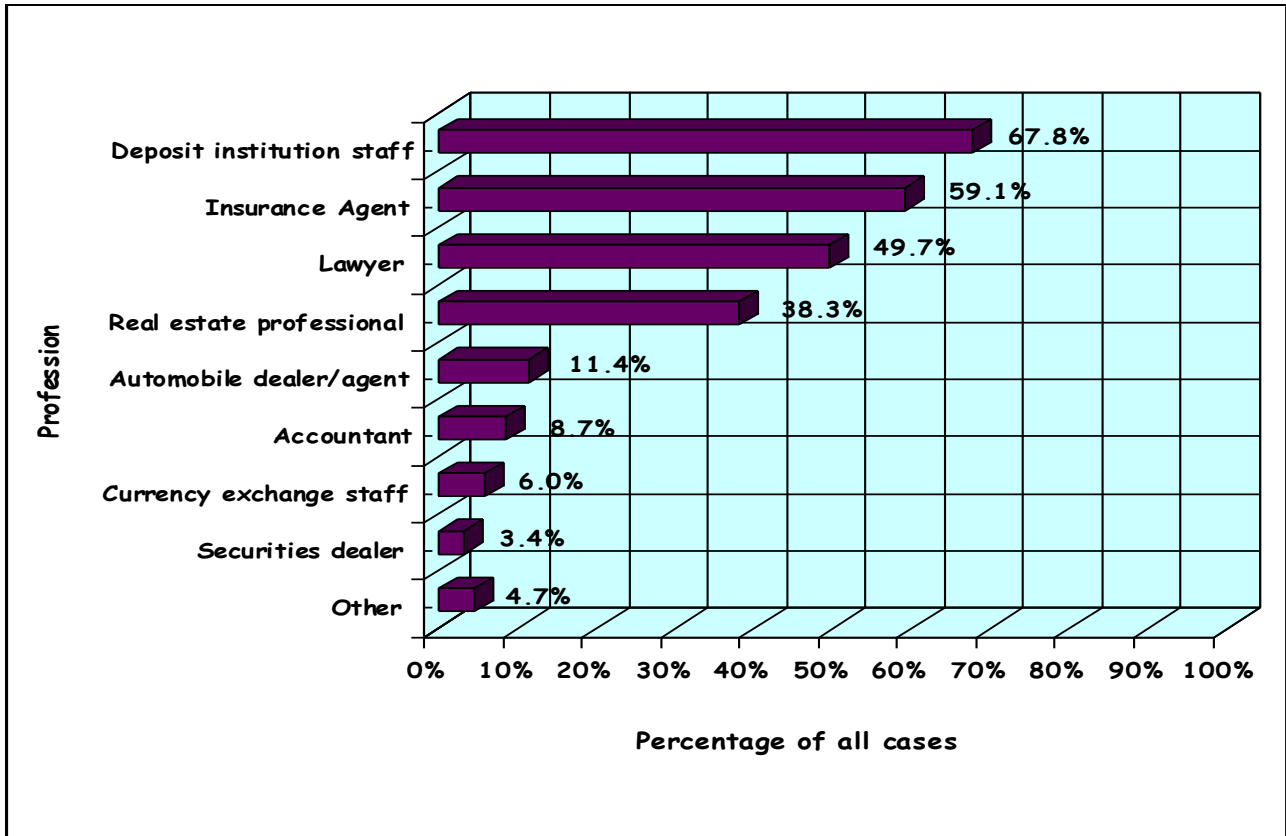


Figure 7 – Money Laundering and Professionals

Chart 3. Professionals that came into contact with the proceeds of crime



Money Laundering Part 3: Reasons for Ongoing Concern

In the new world of electronic money, the techniques for hiding illicit proceeds include transporting cash out of the country, purchasing businesses through which funds can be channeled, buying easily transportable valuables, transfer pricing, using *underground banks* and the internet. Since the mid-1980s, governments and law enforcement have developed an increasingly global, intrusive, and routine set of measures to affect criminal revenues passing through the financial system. Except at an anecdotal level, the effects of this system on laundering methods and prices, and impacts on offenders' willingness to engage in various crimes, are unknown. Available data weakly suggest that the anti-money laundering regime [AML] regime has *not* had major effects in suppressing crimes. The regime does facilitate investigation and prosecution of *some* criminal participants who would otherwise evade justice, but fewer than expected by advocates of *follow the money* methods. Neither is it well understood how the process of selection works, giving rise to questions about selective law enforcement. The AML also permits the readier recovery of funds from core criminals and from financial intermediaries. However, given systemic constraints, the volume is very slight compared with presumed income or even profits from crime. Though the regime also targets terrorist finances, modern terrorists need little money for their operations, making it doubtful if it is any use in a pre-emptive sense. In terms of terrorist financing, AML controls are unlikely to cut off funds in any strategic sense, but may yield useful intelligence. Money-laundering controls impose costly obligations on businesses and society: they merit better analysis of their efforts, both good and bad (Levi & Reuter, 2006).

