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INSTITUTE FOR DEFENSE ANALYSES

Countering the Effects of Violent Transnational Crime

Major Findings of the Technical Seminar

Amy A. Alrich, Principal Author
Richard H. White
Lauren Burns
Arthur Fries
Barry D. Crane, Project Leader

May 2008

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PREFACE

This document was prepared by the Institute for Defense Analyses (IDA) for the Department of State, in partial fulfillment of the task Criminal Insurgencies (EU-6-2817.00). The objective of this task was to examine law enforcement and military interventions as a means to improve deterrence of terrorists, illicit transnational gangs, and insurgents in allied countries. As a key objective of this task, IDA planned, hosted, and reported on an international conference coordinated through the UN Office of Drugs and Crime at the Vienna International Centre in December 2007. This technical conference focused on transnational crime and its destabilizing effects. This document contains the original, unaltered, briefings, as prepared for the workshop. In accordance with the sponsor's request, this compilation serves as the final report and was prepared in a cost-effective manner.

The Review Committee consisted of Dr. Barry Crane, Assistant Secretary of State David Johnson, and Dr. Sandeep Chawla, Chief of the Policy and Research Analysis Branch at the United Nations Office on Drugs and Crime (UNODC).

COUNTERING THE EFFECTS OF VIOLENT TRANSNATIONAL CRIME

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MAJOR FINDINGS OF THE TECHNICAL SEMINAR "COUNTERING THE EFFECTS OF VIOLENT TRANSNATIONAL CRIME"

A. BACKGROUND AND OVERVIEW

To advance the understanding of how illicit markets operate and support violent anti-government groups, the United Nations Office on Drugs and Crime (UNODC) hosted a two-day expert's level technical seminar, "Countering the Effects of Violent Transnational Crime," on 5 and 6 December 2007. The event, held at the Vienna International Centre (VIC), was sponsored by the U.S. Department of State and administered by the Institute for Defense Analyses (IDA). Attendance was by invitation only and based upon technical expertise and experience. A roster of attendees and speakers, spanning broad ranges of nationalities, disciplines, and law enforcement roles, appears in Paragraph C.

Seminar topics concentrated on histories of transnational crime and connections to anti-government/terrorist groups, similarities between criminal and terrorist network operations, the underlying organizational principles governing their behavior, and viable strategies for defeating them. The Colombian narco-insurgency and criminal activities in the surrounding regions were examined as the largest case study of successfully countering the legitimacy and capabilities of a criminal-based anti-government group.

The consensus of the world-wide experts assembled at the seminar was:

- The failure to grasp and deal with emerging violent transnational criminal groups will continue to create larger and larger numbers of self-financed anti-government forces unless checked by efficient strategies.
- The emerging unfavorable situation in Afghanistan requires immediate application of the scientific principles enumerated in the seminar.

Additional elaboration follows in the specific findings presented immediately below. A more detailed synopsis of individual seminar presentations is given in Section D.

B. CONCLUSIONS

Four primary conclusions and sets of related findings are listed here. These appear in order of priority, beginning with the most paramount.

1. A direct relationship exists between the illicit opium industry and the failure of international aid programs and reconstruction efforts. As the drug economy grows, it fuels the reconstitution of anti-government forces; the resulting environment is one in which stability and rule of law cannot flourish. Concepts presented in the seminar, relying on sound economic principles, can be exploited to achieve this aim, but no single element of any government has the capacity to accomplish this objective unilaterally.

    - The opium industry is increasingly controlled by the Taliban and other anti-government groups who rely on that revenue source for funding.
    - While cultivation has been contained in some areas of the country, it has expanded rapidly in those provinces with some of the highest levels of insecurity (particularly in Helmand Province), but transnational anti-government forces, seeking to minimize their risk, operate and recuperate in both Afghanistan and Pakistan.
    - Without a redirection of strategy, pro-government armed forces likely will continue to endure increasing casualties year after year, while enemy forces continually reconstitute, sustain, and enhance their capability to conduct attacks.
    - Synchronized efforts with armed forces engaging the illicit opium industrial base as sets of military targets are required in order to – drive the price of opium downward, to substantially reduce the value of stored opium stockpiled by traffickers, and to eliminate their prospects for future funding infusions supporting reconstitution, recruitment, and rearming. Initially this effort will require integrated operations involving armed forces (the only entity that presently has sufficient capacity and capability).
    - Eradication of illicit crops is a complementary strategy, but should be conducted only *after* the underlying opium value is reduced to near or below cost.
    - Law enforcement operations are needed to prosecute key criminals for corruption, extortion, and drug trafficking in order to “bring to justice” and publicly identify the criminal nature of the insurgency. However, the current law enforcement operations have insufficient capacity to ruin either the underlying drug business or to substantially cripple the anti-government groups because current operations entrench and embolden these elements who create additional dispersed groups, which are better armed than the police.

- When the opium industry collapses, key agencies and donors must be prepared to step in and provide substantial alternative assistance to adversely affected farmers and workers.

2. Across the globe, many anti-government groups have transformed into transnational criminal enterprises that seek foremost to protect their organizational structure (at the expense of all other considerations, including their founding principles and ideals). Specific examples are the Fedayeen Saddam,[1] the Tamil Tigers (and other Asian terrorist organizations), the Colombian FARC, and the emerging takeover by the Taliban of the illicit drug industry in Afghanistan.

3. Effective and efficient intervention campaigns can be conducted against violent transnational criminal groups; the strategies to employ were initially developed in the counter-narcotics realm. The implementation of these strategies is not straightforward because they require extensive cooperation between governments, agencies, and inexperienced host nation forces.

    - Intervention thresholds, i.e., minimum operational levels that need to be achieved and sustained to reap huge deterrence benefits, have been characterized.[2]

    - Criminal organizations resist interventions by fragmenting into smaller, more numerous but less capable elements. A key parameter dependent on local conditions is reconstitution time (a measure of enemy adaptability) of the militarized criminal organization. Reconstitution time (one month to one year) will govern the adaptive capacity of allied organizations employed to counter the anti-government forces. Shorter reconstitution times require more dispersed elements with increased authorities and forward deployed to act within the reconstitution time.

    - A fatal flaw of transnational anti-government organizations is that their trend to criminality offers ways to de-legitimize them and to invoke international law enforcement regulations against them.

    - There is an *urgent* need for the technical and professional experts to characterize how reconstitution of the violent transnational criminal groups occurs, both in quantitative and qualitative terms. Currently, only successive operations over more than ten reconstitution time cycles have been shown to effectively manage the transnational anti-government groups. It is difficult to

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[1] The criminal activities of the Fedayeen Saddam evolved in response to international sanctions against Iraq. During Operation Iraqi Freedom, US forces did not always appreciate that the resident extrajudicial power was neither the military nor the police.

[2] Thresholds vary with the severity of the consequences of being apprehended, e.g., lethal, arrest, or property loss. Numerical values have been estimated from counter-cocaine campaigns and independently corroborated using data from Iraq against the criminally based insurgencies found there.

keep complex allied organizations and efforts focused on the tasks for this length of time. Making the reconstitution more difficult is the key to effective and efficient operations.

4. There is a need for an ongoing forum for the community of experts assembled at the technical seminar and others invited to participate. UNODC will explore hosting an open on-line forum, enabling all interested parties to share unrestricted data and discuss academic and non-sensitive issues related to transnational anti-government groups. IDA will host a limited-membership on-line forum, accommodating law enforcement sensitive and other restricted data as required. Follow-on technical workshops could be convened, if the sponsor so desires, to continue the momentum established by the initial technical seminars in order to speed up the benefits derived from understanding how to deal with transnational anti-government groups.

C. ROSTER OF TECHNICAL SEMINAR PARTICAPANTS, CONTRIBUTORS, AND INVITEES

NAME	Affiliation	Speaker
Alrich, Dr. Amy	Institute for Defense Analyses	No
Alvarez Luna, Inspector Jose Manuel	Spanish National Police	No
Brandolino, John	Senior INL Advisor U.S. Mission to UN Agencies in Vienna (UNVIE)	No
Burns, Ms. Lauren	Institute for Defense Analyses	No
Chawla, Dr. Sandeep	United Nations Office on Drugs and Crime	Yes
Costa, Executive Director Antonio Maria	United Nations Office on Drugs and Crime	Yes
Crane, Dr. Barry	Institute for Defense Analyses	Yes
Fries, Dr. Arthur	Institute for Defense Analyses	Yes
Gourley, Mr. Sean	Oxford University	Yes
Harris, Mr. Scott	U.S. Department of State	No
Kukhianidze, Dr. Alexandre	Transnational Crime and Corruption Center (TraCCC)	Yes
Lowe, Mr. Richard	Serious Organized Crime Agency (SOCA)	Yes
Makarenko, Dr. Tamara	St. Andrews University	Yes
Nieto Aldana, Juan Carlos	Colombian Ministerio de Defensa	Yes
Pietschmann, Dr. Thomas	United Nations Office on Drugs and Crime	Yes

NAME	Affiliation	Speaker
Pinto, Mr. Julian	Permanent Mission of Colombia to the United Nations (Vienna)	No
Placido, Mr. Anthony	Drug Enforcement Administration (DEA)	Yes
Restrepo Torres, Dr. Jorge A.	Pontificia Universidad Javeriana	Yes
Santos Calderón, H.E. Francisco	Vice President, República de Colombia	TBD
Schneider, Prof. Dr. Friedrich	Johannes Kepler University of Linz	Yes
Semesky, Mr. Don	Drug Enforcement Administration (DEA)	Yes
Serrano Cadena, H.E. Mr. Rosso José	Ambassador of the Permanent Mission of Colombia to the United Nations (Vienna)	No
Shroyer, Mr. Frankie	Drug Enforcement Administration (DEA)	No
Spagat, Dr. Mike	University of London	Yes
Taylor, Brian	United Nations Office on Drugs and Crime, Counter Trafficking	Yes
Tullis, Ms. Melissa	United Nations Office on Drugs and Crime	Yes
Westlake, Mr. James	Former Deputy for Operations, Interagency Task Force South	No
Woodland, Mr. Steven	Drug Enforcement Administration (DEA)	Yes
Woods, Mr. Kevin	Institute for Defense Analyses	Yes
Zarama, Mr. Roberto	Universidad de los Andes	No
Ziemke, Dr. Caroline	Institute for Defense Analyses	Yes
Other Contributors		
Johnson, Prof. Neil	Oxford and Miami University	No

D. SYNOPSIS OF TECHNICAL SEMINAR PRESENTATIONS

1. PRELIMINARIES

Consistent with the Statement of Work for the IDA Project "Criminal Based Insurgencies" (Task EU-6-2817), the IDA study team convened a two-day technical seminar on transnational crime and terrorism, held at the UNODC VIC on 5-6 December 2007.

The assembled group of experts represented a broad range of fields, nations, and roles in the counter-narcotics and counter-terrorism efforts. When drafting the list of individuals to invite, the IDA team worked with the UNODC to achieve a balance between academic, law enforcement, and NGO perspectives, as well as representatives with geographical diversity both in terms of their nation of origin and their focus area. Although events in Colombia led to several prominent speakers being unable to attend at the last minute, the schedule was full and the presentations were well-received by the diverse audience in attendance.

2. DAY ONE

The IDA Project Leader, Dr. Barry Crane, and the chief of the Policy Analysis and Research Branch of the UNODC, Dr. Sandeep Chawla, opened up the proceedings with background on the technical seminar and an articulation of its specific objectives. These objectives included establishing an international, collaborative forum for technical discussions about criminal-based insurgencies, interdiction strategies, and means to prevent reconstitution. Dr. Crane and Dr. Chawla's opening remarks discussed the similarity of the organizational structures, intervention types, and the reconstitution of criminal groups and violent transnational anti-government entities. While there are both reasonable quantitative and qualitative descriptions of the underlying organizational structures and intervention strategies, there is no such research available on the reconstitution and coalescing capacity of violent armed groups sustained by criminal means.

On behalf of the UNODC, the Executive Director, Dr. Antonio Maria Costa, welcomed participants and delivered an impassioned address on the significance of what he called a "crucial subject matter" – illicit activities funding criminal organizations, transnational anti-government groups, and international organized crime. He strongly supported the technical seminar, noting that the expertise and viewpoints provided by conference participants serve to broaden the UNODC's perspective and enhance its role as a broker in international agreements on drug control and prevention of transnational crime.