- **Underground banking**

Some interesting work has been done on underground banking. Kayyani's (2005) study relating to Afghani, Pakistani and Indian immigrant communities' in the Greater Toronto Area [GTA] experience with and knowledge of informal banking systems and the informal transfer of funds yielded one very important insight: informal means are used because of the nature of the financial systems in recipient countries (i.e. lack of banking infrastructure). Demand for informal banking can be addressed by facilitation of the development of more formal institutions in those jurisdictions. Cheran and Aiken's study of informal banking among a transnational network of Tamils found similar things (2005). Additionally, they concluded that for the Tamil, the formal banking system is perceived to be too expensive and slow, making the fast and efficient informal methods more attractive. Successful regulation of the informal sector would probably drive at least segments of it deeper underground. Their report recommended that financial institutions develop migrant-friendly policies and less expensive methods of international money transfer to act as a magnet and draw energy away from the informal sector. The interlocking complex of financial institutions that comprises the global money system is highly differentiated in terms of regulation, technological sophistication and access. Informal transactions are not as paperless as some suggest and they may leave audit trails (Vaknin, 2006). The informal banking system and the shadow economy exist because they are economically efficient, cheap and reliable. Looking at the situation in Asia, Vaknin concluded that the system will only be successfully regulated once corruption in government has been considerably reduced. The tightening up of financial surveillance for illicit funds in recent years has increased the bureaucratic inefficiencies of the money system. Passas (2006a; 2006b) shows that security, crime control and economic policy objectives have been systematically frustrated by ill-conceived and misapplied rules. He characterizes US federal and state regulations concerning money laundering as unrealistic, unaffordable and counter-productive. Ironically, the move towards greater financial surveillance for the economic crime equivalent of *street criminals* has happened at the same time that regulation of the core business of the banking and finance sectors has been minimal. Tillman's

(2009) examination of cases of corporate fraud points to their systemic nature. He argues that behind scandals such as ENRON and WorldCom were strategic political actions that changed the regulatory and legal environment in which those firms operated and created criminogenic institutional frameworks that facilitated acts of corporate corruption.

Money Laundering Conclusion

The initial promise of anti-money laundering – that by going after the proceeds of crime, law enforcement would choke the life-blood out of crime – has not come to pass. After many years of attempting to estimate the size of the illicit economy, it now appears practically futile. New innovations in electronic money – for example ‘Digital Gold Currency’ (electronic money exchangeable for gold) – are evidence of a constantly evolving situation. While measurement of dirty money has proved to be a chimera, the rise in awareness of financial irregularities by supposedly legitimate financial actors has prompted questions about the narrow focus of money laundering (Levi, 2009). Apart from anecdotal accounts, the research findings do not suggest that AML is likely to have a significant impact on the criminal or illicit economy and the febrile nature of the global economy raises questions about the extent to which legitimate financial actors may in fact be in a position to cause more harm.

Alternative Strategies of Organized Crime Prevention

This section looks at some of the North American thinking concerning counter-strategies for organized criminality in legitimate businesses or organizations that employ large numbers of legitimate workers and who supply necessary services. Policing occupational settings within the legitimate business sector poses great difficulty. The organizations cannot be closed down, and yet the organized criminal influence must be eliminated. An emergent *alternative* enforcement tool is the *IPSIG (Independent Private Sector Inspector General)* mechanism, which is not yet popular in Canada but which has been relied heavily upon in the United States and is spreading. A series of research books and reports analyze the attempts to clean-up organized criminality within various markets in New York City: construction unions, garment district, Fulton Fish Market, Kennedy Airport, and waste-haulage, as well as the attendant political corruption. Landmark among these are James Jacobs work (2001; 2006) and the work of the New York State Organized Crime Task Force (Goldstock, 1990). These studies refer to auditing and monitoring mechanisms for financial trusteeships and the like, but today they are often referred to colloquially in US law enforcement circles as IPSIG measures.

An IPSIG is an independent, private sector firm with legal, auditing, investigative, and loss prevention skills, employed by an organization (voluntarily or by compulsory process) to ensure compliance with relevant laws and regulations and to deter, prevent, uncover and report unethical and illegal conduct by, within and against the organization. It is perhaps worth inserting that these have some practical safeguards, for example the IPSIG process allows the *client* to challenge the costs and in some cases the costs of such services might be negotiated. These were in operation prominently at Ground Zero following 9/11. Knowing that the clean-up could turn into a corrupt, fraudulent, money grab by mostly everyone with access to the clean-up resources (including actual organized criminals), Mayor Giuliani’s officials selected four accounting firms (IPSIGs) to monitor the clean-up by overseeing the construction work in each of four quarters. Getnick & Getnick was assigned as the Integrity Monitor to oversee the work performed on the quadrant assigned to the joint venture between Turner Construction Company and Plaza Construction Corporation; Thacher Associates, LLC, was assigned to monitor Bovis Lend Lease; Stier, Anderson and Malone, LLC was assigned to monitor AMEC Construction

Management; and, DSFX (Decision Strategies) was assigned to monitor Tully Construction. Each of the four monitors had been pre-qualified to serve as Integrity Monitors. A fifth firm (KPMG) carried out standard auditing responsibilities at the site. The Integrity Monitors reported to the Department of Investigation forming an additional layer of oversight. The type of criminal conduct that IPSIGs watched for included numerous forms of criminal conduct. The following list, prepared by Neil Getnick for a memo to the House Committee of Homeland Security (House, 2006), warns the government of the array of criminal acts that they should *expect* at any other disaster relief program:

- Improper Payroll and labor billing, including ghost employees on the payroll; employees who sign-in and out of the work site but who go to off-site work locations during the day, often to work on private jobs in nearby areas; employees who “loan” their identity to others who work in their place and receive a portion of the wages, with the balance being pocketed by the employee named on the books; contractors paying employees substandard wages and billing the government at a higher rate; bribes to union officials to permit non-payment of pension and welfare benefits to union employees; inflating the amount of union benefit payments in labor bills submitted to the government; work slow-down to incur overtime pay.
- Improper Equipment Billing: billing for equipment not present at the site; billing for equipment present at the site which is either unnecessary or is not functioning; billing for repairs which were not performed or which were occasioned by off-site use; double-billing of equipment; excessive and inaccurate billing for fuel needed to operate equipment on site.
- Improper Materials Billing: billing for substandard materials required for proper job performance; inflating the price of materials purchased for the site; inadequate inventory control resulting in billing for materials which are removed from the job site and used at a different location; double-billing for materials; kick-back schemes and bribes resulting in inflated prices for materials used on the work site.
- Safety and Environmental Issues: failure to properly train employees in safety procedures and use of equipment, and to enforce those procedures on the job site; failure to properly dispose of hazardous waste material; billing for substandard and ineffective environmental monitoring and testing; billing for safety equipment not utilized at the disaster site; failure to maintain adequate site records and logs to determine whether required site safety and environmental standards are met.
- Subcontractors: selection of subcontractors based on improper criteria which does not include ability and pricing, such as payment of bribes, personal relationships, etc.; improper mark-up of subcontractor billings; retention of subcontractors unqualified and incapable of providing required services; improper vetting of subcontractors’ qualifications and background.
- Security: insufficient site security and spotty enforcement of security regulations, such as failing to check identification and to inspect deliveries, allowing for unauthorized personnel and goods on work-site; theft of property from site due to inadequate security, inventory control and theft prevention procedures; inadequate coordination between various organizations and individuals responsible for site security.

- Management of Project: relationships between construction managers and sub-contractors which prevent objective evaluation of job performance; corruption of supervisory personnel by bribes, threats, etc., inadequate supervision and implementation of appropriate procedures to prevent fraud, waste, abuse, and violations of rules and regulations; inability to perform necessary tasks and assignments.

Organized criminality is about taking advantage of criminal opportunities. As Getnick argued:

“Any construction project, even one which is anticipated and planned in advance, is susceptible to fraud, waste and abuse. By its very nature, a disaster recovery project is more vulnerable to this type of conduct” (House, 2006).

Rampant criminality by government officials, among others, in New Orleans post Katrina is further evidence of deep-rooted nature of criminality in this context. In this context, the authorities did not impose even the level of control and oversight that IPSIG measures would have allowed. A draft report by the US Government Accountability Office (GAO) released by the Senate Homeland Security and Governmental Affairs Committee documented the abuse (Jansen, 2006). Among the fraudulent expenditures (obfuscatingly referred to as *misexpenditures* in the report):

“...45 percent of purchase card transactions made by DHS [Department of Homeland Security] employees were not properly authorized, and 63 percent of the transactions showed no evidence that the goods or services purchased on the card were received. Among the misexpenditures were iPods for ‘Secret Service training and data storage’ and designer rain jackets for use of a gun range that closed when it rained.”

Public awareness of this level of venality was interpreted, quite naturally, within the broader context of the baleful response to the Katrina catastrophe, which was widely viewed as a failure of the state’s duty to protect.