Following Dr. Costa's comments, Ambassador Rosso José Serrano Cadena, head of the Colombian diplomatic mission to Austria, spontaneously addressed the conference participants on behalf of Colombia. He traced the Colombian experience with cocaine, their struggles against the FARC, the impact of narcotics trafficking on Colombian society, and the ongoing issues. He indicated how pleased he was that

internationally-recognized experts were assembled at the technical seminar, and issued a personal plea that they as a collective take steps to counter narco-traffickers and the damage they do in the local, national, as well as international arenas. He emphasized demand reduction as a key piece of the strategy and urged nations to adopt policies that would drive down the number of users.

The first formal session consisted of a pair of talks – first, Dr. Tamara Makarenko, and then Professor Mike Spagat and Mr. Sean Gourley. These presentations set the stage for the remainder of the seminar.

Dr. Makarenko surveyed academic approaches to grappling with the relationships between crime and terrorism. She began with the innovative modeling work on the nexus between crime and terrorism she conducted in the 2001 timeframe, and then progressed to discuss other modeling approaches and more recent developments.

Professor Spagat and Mr. Gourley presented their findings on the patterns that exist in modern asymmetric conflicts based upon the similarity of organizational structures. In particular, size distributions of casualties were shown to be similar across wide classes of conflicts and insurgencies. Additional discussions focused on the utility of their modeling and the prospects for learning more about responses to interdiction, coalescing of forces, and fragmentation of transnational anti-government groups.

Mr. Anthony Placido, Assistant Administrator and Chief of Intelligence, DEA, delivered a lunch-time presentation on the connections drugs and terrorism. He examined profit potential of narcotics trafficking, the role of drugs as a weapon, historical case studies of narco-trafficking, and lastly concerns about rules of engagement and roles in the counter-narcotics/counter-terrorism mission space.

The next session consisted of presentations with a somewhat narrower focus. Mr. Brian Taylor, Chief of the Anti-Trafficking section, UNODC, spoke on the roles and mission of the UNODC with respect to trafficking and organized crime.

Next, Major Juan Carlos Nieto Aldana, from the Colombian Ministry of Defense, spoke on Colombia's experience with the FARC and whether their activities placed them in the category of being a guerilla or a cartel.

Delivering the closing presentation for the day one, Dr. Caroline Ziemke, IDA, drew from her work with the Council on Asian Terrorism Research and

presented case studies of various Southeast Asian criminal anti-government groups. She established the historical linkages in that part of the world between terrorism and criminal activities – for the Tamil Tigers, the Hizb ul-Mujahideen, and numerous other groups.

3. DAY TWO

The first session of the second day opened with Mr. Steven Woodland, Special Operations Division Section Chief, DEA, speaking on internet sales of pharmaceuticals. He indicated that the investigative principles used by his section were transferable and apply to other areas of counter-network operations in the cyber realm. He addressed technological challenges, as well as the rules of conducting investigations in this realm.

Dr. Alexandre Kukhianidze, from the Transnational Crime and Corruption Center (TraCCC), spoke on the history of transnational crime in Georgia and the surrounding regions over the past century. He focused on Georgian criminal bosses operating within and outside of Georgia, as well as on smuggling operations (nuclear materials, humanitarian aid shipments, luxury cars, and other stolen goods.)

Mr. Richard Lowe, Serious Organized Crime Agency (SOCA), spoke on the economics of the opiate trade in Afghanistan. He discussed the user population and demand-related issues, as well as the factors of production, trade routes, and costs of production and trafficking, drawing on recent data and statistics.

The morning session ended with a presentation by Professor Friedrich Schneider, Johannes Kepler University of Linz, on money laundering. He discussed the means of and purposes for money laundering from a theoretical perspective.

Mr. Kevin Woods, IDA, delivered the lunch-time presentation on "Iraq 1991-2003: From Totalitarian State to Corrupt Enterprise." Based on in-depth reviews of unique sources contained in captured documents, he described the political power struggles Saddam Hussein faced over the years in tribally diverse Iraq. He portrayed the creation of the Baathist Party and the use of bribes as a means for Saddam Hussein to establish footholds in the complex tribal structure that dominated Iraqi society. He also showed how the steps Saddam Hussein took led to his regime becoming a criminal enterprise by establishing the *Fedayeen Saddam* extra-judicial gang, especially in response to internal sanctions imposed on Iraq.

Professor Schneider returned in the final session to discuss shadow economies, which exist somewhere between the criminal/underground realm and the informal household. He examined the relationship between corruption and state regulation and the existence of a shadow economy, concluding that more regulation is associated with an increase in the size of shadow economies.

Next, Mr. Don Semesky, DEA, spoke on combating threat finance. He discussed how terrorists fund their activities (hawalas, using corruption, financial facilitators), and how understanding their command and control can be exploited to track the flow of money and effectively target their organizations.

Dr. Arthur Fries, IDA, delivered a presentation on IDA's involvement in counter-drug projects. He summarized the different data used to assess operational effectiveness of counter-drug operations, addressing various complementary indicators and related analysis methods. He also discussed a general theory of deterrence, derived from empirical observations and repeatedly confirmed in diverse settings (including Iraq). He argued that the deterrence theory principles can be applied against distributed, franchise-type criminal organizations, and documented that a series of tactical interventions, arresting a sufficient number of perpetrators inside their adaptation time, resulted in significant reductions in cocaine usage (greater than 55 percent.)

The final presentation was given by Dr. Thomas Pietschmann and Ms. Melissa Tullis, UNODC. They addressed data on poppy and opium in Afghanistan. Of significant note was the price variability of the opium market, both within Afghanistan and in the surrounding areas. .

4. ADDITIONAL SUBMITTED PAPER

Professor Neil Johnson (University of Oxford) and Professor Roberto Zamarra (University of Bogotá), who at the last minute could not attend, kindly forwarded their presentation: "Towards Computational Models of Violent Actions." It summarizes the sizes of gangs and their relationship to similar organizational structures in Iraq and Colombia. It presents analytical results that portray the spread of criminal patterns to be similar to that for contagious diseases. It concludes by asking what types of further research can be pursued to understand these behaviors.[3]

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3 Particularly important would be research into the coalescing and reconstitution of insurgent criminals.

5. FOLLOW-ON DISCUSSIONS

Immediately after the conclusion of the last formal session, the technical seminar participants focused on the need for the creation of an *ongoing forum* so that the community of experts assembled there and others invited to participate could continue their collaborations, foster research efforts, and develop strategies to counter the insurgency in Afghanistan presently funded heavily by opiate drugs. Specific options for promoting these activities were settled on the following day (as described in the last paragraph below.)

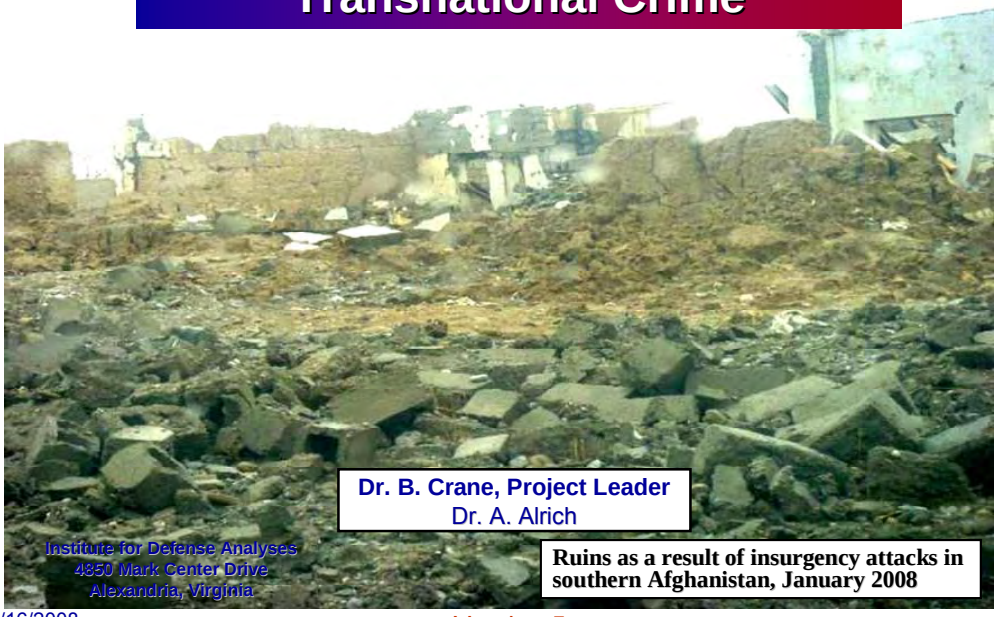
Further discussions highlighted the need for an Afghan strategy that encompasses the expertise of the academic, law enforcement, and NGO communities, and that is packaged in a form that would be useful to the forces on the ground. Some concerns were voiced about crop eradication, humanitarian issues, and the proper place and time for these types of interdiction efforts. The group of experts agreed that eradication could never be a stand-alone solution, but it could be a key part of an integrated solution, provided commodity prices are at or below cost. Before any eradication effort is undertaken, actions need to be taken to drive the opium price down to near or below cost (as was the case for the successful implementation in Bolivia and later in Peru) requiring the cooperation of allies and synchronous action by the USA's DoD, State, and Justice. Many participants expressed concerns about the viability of alternative livelihoods and the enormous humanitarian crisis that would ensue in Afghanistan following a ruination of the poppy economy. A final point of agreement was that interdiction efforts in Afghanistan would need to be cohesive and effectively planned, a goal that can be achieved only if the various stages of production, individuals involved, supporting enabling corruption, etc., are well understood.

On the following day, Friday 7 December, the IDA team returned to the UNODC for an after-action review. Dr. Chawla indicated that, from the UNODC perspective, this technical seminar had been a success. He made it clear that they would be happy for this event to be the beginning of a series of similarly focused technical workshops. Discussions then focused on the participants' expressed interest in a means for ongoing discussion via an online forum. He indicated support in principle for developing two such forums. One forum could be limited-membership and hosted by IDA (e.g., a carefully monitored and moderated SharePoint™ site), accommodating more sensitive law enforcement data. The partner open-forum (i.e., a "community of practice") could be hosted by the

UNODC, enabling technical seminar participants, as well as selected experts who did not attend the event, to discuss in a dynamic fashion issues relating to criminal-based, transnational anti-government groups. Dr. Chawla was pleased with the consensus that emerged from the diverse group of experts; a last set of discussions centered on potential applications to Afghanistan.

Summary Briefing

Countering the Effects of Violent Transnational Crime



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Ruins as a result of insurgency attacks in southern Afghanistan, January 2008

Version 5

Countering the Effects of Violent Transnational Crime

- **Technical seminar, IDA Facilitated, 5-6 Dec 2007**
  - Host: United Nations Office on Drugs and Crime (UNODC)
  - Broad range of nationalities, disciplines, police roles
- **Seminar topics:**
  - Connections / similarities between transnational crime and terrorist groups and their operations
  - Underlying organizational principles governing their behavior

Technical Seminar Objective:

Similarities between criminal and terrorist network operations, the underlying organizational principles governing their behavior, and viable strategies for defeating them

UNODC Seminar Consensus

- The failure to grasp and deal with emerging violent transnational criminal groups will continue to create and support larger numbers of self-financed anti-government forces.
- The emerging unfavorable situation in Afghanistan requires immediate action.

UNODC Seminar Findings (1)

1. A direct relationship exists between illicit opium industry and failure of international aid programs and reconstruction efforts.
2. Many anti-government groups have transformed into transnational criminal enterprises seeking foremost to protect their power, organizational structure, and funding stream.

UNODC Seminar Findings (2)

3. **Effective/efficient intervention campaigns can be conducted against violent transnational criminal groups; strategies to employ come from counter-narcotics realm.**

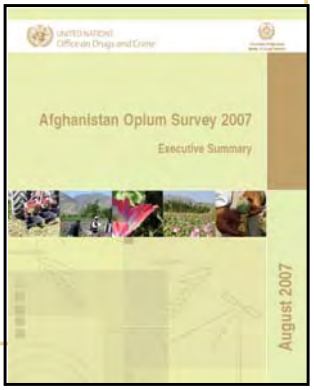
4. **There is a need for an ongoing interagency forum from the international community to continue to assess and advise policy makers.**

Afghanistan Opium Survey 2007 (1)

Executive Summary, Antonio Maria Costa's recommendations:

NATO: help taking on opium labs, markets and traffickers

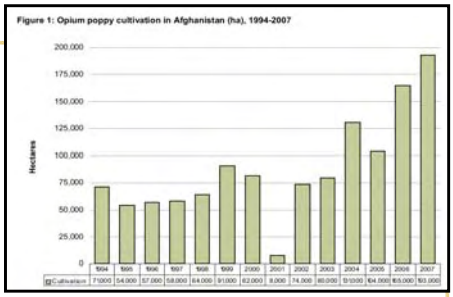
- Bankrupt the Opium economy
  - Block two-way flows of:
    - Imported chemicals
    - Exported drugs
  - Interdict mid-level Taliban associates
- Drug trafficking and insurgency live off of each other



Afghanistan Opium Survey 2007 (2)

Exec Summary (cont'd):

- CT objectives linked to CN
  - Destroy heroin labs
  - Close opium markets
  - Seize opium convoys
  - **Prevent reconstitution**



- Double benefit of supporting CN operations:
  - Destruction of mid-level drug trade→ win popular support
  - Lower opium demand by traders leads to price reduction; makes alternative economic activity more likely/attractive

Essential to cast doubt on viability of drug trade from farmers' perspective.