The Katrina example, where authorities rejected independent expert advice and failed to implement an IPSIG oversight mechanism, illustrates the speed and ease with which massive fraud can take place. It is logical to assume that global disaster relief is an attractive target for criminal opportunists. International reconstruction operations in the increasingly large number of bombed-out jurisdictions provide the perfect combination for organized criminality – large resources, complex and varied tasks (if actually performed), low accountability and in many instances, political corruption both at home or abroad.

In Canada, there is somewhat of a similar proposal pertaining to policing corruption within corporate structures. Quoting Ken Jull (2004):

“Justice Todd Archibald and Professor Kent Roach have joined me in a proposal for an imbedded auditor. This proposal is for a court order that State regulatory inspectors shall be placed within a convicted corporation to monitor compliance for a period of time. Instead of requiring the payment of a fine, the equivalent amounts of money could be allocated to a fund to pay the salary of a government inspector, who would audit on a full time basis the company’s monitoring compliance. To take a simple example, a \$100,000 fine for an environmental violation is by today’s standards, fairly common. This could pay for the salary of an inspector to work at that company for an entire year.”

Jull argues that their proposal differs from the US system of IPSIGs in one material respect. The auditors would be State employees, such as an official from the Department of Justice or the Bank of Canada. The equivalent of the government official’s salary would be paid for by the

organization, instead of a fine. The government official would have the requisite expertise and would report back to the governmental agency responsible for the particular law in issue.

Organized Cybercrime

Cybercrime was not one of the themes stipulated in the initial research specifications for the project. However, the inclusion of this topic was suggested by the research team at the outset of the study from the viewpoint that there is a substantial gap in empirical knowledge and understanding in this area. The two most important studies of cyber-criminality internationally are Grabowsky and Smith's *Controlling Telecommunications and Cyberspace Illegalities* (1998) and Wall's *Cybercrime: The Transformation of Crime in the Information Age* (2007).

Grabowsky and Smith's book catalogued categories of telecommunication and cyber crime from illegal interception of telecommunications, to pornography and other offensive content, to telemarketing fraud, and the use of telecommunications to facilitate criminal conspiracies. They discuss the organizational and regulatory environment; difficulties arising in the detection, investigation, and prosecution of digital crimes; and countermeasures society should consider to minimize risk while ensuring individual privacy and managing costs. Several themes reappear in each category of illegality, such as technologies for concealing the identity of the content of communications (e.g., *spoofing*: faking the sending address of a transmission in order to gain illegal entry into a secure system), encryption, and the extraterritorial nature of telecommunications crime. The authors set out to analyze cyber-criminality as it is currently understood. A major consideration is the transnational nature of cybercrime and the tensions that arise concerning privacy, accountability, national sovereignty and global governance. This study set the pattern for much of the literature that followed, suggesting that law enforcement could successfully investigate digital crimes through expanded data analysis, better coordination, specialized training, and increased and dedicated resources. One problem the authors acknowledged is that the Information Technology revolution is ongoing and new opportunities for digital crime emerge as new technologies emerge. This suggests that, in spite of transnational policing cooperation efforts – for example, through sharing information, recognizing laws, and expanding extradition agreements – digital crime in the future promises to outpace those efforts. This study predicts that the capacity of governments, singly or collectively, to control some form of telecommunications and cyberspace illegality remains limited.

Wall presented a useful classification of cyber-criminality. He considers hacking, cracking and denial of service attacks, which are generally called *computer integrity crimes*. Then there are various sorts of *computer assisted crimes* – frauds of all sorts, pyramid schemes, identity theft, and intellectual property theft, for example. Lastly, there are various forms of *computer content crime*. Online pornography is one example of this, but so are offensive online communications (cyber-bullying) and websites focusing on ethnic, racial or religious hatred. Wall posits a *transformation hypothesis* which asks, roughly speaking, when considering any given type of cyber-crime, to what extent is there something fundamentally new that results from the new information technologies? There are three sorts of answer to this question: computers may change the criminal division of labour; they may give rise to new criminal opportunities; or they may give rise to altogether new types of crime. The flip-side of the transformational concept is that the technologies that enable the new cybercrimes also provide the means to regulate and police them. This is a rapidly expanding area of criminality with new terminology to fit: logic bombs, cam-girls, on-line gambling, fraud, hacktivism, phishing, trojans, spyware, worms and zombie computers are all part of the emerging lexicon of cybercrime. Like Grabowsky and

Smith almost ten years previously, Wall noted the rapid pace of change in information technology and the implications this has for cybercrime.

A number of reports specifically address problems concerning organized cybercrime and also threats to national security through terrorism. These reports are quite speculative and there is very little in the way of documentary references to support the claims made, although it seems the papers are sometimes informed by practitioner-based anecdotes. A case in point is Brenner's 2002 article *Organized cybercrime? How Cyberspace May [sic] Affect the Structure of Criminal Relationships*, which is entirely speculative. McCusker's article *Transnational Organised Cyber Crime: Distinguishing Threat from Reality* (2006) is more skeptical about our ability to distinguish real from imagined cybercrime threats. It also posed questions about the degree to which advances in Information Technology have facilitated the commission of physical crime, or have facilitated the traditional pursuits of organized crime, or have fostered the creation of new types of virtual organized crime.

The view of the international law enforcement community concerning organized cybercrime is exemplified by a Reuters news item published in Wired Magazine in 2006 entitled: *Cybercrime is Getting Organized*. Quoting FBI spokespersons, the article reports a shift in cybercrime from *lone-gunner* hackers to organized criminal groups, organized online and targeting victims via the internet. Types of criminal activity mentioned in this article are ID theft, carding (the illegal use of bank cards) and so-called *botnet armies* where hundreds and sometimes thousands of computers are taken over using sophisticated virus software and used for other illegal ends. It is difficult to quantify the harm that cybercrime causes, partly because most organizations prefer to keep quiet rather than publicize that their networks have been successfully attacked. In some cases victims may be unaware of their victimization. According to the FBI source quoted in the above article the total cost of all types of computer crime in the U.S. is about \$400 billion. This article also quotes the UK Department of Trade and Industry as saying that computer crime had risen by 50 percent over the last two years. This short article ends by saying that implications of the newly emergent forms of cyber-criminality for national security are also not well understood or studied. Other articles on the subject of organized cybercrime, for example Shelly's *Organized Crime, Terrorism and Cybercrime* (2003) and Williams' *Organized Crime and Cyber-Crime: Implications for Business* (2002), are very anecdotal and mostly speculative. It is informed speculation. Nonetheless, it is impossible to assess the implications and weight of the claims because there is so little attention to methodological issues.

There is still a relatively small body of literature on cybercrime, but it is likely to grow. The literature surveyed here suggests that a good deal of empirical research is required if errors of speculation are to be avoided. Wall's categorization of cybercrime is the most analytically logical and succinct. What is needed is a program of empirical research to document, evaluate and measure the extent of *computer integrity crimes*; *computer assisted crimes*; and *computer content crimes* as well as the harms those threats actually cause. This may be difficult to achieve because there seems to be almost unanimous consensus concluding, however pessimistically, that in this rapidly changing and expanding domain there is little prospect that such a program of research could actually succeed.

Environmental Crime

Like cybercrime, environmental crime was not a topic envisaged in the original specifications for this research project. And so, like cybercrime, the notion of organized environmental crime was

also included in the program of research in a conscious effort to fill a gap in understanding about organized crime phenomena. The bibliographic search under this heading was quite fruitful, yielding 29 items at the most recent count. The environmental crime issue is tremendously significant for thinking about the current state of play in countering organized criminality generally. Responses to environmental crime are both preventative in nature (White, 2008) and enforcement oriented (White, 2007). Sometimes environmental crime responses are proactive and based on the precautionary principle (Scott, 2005), may involve a market reduction approach (Schneider, 2008) or are deterrence and punitive in orientation (Schmidt, 2004). Writing directly for the policing community, Sellar (2007) directs specific attention to wildlife crime and the illicit traffic in flora and fauna and offers some specific indicators that illustrate the involvement of organized crime.

The issue gained some theoretical coherence under the banner of *Green Criminology* (Beirne & South, 2007). To cite two examples that can be found in this book and which serve to underline the urgency of the issues involved, in Chapter Eight, entitled *Crime Regulation and Radioactive Waste in the United Kingdom* (pp. 186-206) Reese Walters incidentally shows how regulatory shortcomings for the management of radioactive waste have created not only an environmental catastrophe waiting to happen, but also one in which criminal opportunities reside, some of which could conceivably even have terrorism implications. In Chapter Nine, entitled *Food Crime* (pp. 206-230), Hazel Croall systematically elaborates the criminal opportunities that lie at each stage of the food processing industry from farm to retailer. Just one example, the illegal cycling of *deadstock* into the human food chain, is enough to convince the reader of the harms that can be perpetrated through organization of crime in the food industry.