Organizational similarities of terrorist and criminal groups

- Distributed, cell-like organization
  - Collection of fairly self-contained units
- Dynamic, resilient, adaptive
  - A generic, self-organizing system which is dynamically evolving through continual coalescence and fragmentation of its constituent groups
    - Attack strength of forces thereby continually dispersed

Johnson/Spagat/Restrepo, **"insurgent force:"**

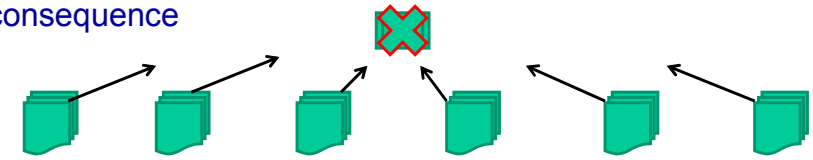
the various insurgent forces are beginning to operate in a similar way regardless of their underlying ideologies, motivations and the terrain in which they operate

Using Organizational Similarity

Insurgents transform into criminal enterprises sacrificing principles to preserve their organization

- Asian terrorist organizations (i.e., Tamil Tigers)
- FARC
- Taliban
- Fedayeen Saddam

- Fatal flaw: transformation into criminals
- Intervention thresholds are known (kinetic, arrest, etc.)
  - Explains impact of removal of "Emir"
  - Competition to replace Emir–leads to an unintended consequence



Colombian lessons: applicable in Afghanistan (1)

Organizational similarities lead to behavioral similarities

- Anti-Government forces in Colombia, Iraq, and Afghanistan share similar characteristics
  - Preserving organization trumps other motives

Organizational similarities/weaknesses and Intervention efforts

- Critical tipping point thresholds and reconstitution times
  - Types of interventions to fragment enemy organizations:
    - Kinetic operations, arrest, extradition, and loss of property
    - Successive interventions inside the reconstitution time lead to long-term success

Colombian lessons: applicable in Afghanistan (2)

Courses of action

- Military "social work" consolidates to create a permanent presence
  - Identify community needs; mobile combat engineers make improvements
  - Coordinate with other government ministries and provide permanent support
  - Directly engage illicit narco industries with police
- Local cooperation continues community improvements

What was faced in Colombia

- **Internal armed conflict between guerrilla/ paramilitary forces**
  - **Unconventional foe**
    - FARC, ELN, other guerrilla/paramilitary forces
    - Traffickers and drug cartels, corrupt officials
- **Anti-government forces provide environment for drug trafficking**
  - Drug trafficking proceeds fund arms, salaries, etc.
  - Generates a large, black market, corrupt economy
- **Military / law enforcement response required**
  - Direct security actions: insufficient to deter
  - Ruin underlying illicit economy; reform institutions

Colombia's Counter-Narcotics Situation (1)

Operational Successes in / around Colombia

- Attack on production
  - Aerial eradication (Colombia)
  - Manual eradication (Peru, Bolivia)
  - Alternative crop development (USAID)
  - Control flow of precursor chemicals (Colombia)

Manual eradication

- Interdict transportation
  - Air bridge denial (Peru, Colombia); price below cost
  - Riverine presence (main transportation corridors)
  - Control roads (Colombia, Bolivia)
  - Interdict fishing/go fast boats (primarily arrests)

Colombia's Counter-Narcotics Situation (2)

Operational Successes in / around Colombia (cont'd)

- Attack on the organization
  - Peru–Sendero Luminoso / Tupac Amaru
  - Colombia–Control territory with democratic security
  - Law enforcement in every province
  - Colombia → "bring to justice" high value targets (extradition, prosecution, military action)

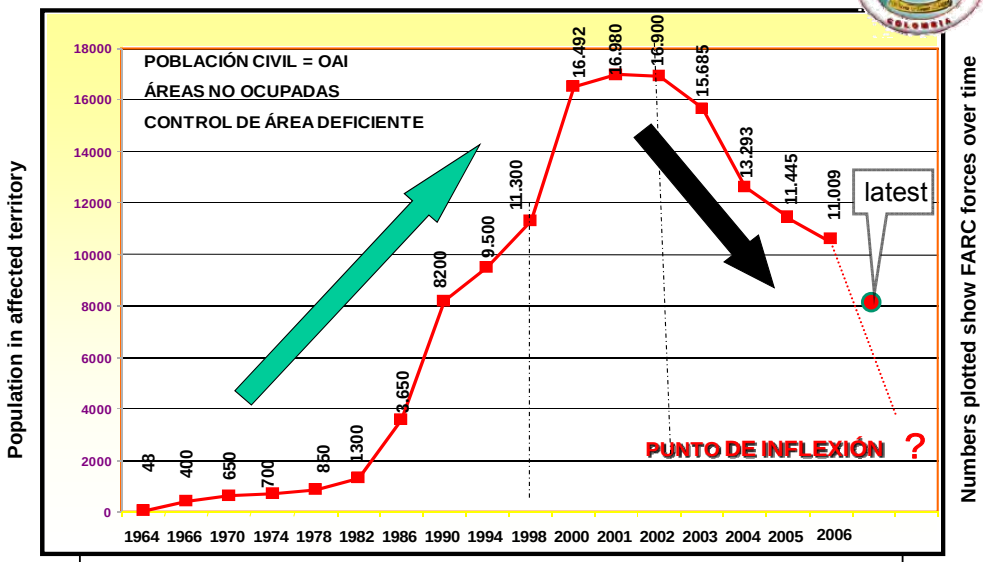
President Alvaro Uribe engaged in manual coca eradication in La Macarena

"Comrade Artemio," a leader of Sendero Luminoso (Shining Path)

Essential Colombian TTPs

- **Colombian TTPs are illustrative:**
  - Regain and consolidate territory – 4 types of troops (260,000 total)
    - Professional (70K), Regular (conscripted, 160K), Admin, SOF
  - Host nation professional troops neutralize enemy
  - Regular troops do not maneuver (IEDs) and hold key areas to draw out insurgents
  - Security presence permanent, "town soldier"
  - SOF provides intelligence and targeting

Long-term Colombian effort



Colombian data indicates the counter-narcotics/terrorism effort is ongoing and has a long history.

Measures of Colombian Success against the FARC

Variable	2000	2006
Victims of Massacres	1,403	193
Cases of Massacres	236	37
No. of Journalists Murdered	9 (2001)	3
No. of Teachers Murdered	82 (2001)	56
No. of Indigenous People Murdered	181 (2001)	44
No. of Uninonists Murdered	123 (2001)	23
Human Rights complaints (to a Civilian Ombudsman) as a % of active duty Military and Policemen	0,19%	0,25%

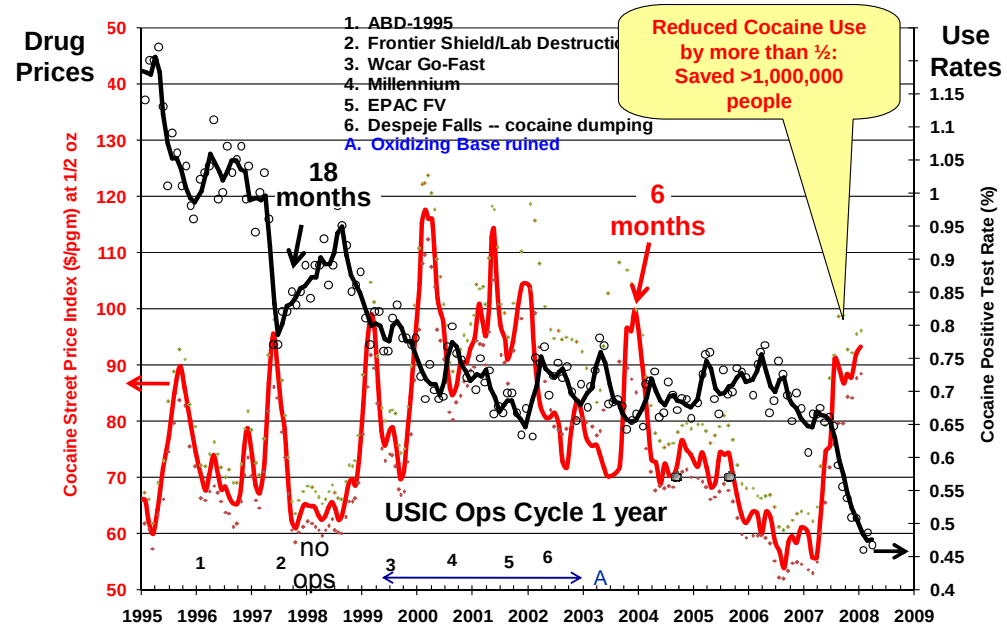
Crime is down

Variable	2002	2006
% of GDP Growth	1,93%	6,80%
National Poverty Rate	56%	45%
Unemployment Rate	16,40%	11,40%
Inflation Rate	6,99%	4,48%

Economic stability indicators are improving

Colombian data: Examples of increased stability resulting from their campaign against the FARC

US Cocaine Use & Price Surrogates (2007)



Source: Update from 2004 Report to the President

Way Ahead in Afghanistan (1)

- **Need L.E. intelligence driven campaign plan**
  - ➢ **Premised on international, interagency-military-host nation participation**
  - – UK/US military forces need to conduct military campaign to deny reinforcement/reconstitution
  - – International/interagency unity of effort essential
  - – Need Afghan CN face; host nation security force is key

Afghanistan's National Army

Afghan police officers in Herat Province

Afghan police destroying opium poppies in Tarin Kowt in Urugzan

Way Ahead in Afghanistan (2)

- **CN strategy competes for attention, resources and support**
  - – The ***Deep Battle*** must be prioritized as a military strategy
  - – SOCA/DEA and US/UK Military intense actions needed for about **two months – a military-led campaign**
    - DEA, SOCA, and Afghans can provide authorities and specific targeting
    - **Need to "take out" > approximately 30 targets in combined operations**
  - – Need DEA support for bringing to justice key traffickers
  - – Result: illicit economy loses ½ to ¾ of its current value

Concept to collapse opium prices (1)

- **Limit drug enforcement, until ready to strike**
  - Hold off for DEA coordinated major attack (continue "bring to justice")
  - Force price collapse shock–conditions now make it possible
- **When? Counter-insurgency campaign declines (suggestion)**
  - Taliban forces → recovery phase; cross border to rest
  - Maximum L.E. attack by US forces & DEA advisors – Afghan forces
    - Interdict labs, opium bazaars, traffickers (south, east)
  - Will force a response, on Coalition terms, of Taliban

Concept to collapse opium prices (2)

- **Farm level opium prices decline sharply → few buyers, excess sellers → middle men risk/reward ratio rises/price falls below cost**
  - Farmers likely to blame opium traffickers, not government, for losses
  - Government/NGOs provide food / development assistance to farmers
- **Deny ~$1 Billion in opium revenue in provinces**

Afghan farmers cash in seed and fertilizer vouchers as part of a USAID-assisted poppy eradication program.

Deep Battle concept development

- **Interagency operational concept**
  - Validated concept for ruining illicit opium economy; (like 1996 in Peru)
  - Coordinated with Defense (ASD GSA), State (INL), Justice (DEA)
  - Coordinated concept with British MOD, police-SOCA, and Foreign Office
  - Coordinated with UN ODC → Law enforcement/NATO military response
    - UN requests NATO support to ruin illicit economy
    - UN data shows dramatic price declines from overproduction (E and S)

Way Ahead with Research Community

- Research community developing tools for a long-term campaign strategy
  - Quantitative methods to manage asymmetric wars
    - Intervention effectiveness (kinetic, law enforcement, eradication)
    - Time duration and execution strategy concept (US Central Command)
  - Critical need for follow-on research
    - Reconstitution of criminals and insurgents
    - Operating within the response times of an insurgent system component
- Recommendations for follow-on work
  - Research support for DOS/INL
  - Local conference on transnational insurgency (classified) (July 2008)
    - Illicit economies (focus on Afghanistan)
    - Lessons from Colombia
  - Establish collaborative interaction medium for transnational crime experts (follow-on from UNODC conference)

Briefings Delivered at the Technical Workshop in Vienna

UNCLASSIFIED

Seminar Objectives and Issues:
Countering the Destabilizing Effects of Violent Transnational Crime

December 5, 2007

Dr. Barry Crane
Dr. Amy Alrich
Ms. Lauren Burns

Institute for Defense Analyses
4850 Mark Center Drive
Alexandria, Virginia

UNCLASSIFIED

Objectives

Objective:

The Technical Seminar will provide a forum for technical discussions among invited experts on violent transnational crime.
- Similar organizational structures found that lead to similar behaviors
- Similar intervention types can be used for similar outcomes
- Defeating the reconstitution of criminal activities poorly understood

The focus will be on data and case studies, as well as methods and models for conceptualizing and evaluating the impact of transnational crime and criminal markets.
- Colombian country and regional approaches valuable examples
- How can the principles be applied elsewhere?
- What are the underlying principles to deal with criminal reconstitution?

We welcome both qualitative and quantitative research.

Core Ideas

- This technical seminar will provide a forum for interaction and collaboration among invited experts on violent transnational crime.
- Three core observations about transnational crime motivated the organizers and sponsors to plan this workshop:
  - The perpetrators, regardless of motivation, demonstrate similar organizational structures leading to similar behaviors
  - Similar intervention types can be used against transnational criminal groups for similar outcomes
  - However, defeating the reconstitution of criminal activities is an area in need of more attention
- Continuing this community will lead to further valuable understanding that can be used to minimize the impact of criminal insurgents: the most dangerous are those seeking to create ungoverned regions.

Seminar will develop new ideas

- The focus of this technical workshop will be on data and case studies, as well as methods and models for conceptualizing and evaluating the impact of transnational crime and criminal markets.
- We have invited experts from a broad range of fields and with a wide range of expertise to establish international, collaborative, interdisciplinary environments.
- The presentations all contribute to our understanding of the fundamental challenges and ultimately will enhance our ability to deal with those challenges:
  - What are some of the valuable insights from Colombian national and regional approaches to countering transnational criminal groups?
  - How can the insights gained from such examples be applied elsewhere?
  - What are some of the major areas of concern, geographically, as well as functionally?
  - What are the underlying principles to countering transnational criminal groups?
- *What are the underlying principles to preventing criminal reconstitution*?

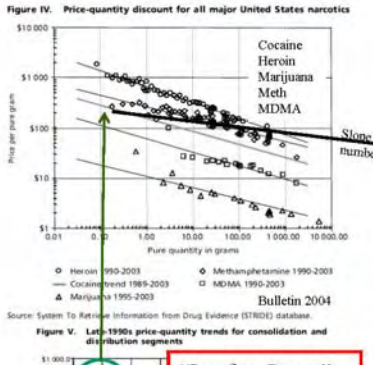
Similar Organizational Characteristics

- Definition: "a generic, self-organizing system which is dynamically evolving through continual coalescence and fragmentation of its constituent groups."
  - Insurgencies in Iraq, Afghanistan and Colombia similar
  - Terrorism in non-G7 countries similar
  - Drug trafficking gangs similar

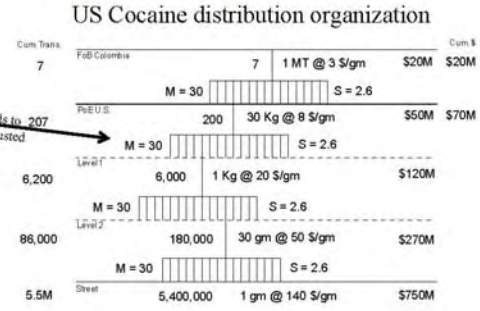
- "Our findings [power law] suggest that the dynamical evolution of these various examples of modern conflict has less to do with geography, ideology, ethnicity or religion and much more to do with the day-to-day mechanics of human insurgency; the respective insurgent forces are effectively becoming identical in terms of how they operate. Our findings are backed up by extensive statistical tests."
- There are many examples from drug trafficking; many more will be presented in other areas.

US Cocaine Price Discount Ratio Reveals Similar Organizational Structures

For Example

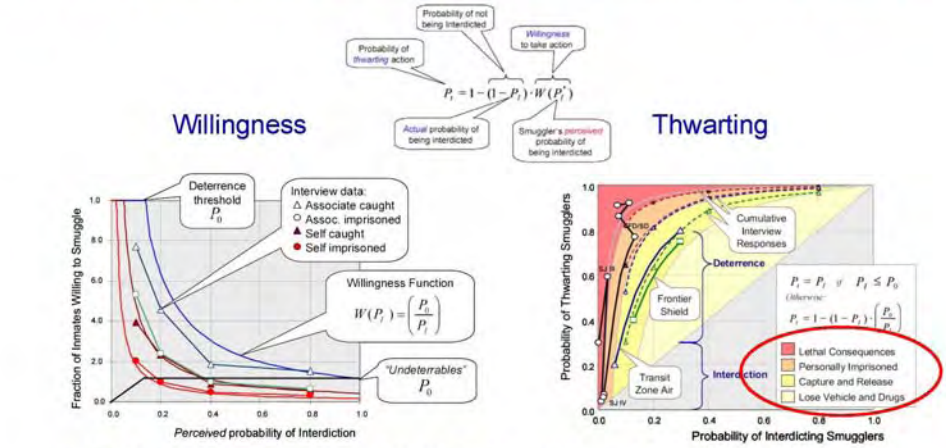


"Leaf to Street"



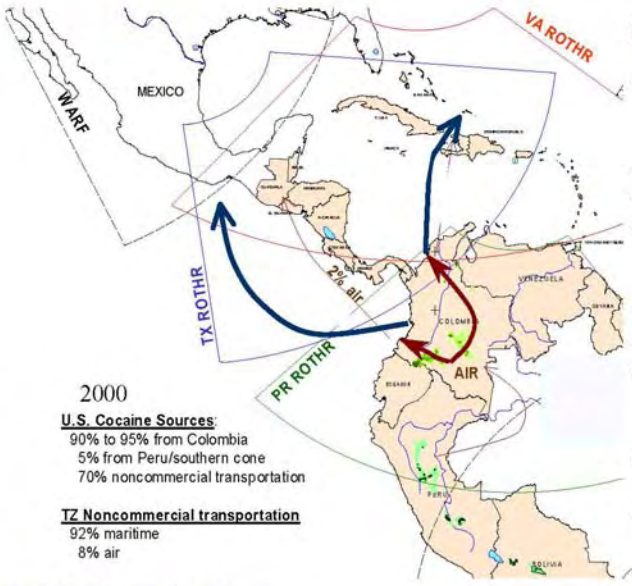
- The production, security, and distribution system all have the same characteristics.
- Interventions that worked here, also have been shown to work elsewhere in a similar way.

Similar Intervention Characteristics Are Useable Against Like Organizations



- $1/P_I$ behavior with thresholds (*lethal, arrest, and loss of property*)
- Empirically derived from operations, repeatedly tested; reviewed later
- Basis for determining required future actions to be successful

Theater Operations in & around Colombia



2000

U.S. Cocaine Sources:
90% to 95% from Colombia
5% from Peru/southern cone
70% noncommercial transportation

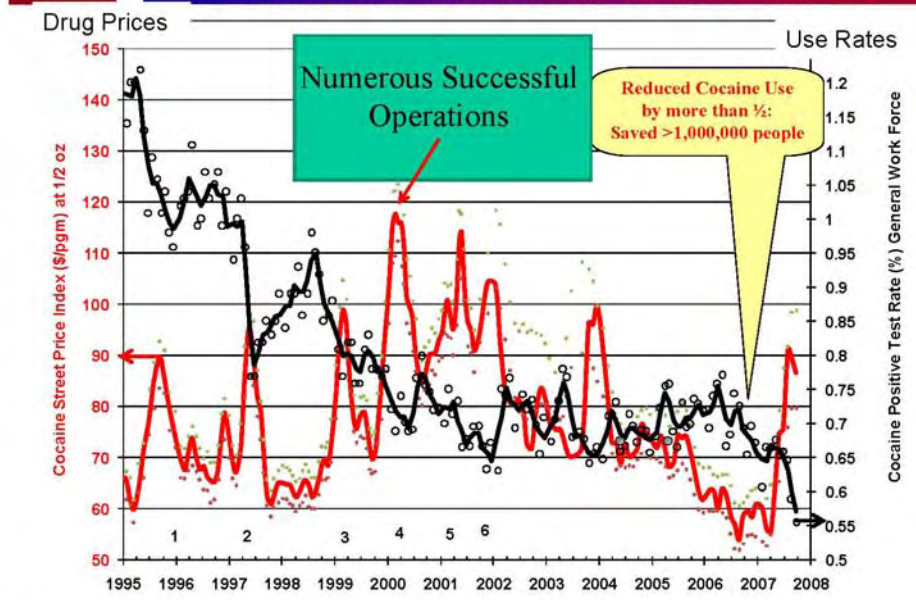
TZ Noncommercial transportation
92% maritime
8% air

Operational Successes

- Air trafficking to US
  - ✓ 90% reduction
  - ✓ Sustained 10 yrs
- Defense of Puerto Rico
- Attack on production
- Peru to CO Air Bridge
  - ✓ 90% reduced flights
  - ✓ 75% reduced farms
- Defeat of go-fasts W Carib
- Defeat of all go-fasts
- Taking out the farm-gate
  - ✓ Moving to Africa
  - ✓ Trafficking to Europe
- Terrorist/massacre incidents
  - ✓ Reduction 75-85%
- Insurgents
  - ✓Reduction 45%

Direct Impacts on Cocaine Use (August 2007)

Need Similar Metrics for Other Areas--??



INSTITUTE FOR DEFENSE ANALYSES

The Relationship Between Crime & Terrorism: revisiting attempts to model the 'nexus'

Countering the Destablising Effects of Violent Transnational Crime

UNODC, Vienna, 05 December 2007

Dr. Tamara Makarenko

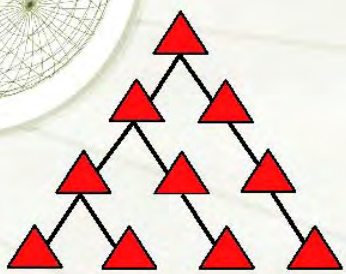
Remit

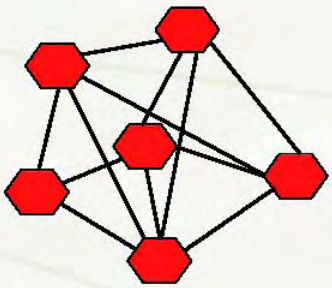
- Background to the crime-terror nexus
  - Environmental & intellectual contextualisation
  - 'Proto-paradigms': globalisation, networks/netwars
- The nexus model
- Criticisms of the concept
- Alternative/additional explanatory models
- Where are we now?
  - Is there validity in modeling the relationship between organised crime and terrorism?