Environmental organized crime is a global issue with local impacts. One area where there has been some significant legal innovation concerns the illicit trade in flora and fauna already mentioned. Since environmental crime of this specific type is a matter of an international treaty obligation – *The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)* – much of significance in the literature has emanated from international NGOs (eg. Lack, 2007; Zimmerman, 2003; Lynch & Stretesky, 2001). The issue here is about the uneven and patchy domestic enforcement of an international criminal law obligation. As the Sellar's article in *The Police Chief* (2007) makes plain, very few countries in the world have specialized policing capabilities for combating wildlife crime. However, one area where this appears to be changing is the concern for environmental crimes in the marine context. This topic has attracted considerable interest in Australia where the problems of organized criminality in the fishing industry have been thoroughly documented (Anderson & McCusker, 2005; Smith, & Anderson, 2004; Tailby & Gant, 2002). This issue has also attracted some scholarly interest in Canada. The outstanding example of Canadian research on this topic concerns lobster poaching in Nova Scotia. This research showed that poorly executed regulation created a criminal opportunity structure with serious environmental consequences. The evidence for this study used a *law in action* approach to understanding poaching in the lobster fishery of Southwest Nova Scotia. Tensions between lobster-fishers and the state have escalated over decades. Over time, conflicts over quotas, regulations, licenses, procedures, and enforcement have been widespread and volatile. Central to the development of poaching was a series of legal changes whereby informal, community-based property rights, local management strategies, and folk forms of resource knowledge and use were displaced and outlawed by new state property rights and claims and by new social regulations about harvesting, development, and management. This *regulatory explosion* resulted in a climate of uncertainty for lobster-fishers, social divisions among them, and conflicts between fishing communities and the state. This was dramatically presented in the mass media as "lobster wars," "black market fisheries," "piscatorial piracy," and "coastal communities on trial." Seen at the micro-level of *lobster wars*,

the organizational nature of this specific form of environmental crime can seem trivial. However, the global response to environmental organized crime is only as good as its weakest link (Akella & Cannon, 2004).

Akella and Cannon (2004) argue that effective conservation defies simplistic solutions. According to them, despite decades of effort and significant financial investment from governments, non-governmental organizations (NGOs) and others, the illegal exploitation of natural resources remains a driving cause of biodiversity loss. A multifaceted response that engages local communities, supports alternative livelihoods, promotes sustainable resource management and educates consumers is necessary. A core problem, however, continues to be weak enforcement of laws that were designed to safeguard wildlife and protected areas. As valuable supplies of timber, fish, and other natural resources diminish, the pressure increases on those resources that remain. Frequently, creating protected areas and hiring people to guard them are perceived as adequate enforcement responses. Akella and Cannon argue that, while those steps are essential, the true challenge is far greater. Their view is that enforcement systems are holistic in nature and must be conceived of and dealt with accordingly. Strong enforcement requires not only good detection but also effective investigation, prosecution, conviction, and application of penalties. For this reason, investments that strengthen only one part of *the chain* will not succeed as long as other pronounced weaknesses exist. According to this view, the end goal of improving enforcement is to eliminate illegal activities or to reduce them to tolerable levels, or in other words, to improve compliance. Enforcement contributes to that goal by directly suppressing criminal activity and by creating a deterrent effect. Enforcement strengthening is only one of a number of ways of contributing to the end goal of improving compliance. Other ways include preventative measures such as developing alternative legal sources of income, improving public awareness and support for the laws, reducing the opportunity to break the law, lowering the demand for illegal products, reducing the profits of illegal activities relative to legal ones, and reforming the law to legalize hitherto illegal activities.

Although the literature does indicate a general lack of policing capacity for tackling environmental crime, it also includes a considerable knowledge-base for such an enterprise. Hayes et al (2008) discuss video surveillance technologies and other allied information technologies in the context of monitoring environmental organized crime. Lynch and Stretesky (2001) show how medical and epidemiological evidence can be used to trace the effects of criminal toxic waste dumping, while Murphy et al (2007) provide an entire textbook on environmental forensics suitable to investigate such crimes. Roffey et al (2005) discuss the use of DNA profiling in environmental crime enforcement, with special reference to the efforts to police the illicit trade in abalone.

Environmental degradation is a clear and present risk. Air, water, and soil pollution, hazardous waste disposal, global warming, acid rain, and reduction of the ozone layer threaten the natural environment and endanger people's health. Within the last decade environmental violations have been defined as crimes, and violators viewed as criminals; and criminal prosecution of the accused and criminal sanctions against the convicted have accelerated. Situ and Emmons (2000) examined the criminalization of environmental wrong-doing in what is the definitive American textbook on environmental organized crime. However, the research literature makes it abundantly clear that the issue of environmental organized crime is a global one. That is one reason why specific initiatives are needed to help developing countries confront environmental challenges (Castles, 2002). Certainly, invoking "a frightful future of third world ecological ruin threatening first world stability" is harmful, because it is likely to encourage new immigration restrictions – or what may be aptly called *Green Walls* (ibid, p. 12).