Environmental Contextualisation

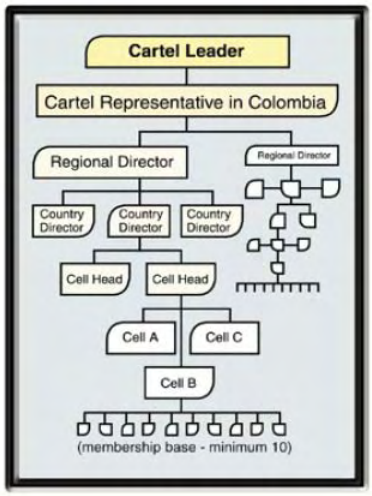
- Post-1989 vs. Post-2001
- Proto-paradigms:
  - Globalisation
    - Scholte's 5 categories
    - Benefits against costs
      - Systemic
      - Political
      - Economic
      - Social
    - The '3 part hierarchy'
  - Networks & netwars

Networks / Netwars





- Past: monolithic
  - Central control
  - Hierarchical
- Network
  - Nebulous, segmented
  - Polycentric
  - Opportunistic



Network & Netwar Characteristics

- Network:
  - Learning / reflective and responsive
  - Adaptive
  - Resilient
  - Capacity for regeneration
  - Ability to cross into licit/legitimate world
- Netwars:
  - Contemporary wars that seldomly involve military confrontation between states
  - Focus: involvement non-state combatants who share common characteristic of operating in small, dispersed units that can "penetrate and disrupt, as well as elude and evade" (Arquilla)

Intellectual Contextualisation

- 'Intellectual' framework
  - Kaldor 'new wars'
  - Snow 'uncivil wars' / criminal vs. ethnic insurgencies
  - Metz 'spiritual vs criminal insurgencies'
  - Duffield 'protracted emergencies'
  - Manwaring 'grey area phenomenon'
  - Collier 'greed and grievance'
  - Reno; Keen - political economy of violence

Observations from the Field

- Africa
  - Sierra Leone, Liberia
- Balkans (1997/1998)
- Central Asia (1998-2000)
- Caucasus - Chechnya, Georgia
- Afghanistan (2000, 2004)
- Europe (2001-2004)
- Pakistan (2004-2005)
- South/east Asia
  - Thailand
  - Philippines

Definition: TOC

- Mandatory criteria:
  - Must consist of at least 3 people that are gathered for a prolonged or indefinite period of time
  - Suspected or convicted of committing serious criminal offences with objective of pursuing profit and/or power
  - Use of violence or other means suitable for intimidation
  - Operating on an international level
- 2/7 Optional criteria:
  - Specific division of labour
  - Form of internal discipline and control
  - Exerting influence on public and private sectors
  - Using commercial or business-like structures
  - Engaged in money laundering

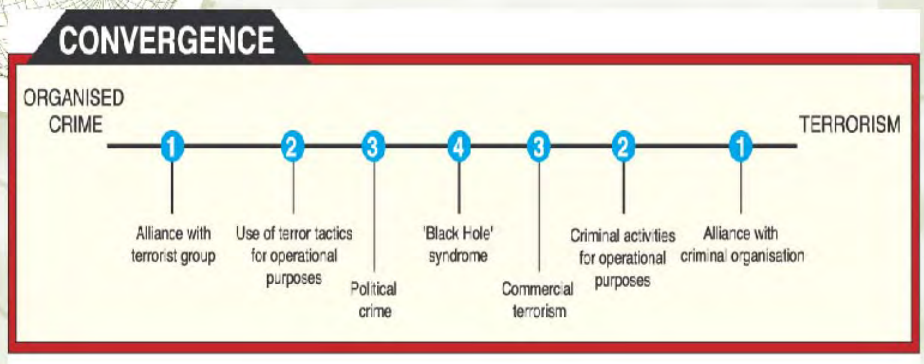
Definition: Terrorism

- Premeditated violent act or threat of violence by members of an organised group
- Creates fear among an adversary or specific segment of society. Fear is the intended result of terrorism, not a by-product. Therefore, terrorism is a tool of intimidation and/or coercion.
- Achieves predetermined political objective, normally an attempt to influence political behaviour
- Terrorism is political in nature - it is often discretionary (for the terrorist), therefore terrorists will often choose their targets carefully
- Ultimate goal of terrorism may be to destroy their opposition, however, terrorism is primarily concerned with breaking the will of the group's enemy and forcing it to submit to their demands.

Similarities TOC/Terrorism

- Organisation: networks
  - Protected yet flexible
  - Ability to cross borders
- Role of secrecy as foundational concept
  - Membership, locales, leadership, communities
- Identify and leverage gaps in state institutions to own advantage
  - Intelligence/counter-intelligence
- Use of 'specialists'
- Cross (il)licit divide
- Use of émigré/diaspora communities for support and/or cover
- Ability to recognise new opportunities
- Alliance formation - management of risk

The Crime-Terror Nexus / Continuum



Alliance Formations

- Logic behind alliances
  - Expert knowledge (money laundering, counterfeiting)
  - Operational support: access to established networks
  - 'Business' transaction for limited period of time
- Smuggling operations – most common
  - FARC – Mexican cartels; Russian organised crime
  - KLA - Albanian mafia; ETA - Italian organised crime
  - IMU – Afghan drug mafia; Central Asian organised crime; Pakistani organised crime
  - Indonesian separatists; LTTE – Thai organised crime
  - Chechen terrorists – Russian organised crime; Caucasian syndicates
  - Hezb'allah – Lebanese organised crime
  - Al-Qaeda – Caucasian syndicates; Russian organised crime (?)
  - Various militant Islamist groups – Algerian organised crime

Operational Use

- Shift from alliances
  - Know-how
  - Limit vulnerability
  - Straight profit (often remain dependent on alliances for services)
- Criminal use of terror tactics
  - Pre-1991: not to change political status quo, but to destroy competition or threaten/disrupt anti-crime efforts
    - Ex. Medellin cartel wave of violence late 1980s-early 1990s (+500)
  - Post-1991: change from violence as lesson/obstacle, to violence as tool that can be used to eviscerate legal/political power
    - Ex. Italian mafia bombing campaign against tourist targets 1990s, to openly challenge political elite
- Terrorist use of organised crime

'Hybrids' vs/ Transformation

- Convergence thesis
  - Criminal and terrorist motivations, organisation, operations overlap to point at which analytically difficult to differentiate
  - Starts with group that simultaneously displays characteristics of both
  - May end up with group transforming itself into an entity situated at the opposite end of the continuum from which it began
  - 2 categories:
    - political crime
    - commercial terrorism

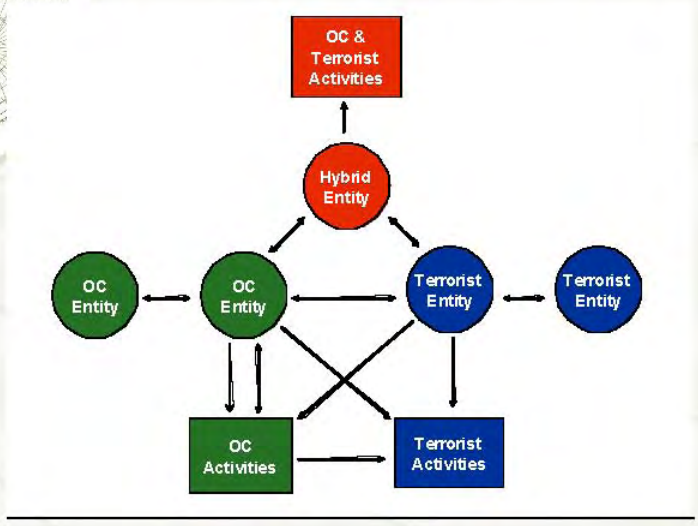
'Black Hole' Phenomenon

- Epitome of the crime-terror nexus/continuum
- Covers two situations/scenarios:
  - Primary motive of groups engaged in civil war evolves from political to criminal aims
  - Emergence black hole state which has been de facto overrun by a *hybrid* group (I.e. warlords)
- Ultimate aim: to create/promote civil war to reproduce positions of power and access to resources
  - Ex. Afghanistan, Burma, Sierra Leone
  - Ex. Areas in Pakistan, Indonesia, Thailand

Critiques of the CTC/Nexus

- 'Methods not Motives' proponents
  - No obvious way in which criminal and terrorist motives can be crossed: criminal always driven by profit, terrorist by politics/ideology
    - I.e. Hoffman
- No nexus but transformation
  - No interest in cooperation, but evidence of transformation into hybrid entities
    - I.e. Dishman

Alternative Developments: Williams



Williams

- 'Nexus' as 'analytically useless'
- Types of relationships
  - Parallel evolution and similar organisational structures (operating methods)
  - Cooperation between criminal and terrorist entities
  - Appropriation of methods of the 'other'
  - Convergence and emergence of hybrids
  - Transformation of one type into another
  - Transformation combined with integration of one type into another

Alternative Developments: TRaCCC

- *Terror-crime interaction spectrum*
  - Activity appropriation
    - Direct comparison to 'operational use'
  - Nexus
    - Relationship that is sustained over time, not a marriage of convenience or ad hoc interaction
  - Symbiotic relationship
    - Alliances / cooperation
  - Hybrid
    - Direct comparison
  - Transformation

TRaCCC Watchpoints

- Environmental
  - Open activities in legitimate economy
  - Shared illicit nodes
  - Communications
  - Use of IT
  - Violence
  - Use of corruption
  - Financial transactions and money laundering
- Organisational
  - Structures
  - Goals
  - Popular support
  - Trust

Revisiting the Crime-Terror Nexus

- Reflection 1
  - Didn't account for integration
    - I.e. of a criminal group into a terrorist entity
      - Madrid bombing: drug traffickers were radicalised (Ahmidan) and integrated into a terror network
      - Result: added new contacts and skills to Madrid preparations
      - Role prison radicalistion in integration?
- Reflection 2
  - Required greater clarity on role of geography / nature of host state

Incorporating Geographical Dynamics

- Interaction in 'unstable environments'
  - Accounted for in original thesis, with extreme reference to black hole syndrome
- Interaction in 'transitional states'
  - Nexus not about perpetuating instability, but about maximising chances of success for immediate operations
    - Defining characteristic: entities have no identifiable state or social allegiance, therefore limited barriers
- Interaction in 'established democracies'
  - Natural ideological divide between crime and terrorism, with criminal groups having no interest in destroying fabric of society from which they prosper
  - However, growing evidence of connections
    - Ndrangheta and militant cell based in Italy
    - Madrid cell
  - Motivation: combination loyalties (ethnic, religious), emergence sympathetic feelings, converts, net radicalisation within criminal communities (I.e. prison system)

After-thoughts?

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Number of Terrorist Groups Falling Under Specific Nexus points, Divided by Type of Group

	Alliances	Operational Use of Crime	Convergence	Evident Convergence
Political - undefined	0	1	1	-
Ethno - Nationalist/Nationalist	7	18	6	2
Separatist	1	7	2	1
Religious - Christian	0	2	0	1
Religious - Hindu, Sikh	0	1	0	0
Religious - Muslim	8	21	6	2
Left-Wing	9	20	9	5
Right-Wing	0	0	1	0
Undefined	3	4	3	1

MIDDLE EAST

Alliances	Operational Usage	Convergence*	Suspected Convergence
-	AA	AA	-
-	AGI	-	AGI
-	Hizbullah	-	-
-	MEK	-	-

Key for abbreviations

AAIA - Aden-Abyan Islamic Army
AA - Asbat al-Ansar
MEK - Mujahideen-e-Khalq
AGI - Al-Gamaa al-Islamiya
Hizbullah

* Refers to an entire group or a faction still associated with the group

GLOBAL

Alliances	Operational Usage	Convergence*	Suspected Convergence
Al-Qaeda	Al-Qaeda	-	-

* Refers to an entire group or a faction still associated with the group

EUROPE

Alliances	Operational Usage	Convergence*	Suspected Convergence
WLFB	WLFB	-	WLFB
-	AS	-	AS
CIRA	CIRA	-	-
-	FLNC	-	FLNC
INLA	INLA	-	-
-	PKK	PKK	-
RIRA	RIRA	-	-
-	RD-17	RD-17	-
UCPMB	UCPMB	-	-
-	AR	CNG	NIPR
-	DHKPIC	Irraultza	SPIR
-	ETA	NLA	-
-	IIB	-	-
-	LVF	-	-
-	RAS	-	-

Key for abbreviations

AR - Abkhazia Rebels
AS - Abkhazia Separatists
CIRA - Continuity IRA
CNG - Chechen Nationalist Groups
DHKP/C - Devrimci Halk Kurulus Partisi/Cephesi
RO-17 - Epanastatiki Organosi 17 Noemvri
ETA - Euzkadi ta Askatasuna
FLNC - Front de la Liberation Nationale de la Corse
Irraultza
INLA - Irish National Liberation Army
IIB - Islamic International Brigade
UCPMB - Liberation Army of Presevo, Medvedja and Bujanovac
LVF - Loyalist Volunteer Force
NLA - National Liberation Army (remnants)
NIPR - Nuclei di Iniziativa Proletaria Rivoluzionaria
PKK - Partiya Karkaren Kurdistan
RIRA - Real IRA
SPIR - Special Purpose Islamic Regiment
WLFB - White Legion and Forest Brothers
RAS - Riyadus-as-Saliheen Reconnaissance and Sabotage Battalion of Chechen Martyrs