With regard to the strategic response to organized environmental crime in Canada, the remaining difficulty concerns intelligence capacity and capability. From what is known of the system for statistical data collection and impact assessment vis-à-vis organized crime in Canada, the intelligence system is vexed by organizational pathologies, and front line personnel find it extremely difficult to carry the required reporting burden (Schneider, 2001). Thus, while organized environmental crime is often overlooked in criminal intelligence analysis concerning organized crime in Canada – ie. there is an apparent ‘gap’ in knowledge – there is in actuality the substantial beginnings of a global knowledge-base on the subject, and Canadian scholars and criminal justice practitioners have been part of that. What the existing literature makes abundantly clear is that pressure to successfully counter the organization of environmental crime will only grow in years to come.

Conclusion

There is a growing awareness among the police community world-wide that the true organization of crime is very different than the traditional view of organized crime. William Bratton, probably the most well known American police chief globally, signaled his awareness of this when he told the readership of *The Police Chief* that organized crime should be thought of in terms of decentralized and collaborative networks participating in illegal market activities, such as the sale of counterfeit cultural products with value as intellectual property (CDs, DVDs) and prescription drugs (2007). To that list might be added tobacco, guns, wildlife, and human organs, as well as other things. In general, the organization of crime takes place within the opportunity structures and interplay that exists between the formal and shadow economy, between licit and illicit markets. It is difficult to gauge the harm that results from these varying types of criminal enterprise and some activity in the shadow economy might have positive, or even necessary social functions. Insofar as the organization of crime within these markets involves violence, there will be a continuing need for police intervention. However, consistent with these observations about organized crime phenomena is a newly emerging and, as yet, inchoate paradigm for thinking about how to strategically impact on the criminal opportunity structure in order to lessen the degree of social harm associated with the activity. This new paradigm de-centers criminal law enforcement and foregrounds administrative law measures. It also de-centers law enforcement process measures as indicators of success and looks to external measures – such as can be generated by public health statistics, and corporate financial accounting practices – as sources of understanding about the strategic impact of counter-organized crime strategies.

This new paradigm has yet to fully consolidate, but there are hopeful signs around the world that thinking is advancing and the findings in this report bear this out. One institutional reflection of this newly emerging understanding can be found in the research units of academic criminological expertise in universities around the world. Several of these research units were very important in furthering the research for this report. Among the most important have been: Transcrime, the Joint Research Centre on Transnational Crime at the University of Trento in Italy; The Netherlands Institute for the Study of Law Enforcement (NSCR) at the University of Amsterdam; the Universities Police Sciences Institute at the University of Cardiff; the Scottish Institute for Policing Research (SIPR) at the University of Dundee; the Jill Dando Institute of Crime Science at University College London; the Australian Government’s (AIC) Australian Institute of Criminology, based in Canberra; and the Swedish National Council for Crime Prevention (Brå – Brottsförebyggande rådet). There are some concentrations of analogous expertise in Canada – in the School of Criminology at Simon Fraser University; at the University

of Ottawa (particularly the Institute for the Prevention of Crime); in the l'École de criminologie de l'Université de Montréal; and, in the Jack and May Nathanson Centre on Transnational Human Rights, Crime and Security at Osgoode Hall Law School. However, practical bridges between the academic and practitioner communities on matters of mutual research interest tend to be more ad hoc in Canada. Better co-operation in this way would greatly enhance the empirical knowledge-base concerning the organization of criminality in Canada.

Canada is a democratic society and its policing system of 220 separate police services reflects this. This system aims at a separation between the powers and responsibilities of the police system on the one hand and political, economic and other interests on the other so as to ensure fair and universal public safety and criminal justice for Canadians (IBPRP, 2003; ISIS, 2006; ISIS 2008). Policy and budgetary control are overseen by elected officials at all three levels of government, but operational policing practice and its management remain the responsibility of senior police officers. The Canadian Association of Chiefs of Police (CACP) provides a national forum for Canadian police leaders and its motto "Leading Progressive Change in Policing" signals a commitment to innovative solutions in policing practice (Johnson, Packham, Stronach & Sissons, 2007; CACP, 2008).

Social systems in Canada, including policing, are in a considerable state of flux as a result of demographic changes, globalization, the ongoing revolution of advanced technologies, the continuing rise of transnational illicit markets in drugs and other products, and new threats to national security and public order among other things (Law Commission, 2006). The CACP is working to address these challenges through a combination of policy research, national and regional conferences, and educational programs for police leaders. These efforts undoubtedly help to identify useful knowledge for police leaders but there is remarkably little home-grown Canadian empirical research relevant to the policing field. Moreover, no mechanism exists to ensure that empirically informed research is best utilized at the operational and strategic levels of the nation's many different police services.