* Refers to an entire group or a faction still associated with the group

ASIA

Alliances	Operational Usage	Convergence*	Suspected Convergence
IMU	IMU	IMU	-
IRP	IRP	IRP	-
TPF	TPF	TPF	-
-	BPLF-BSOA-PFAR	BPLF-BSOA-PFAR	-
GMIP	GMIP	-	-
JM	JM	-	-
LTTE	LTTE	-	-
-	MQM-H	MQM-H	-
-	PULO	PULO	-
RSO	RSO	-	-
-	SMP	SMP	-
-	UNITY	-	UNITY
ULFA	ULFA	-	-
HJI	BLTF	MEF	PG
-	BRA	SSPA-SSRC	-
-	ENR	UWSA	-
-	HJI	ASG	-
-	JI	-	-
-	KIA-KDA	-	-
-	KNLA	-	-
-	LET	-	-
-	MILF	-	-
-	NSCN-IM	-	-
-	SS	-	-

Key for abbreviations

ASG - Abu Sayyaf Group
BPLF - Baluch People's Liberation Front;
BSOA - Baluch Students' Organisation – Awami;
PFAR - Popular Front for Armed Resistance
BLTF - Bodo Liberation Tiger Force
BRA - Bougainville Revolutionary Army
ENR - Ethnic Nepalese Rebels
GMIP - Gerakan Mujahideen Islam Pattani
MQM-H - Haqiqi Muthida Qaumi Movement
IRP - Islamic Renaissance Party
IMU - Islamic Movement of Uzbekistan
HJI - Harakat ul-Jihad ul-Islami
JI - Jemaah Islamiah
JM - Jombesh-i-Milli
KIA - Kachin Independence Army
KDA - Kachin Democratic Army
KNLA - Karen National Liberation Army
LeT - Laskhar e-Tayyiba
LTTE - Liberation Tigers of Tamil Eelam
MEF - Malalta Eagles Force
MILF - Moro Islamic Liberation Front
NSCN-IM - National Socialist Council Nagaland-Isak Muivah
PULO - Pattani United Liberation Organisation
PG - Pentagon Gang
RSO - Rohingya Solidarity Organisation
SSPA - Shan State Progress Army
SSRC - Shan State Restoration Council
SS - Sikh Separatists
SMP - Sipah-e-Mohammed Pakistan
TPF - Tajik People's Front
UNITY - The United Front for the Independence of Pattani or Bersatu
ULFA - United Liberation Front of Assam
UWSA - United Wa State Army

* Refers to an entire group or a faction still associated with the group

AFRICA

Alliances	Operational Usage	Convergence*	Suspected Convergence
-	ADF	ADF	-
-	FRUD	-	FRUD
GSPC	GSPC	-	-
-	GIA	-	GIA
Interhamwe	Interhamwe	-	-
NPFL	NPFL	-	-
RCD-Goma	RCD-Goma	-	-
RCD-ML	RCD-ML	-	-
RCD-N	RCD-N	-	-
-	SNA	-	SNA
MDJT	FPDD	RUF	-
-	FLEC	-	-
-	ULIMO-J	-	-

Key for abbreviations

ADF - Allied Democratic Forces
FDD - Forces pour la Defense de la Democratic
FLEC - Frente de Liberacao do Enclave de Cabinda
FRUD - Front for the Restoration Forces of Unity and Democracy
GIA - Group Islamique Arme
RCD-N - Rassemblement Congolais pour la Democratic-Nationale
RCD-ML - Rassemblement Congolais pour la Democratie-Movement de Liberation
RUF - Revolutionary United Front
SNA - Somali National Alliance
ULIMO-J - United Front for the Liberation of Liberia - Johnson
GSPC - Group Salafiste pour la Predication e; le Combat
Interahamwe
MDJT - Mouvement pour la Democratie et la Justice au Tchad
NPFL - National Patriotic Front of Liberia
RCD-Goma - Rassemblement Congolais pour la Democratic-Goma

* Refers to an entire group or a faction still associated with the group

AMERICAS

Alliances	Operational Usage	Convergence*	Suspected Convergence
MRTA	MRTA	-	MRTA
FARC	FARC	FARC	-
M-19	M-19	M-19	-
SL	SL	-	-
-	CMPL	AUC	-
-	COES	EPL	-
-	ELN	FRF	-
-	EGTK	-	-

Key for abbreviations

AUC - Autodefensas Unidas de Colombia

COES - Comandos Operativos Especiales

CMPL - Cinchonero Movimiento Popular de Liberacion

EGTK - Ejercito Guerrillero Tupac Katari

ELN - Ejercito de Liberacion Nacional

EPL - Ejercito Popular de Liberacion (dissident faction)

FARC - Fuerzas Armadas Revolucionarias de Colombia

FRF - Frente Ricardo Franco

M-19 - Movimiento 19 de Abril

MRTA - Movimiento Revolucionario Tupac Amaru

SL - Sendero Luminoso

* Refers to an entire group or a faction still associated with the group

Modeling the Iraq War

a market for insurgency

Sean Gourley[1,2], Neil Johnson[1], Mike Spagat[3], Jorge Restrepo[4], Juan Camilo Bohorquez, Alvaro Moreno, Elvira Restrepo, Juan Pablo Calderon, Alex Dixon, Roberto Zarama

(1) Physics Department, Oxford University
(2) Said Business School, Oxford University
(3) Department of Economics, University of London
(4) Centre for Conflict Studies, University of Bogota

Algeria, Insurgency, 1992 - Angola, Cabinda, 1975 - Burma, Insurgency, 1950 - China, Senkaku Islands, 1968 - China, Spratly Islands, 1988 - Colombia, Insurgencies, 1970s - Congo (Zaire), Congo War, 1998 - Georgia, Civil War, 1991 - India, Assam, 1985 - India, Kashmir, 1970s - India, Naxalite Uprising, 1967 - Indonesia, Aceh, 1986 - Israel, Al-Aqsa Intifada, 2000 - Ivory Coast, Civil War, 2002 - Korea, Korean War, 1953 - Laos, Hmong Insurgency, 2000 - Moldova, Transdniester, 1991 - Namibia, Caprivi Strip, 1966 - Nepal, Maoists, 1996 - Nigeria, Civil Disturbances, 1997 - Pakistan, Baluchistan, 2004- Peru, Shining Path, 1970s - Philippines, Moro Uprising, 1970s - Russia, Chechen Uprising, 1992 - Somalia, Civil War, 1991 - Spain, Basque Uprising, 1970s - Sudan, Dafur, 1983 - Thailand, Islamic Rebels, 2001 - Turkey, Kurdistan, 1984 - Uganda, Civil Conflict, 1980 - United States, Afghanistan, 2001 - United States, Djibouti, 2001 - United States, Iraq, 2003 - United States, Philippines, 1898 - Uzbekistan, Civil Disturbances, 2005 - Yemen, Sheik al-Houti, 2004

Source - http://www.globalsecurity.org

Introduction

- Is there a common structure of modern warfare that remains more or less constant across diverse wars?
- Aside from the inherent interest of this question, the answer can have important implications for the practical conduct of war, including medical and insurance planning.
- What is the relationship between terrorism and modern warfare?
- The distinction between the two is often blurred, e.g., in the concept of the "war on global terrorism". But there does appear to be a real relationship there and knowledge of its nature will be very welcome.

Introduction

- There are remarkable regularities and similarities in the size distribution of violent events in Colombia, Iraq, Afghanistan, Indonesia, Israel-Palestine, Northern Ireland, Casamance (Senegal), Sierra Leone, El Salvador and Uganda.
- We can understand the findings for modern wars in terms of a model of the coalescence and fragmentation of insurgent groups.
- One can learn about the nature of an insurgency from studying the size distribution of casualties that it throws up.

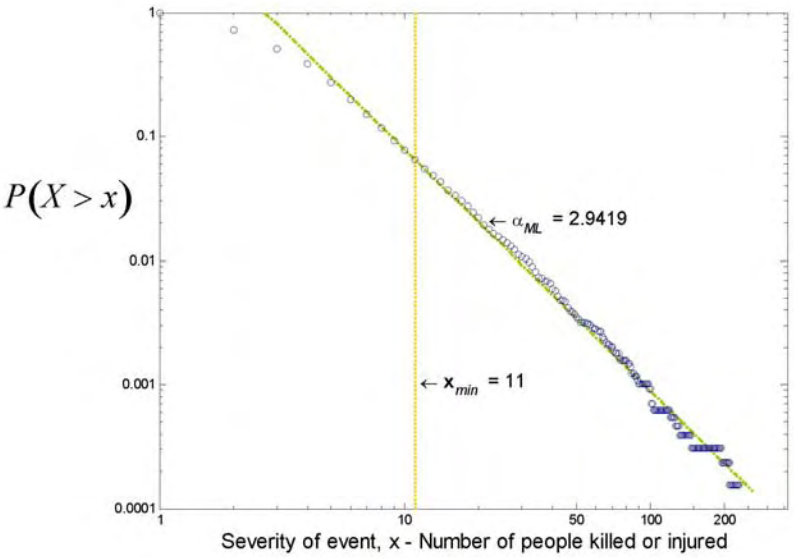
Some Background

Is the nature of war changing?

What is the relationship between terrorism and guerrilla war?

- **Hammes** (2004) argues that typical wars are now irregular, guerrilla-like and/or terrorist-like. Believes that Pentagon planners are stuck in the past, preparing for increasingly irrelevant conventional wars
- **Lind** *et al* (1989) wrote of 'fourth generation war' marked by greater battlefield dispersion; importance of small, mobile groups; diminished need for centralized logistics; blurred distinctions between military and civilian targets; parallels with terrorism and emphasis on breaking the will of the enemy

Severity of Events for Colombia



Some maths

- $p(x)$ is the probability that a particular event will be of size x
- Suppose that $p(x) = Cx^{-\alpha}$

  Such a distribution is called a 'power law'
- Take logs of both sides and the plot is a straight line

$$\log[p(x)] = \log C - \alpha \log x$$

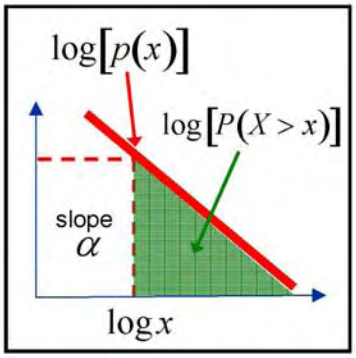
- Empirically these lines are very noisy. To smooth things out, work with the cumulative distribution function

$$P(X > x) = K\, x^{-(\alpha-1)}$$

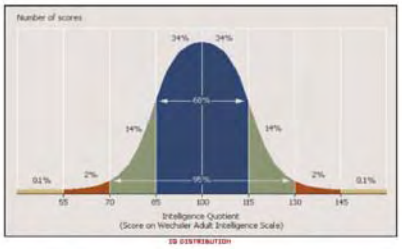
- Taking logs, gives another straight line

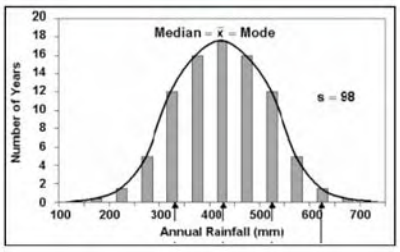
$$\log[P(X > x)] = \log K - (\alpha - 1)\log x$$