New opportunities may exist in this regard. Modern policing increasingly embraces constructivist learning models, especially at leadership levels, and new practices have introduced more of the interpretive knowledge paradigm, where meaning is increasingly discovered, negotiated and socially-constructed (Johnson et al, 2007). In other words, policing in Canada is a *Community of Practice* (Wenger & Snyder, 2000), a community that is increasingly attuned to the value and utility of research. This existing network of increasingly well-educated senior police officers is receptive to empirical criminological research. It is also well placed to use such knowledge to enhance the police contribution as part of the overall governmental response to the variety of forms of organized crime troubling Canadian society. A key future development will be to ensure that appropriate and well-structured forums exist to allow meaningful, in-depth dialogue between researchers, practitioners and policy makers in this domain. Improved research access for academic researchers, co-operation between police crime analysts and criminologists, and the publication of the results of research findings to better educate the public about the challenges will also help to ensure the development of effective strategies for countering organizational crime that are in keeping with the democratic values of Canadian society.

The original research proposal stated that the final analytical report "will be mindful of the need to assist users of the database in assessing and understanding what counts as valid and measureable indicators with regard to the harms that organized criminality poses (PSC, 2008)." The research literature shows that measures of harm and impact measures vary greatly depending on the type of criminal opportunity under consideration. The harms resulting from the fraudulent *re-cycling* of so-called *deadstock* (ie. meat not fit for human consumption) into the retail supermarket supply chain are very different than the harms resulting from the smuggling of

firearms across international borders. One of the key problems in strategic counter organized crime policy is the development of a method for measuring social harm, and the impact of counter-strategies on it, across the full range of organized illicit activity. Strategic measures are needed for the purposes of over-all resource allocation, while tactical measures are needed to evaluate progress in specific spheres. When asked about research done on this topic, one respondent canvassed early on for suggested items for the bibliographic database, replied: “if I knew how to measure that, I’d patent the measurement instrument, sell the intellectual property rights to **** and retire”. There is no consensus about how to measure harm due to organized crime or the impact of tactics against it. However, new and innovative measures that work in an inter-disciplinary way and combine measures from a variety of fields besides criminal justice (including public health data, financial services authority data, and information from other sources) are being developed and it is likely that the future will see more concerted attempts to move beyond process measures and develop reliable outcome measures. Significant advances in the ideas underlining policy for the control of illicit drugs markets have been made in Europe after this fashion, and there is plenty of evidence of this type of thinking for a variety of crime types including: gun-crime, environmental crime, various forms of smuggling (including human smuggling), and so on. The bibliographic database is already a repository of relevant sources of information that can be mined for this purpose, and this resource can grow as new items are added to it.

Perhaps the most important aspect of this research was to identify gaps in the existing knowledge base. In this regard, the research team set out to systematically gather information on two crime types (organized cybercrime and environmental crime), to ensure that these areas would not be missed out. This effort revealed that although there has been some fruitful work done in these areas internationally by academic criminologists, reflecting the slow but sure development of operational policing capacity in these spheres, these topics are only fitfully represented as items of the strategic agenda. The available research also indicates strong evidence that these areas will eventually emerge as more central to strategic priorities. This lag is partly because strategic criminal intelligence analysis tends to be the product of institutional habits based on past practice. It will take time to re-orient intelligence analysis around notions of opportunity reduction and harm minimization that tackles the organization of crime at the root level. Meanwhile, old habits die hard. As Castle (2008) observes, “progress with respect to the know list of criminal organizations is not the same as progress with respect to organized crime, and where this is not made explicit it should be so” (p. 154). On the basis of the analysis produced here, we concur with him, that “it should be possible by expanding the data consulted, and deepening our knowledge of the impact of justice processes on criminal organizations, to develop an even richer understanding ...”. We would go further, however, to suggest that the newly emerging paradigm is both multi-disciplinary and multi-agency in its approach to counter organized crime strategy, and that law enforcement is perhaps not so central as is commonly assumed.

Obviously, the police role in the overall response to organized crime problems remains vital, not least because of the volatility of some illicit markets and the associated violence. However, strategic impact assessment is not simply about measures of how well policing dollars are being spent in terms of individual organized crime cases. It is about combining regular, detailed and comprehensive victimization data, health data, police occurrence data and other relevant information and an ability to take the long view about future trends. The adoption of higher methodological standards is not the driver of this process, but probably the desire for effective, efficient and economical responses to the social harm caused through the organization of crime will be.

The re-balancing of governmental responsibilities around the new paradigm is not certain, and the weight of old habits remains. However, there is growing international literature concerning innovative new approaches. As the weight of evidence about the efficacy of harm reduction, social crime prevention, community capacity building, reassurance policing and public health perspectives builds, the apparent utility of a coordinated, multi-agency, counter-organized crime strategy will grow and with it, the pressure to re-balance the system further.

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