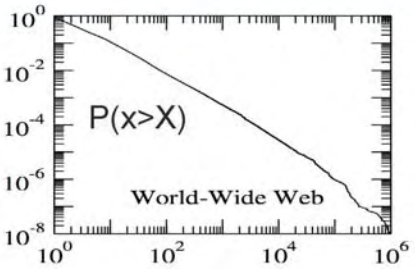
→ **fat tails & scale-invariance**

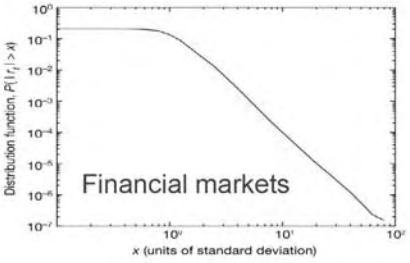


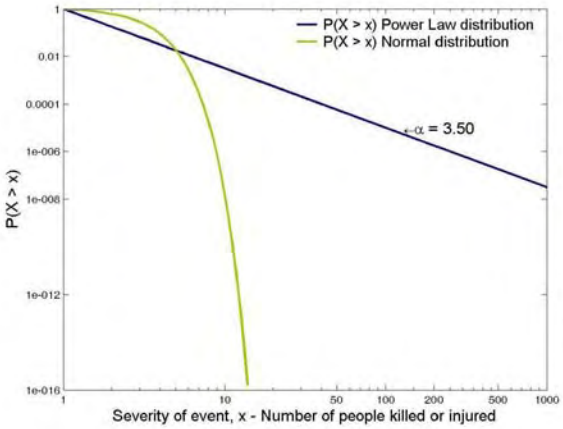
Distributions





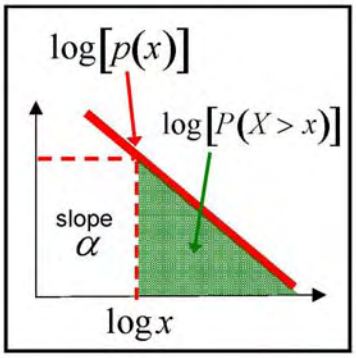






Power-law is very different to a Normal distribution

Power laws arise in systems that are near Criticality



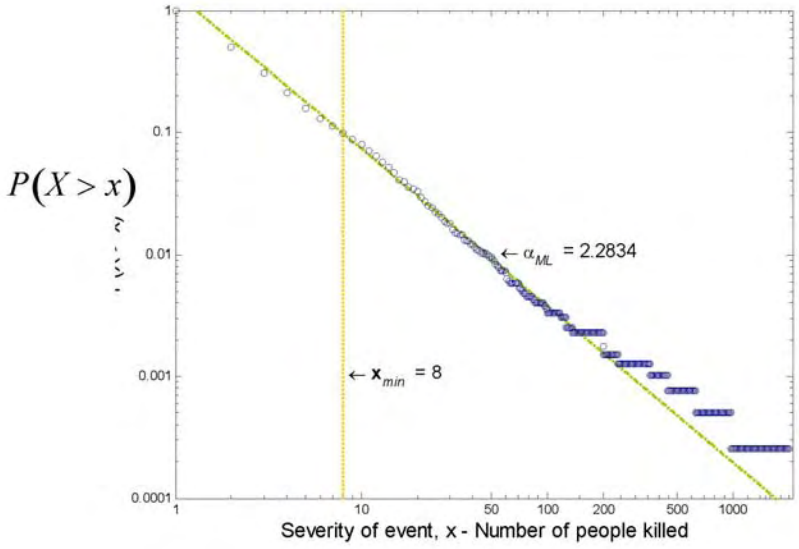
Data

- We use event data taken from a variety of sources using similar methodologies
- All heavily utilize media sources.
- Most supplement and check using other sources such as NGO and government reports.

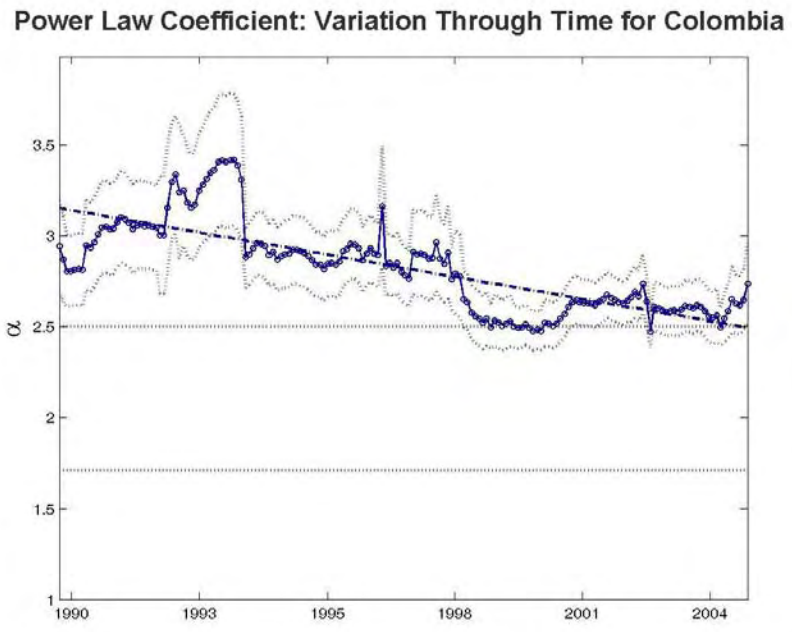
Data

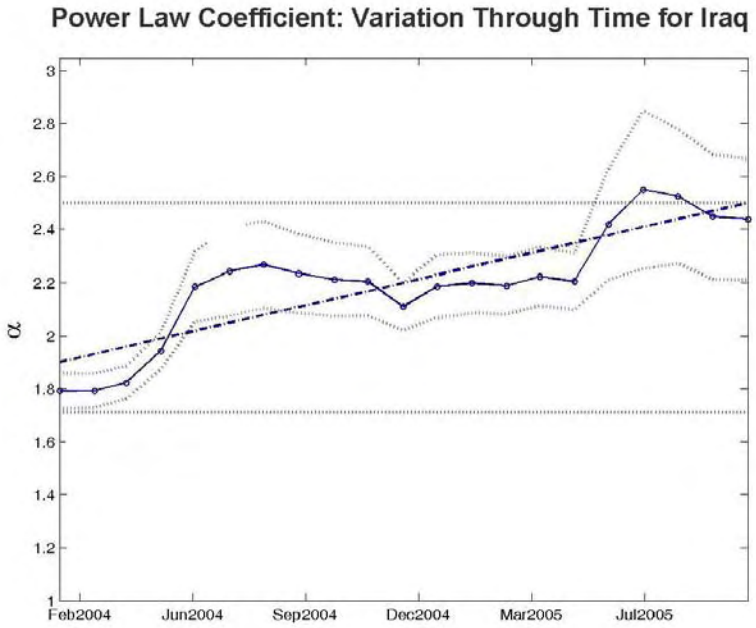
- List of conflict events, number of people killed and for some datasets the number of people injured.
- Such lists will almost always be incomplete but this is not a problem for us since we focus on the relative size of events above certain sizes.
- Today there is no time to go into detail on the data but we will be happy to answer questions either now or later.

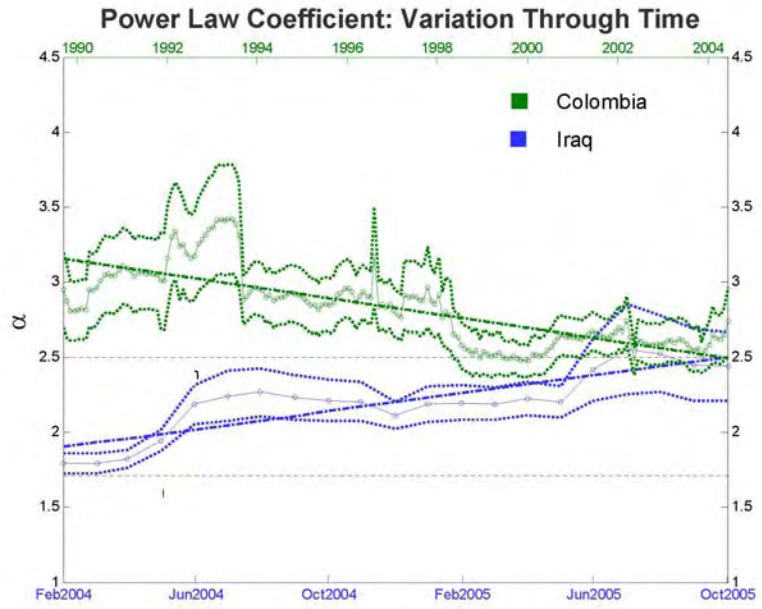
Severity of Events for Iraq



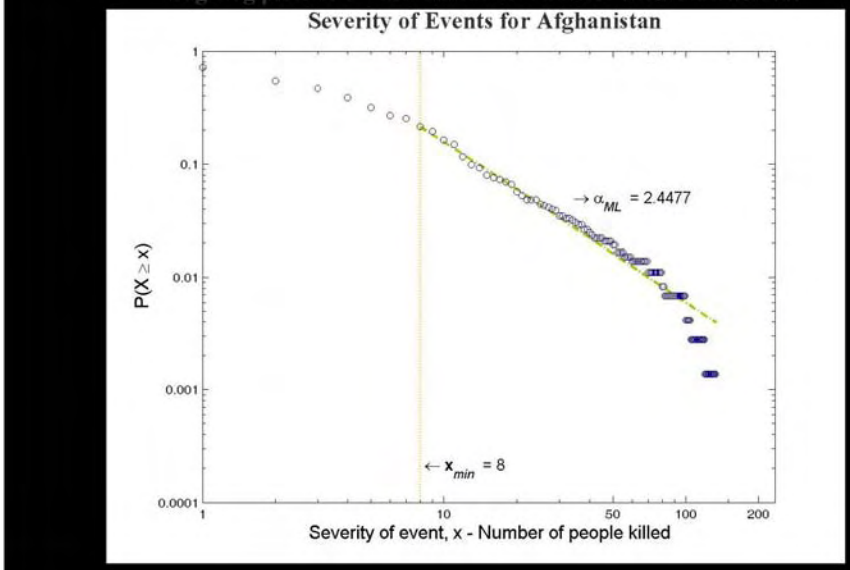
Variation of α through time



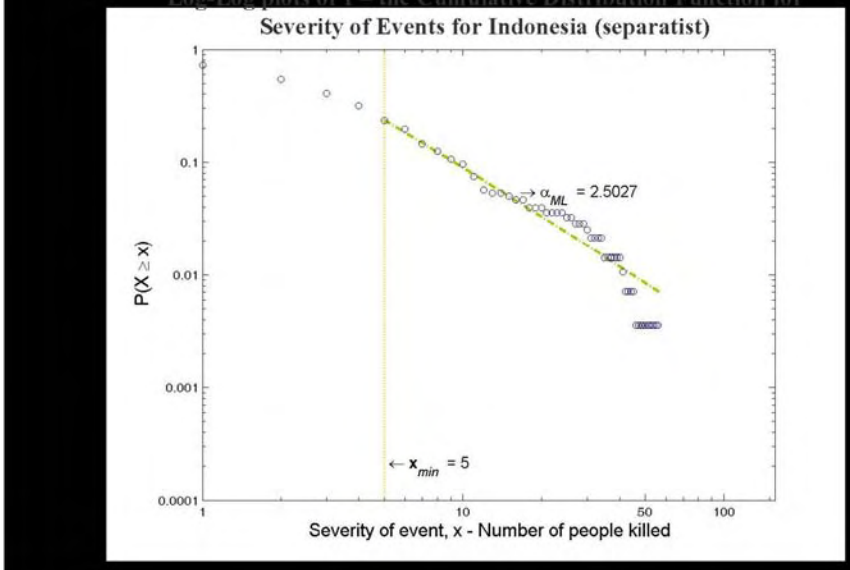

Power Law Coefficient: Variation Through Time for Iraq
α
3
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
Feb2004
Jun2004
Sep2004
Dec2004
Mar2005
Jul2005


Power Law Coefficient: Variation Through Time
1990
1992
1994
1996
1998
2000
2002
2004
Colombia
Iraq
α
4.5
4
3.5
3
2.5
2
1.5
1
Feb2004
Jun2004
Oct2004
Feb2005
Jun2005
Oct2005

Log-Log plots of 1 – the Cumulative Distribution Function for

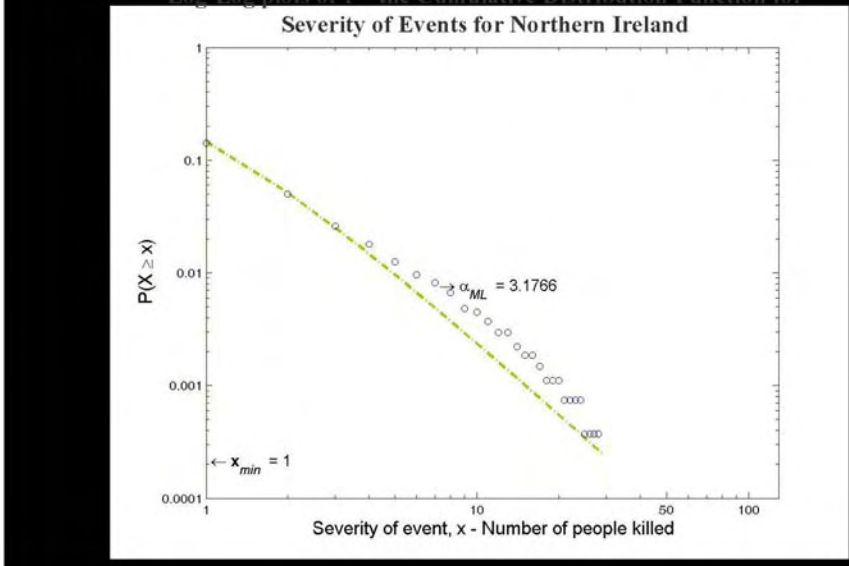


Log-Log plots of 1 – the Cumulative Distribution Function for

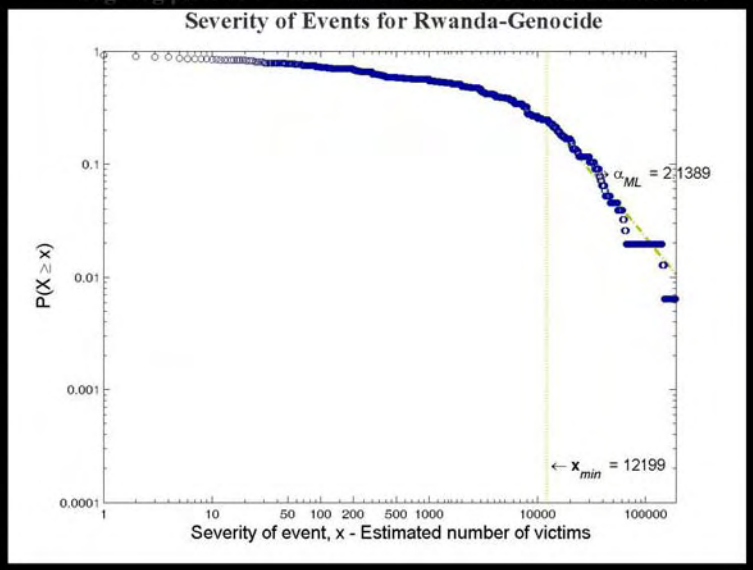


Log-Log plots of 1 – the Cumulative Distribution Function for

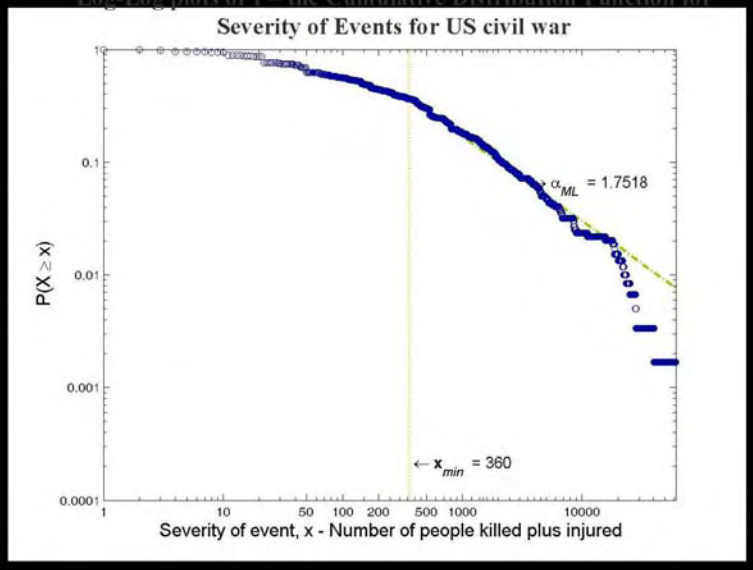
Log-Log plots of 1 – the Cumulative Distribution Function for

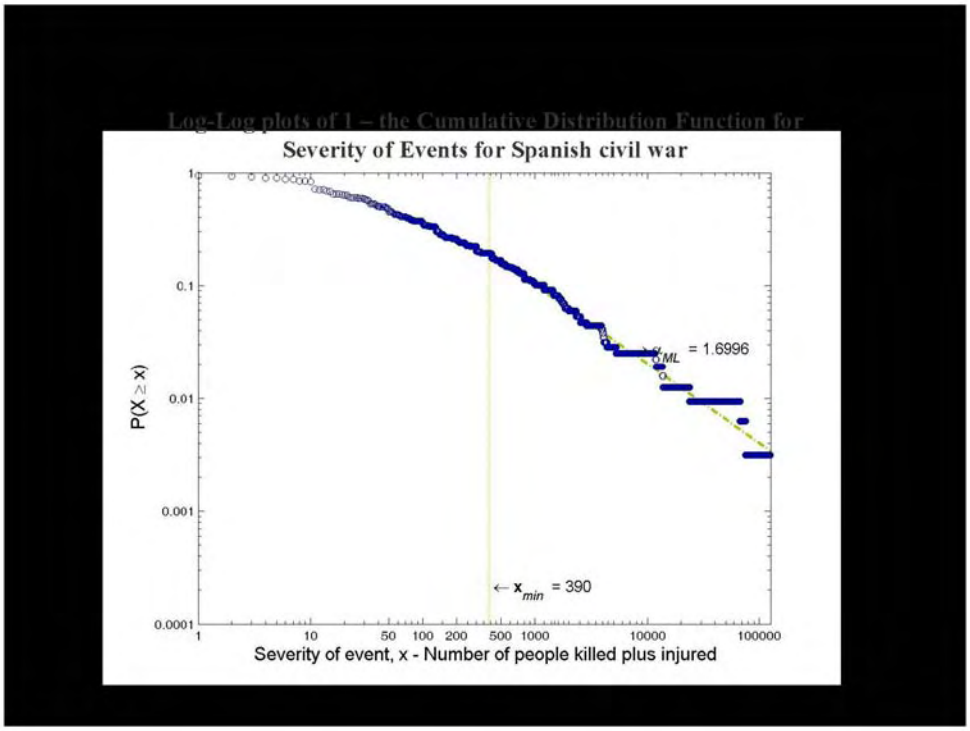


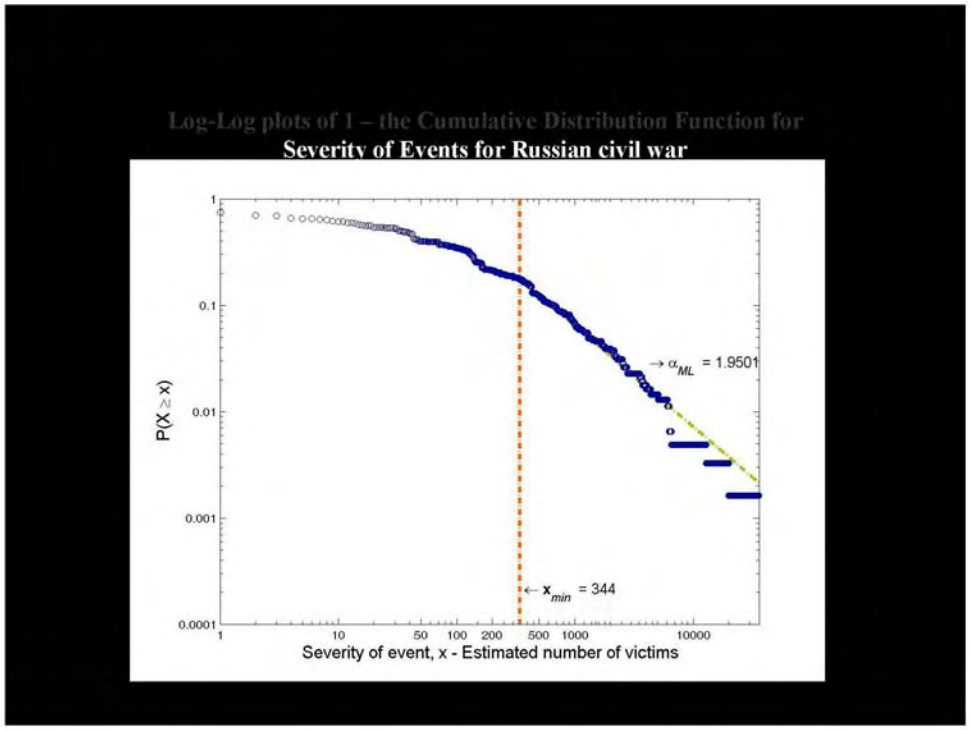
Log-Log plots of 1 – the Cumulative Distribution Function for

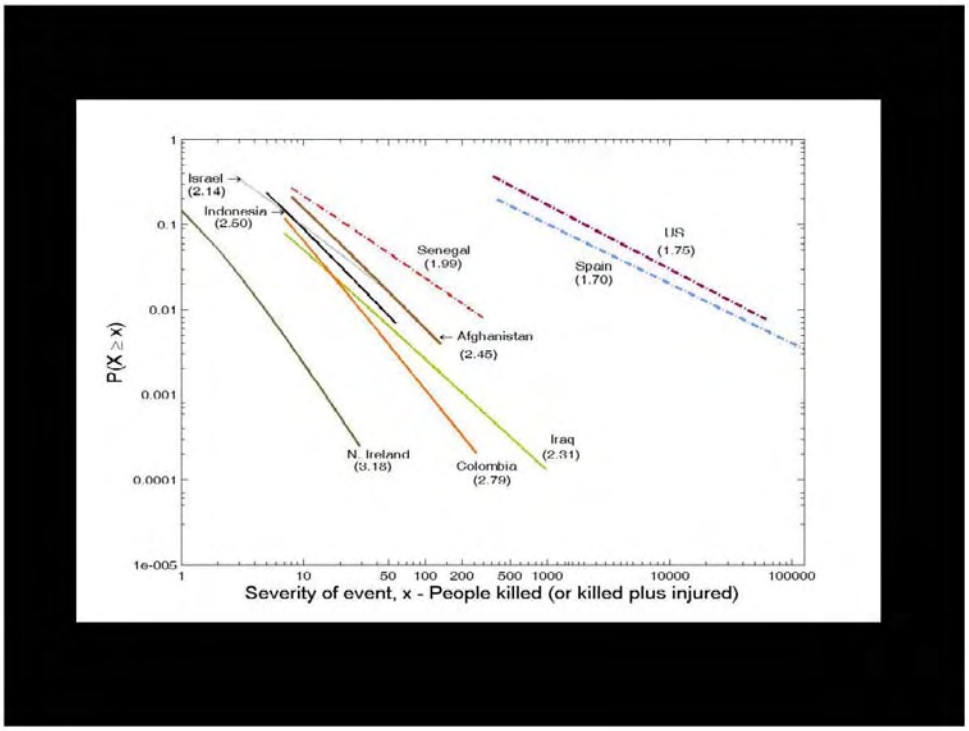


Log-Log plots of 1 – the Cumulative Distribution Function for



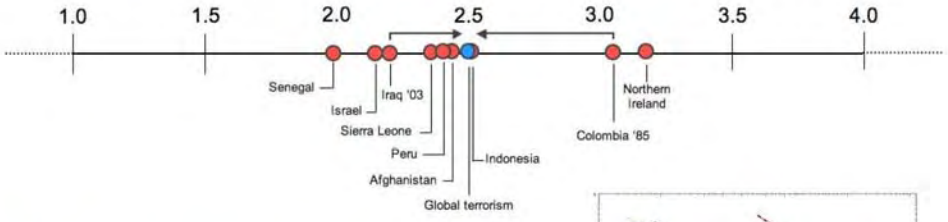

Log-Log plots of 1 – the Cumulative Distribution Function for
Severity of Events for Spanish civil war
P(X ≥ x)
1
0.1
0.01
0.001
0.0001
α_{ML} = 1.6996
x_{min} = 390
1
10
50
100
200
500
1000
10000
100000
Severity of event, x - Number of people killed plus injured


Log-Log plots of 1 – the Cumulative Distribution Function for
Severity of Events for Russian civil war
P(X ≥ x)
1
0.1
0.01
0.001
0.0001
α_{ML} = 1.9501
x_{min} = 344
1
10
50
100
200
500
1000
10000
Severity of event, x - Estimated number of victims



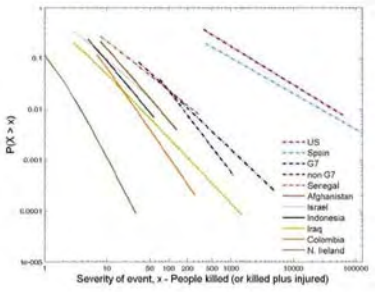
Clustering of α across conflicts

Slope of power-law for specific conflicts



An explanation:

it is simply how humans organize to fight against a larger opponent



War is Chaos?

- We have found extremely regular patterns across a wide range of modern conflicts.
- Why do power laws occur in the distribution of events sizes?
- Furthermore, why should the power law coefficient cluster around 2.5 for multiple different wars and even global terrorism?

U.N. Office on Drugs & Crime

GLOBALIZATION, TRANSNATIONAL CRIME & the DRUGS – TERRORISM NEXUS

Anthony Placido
Chief of Intelligence
U.S. Drug Enforcement Administration
December 2007

Introduction

- Motives & Metrics for Success Differ
- "Business" Processes & Govt. Responses are (should be) Similar
- No "Silver Bullet"
- My Goal: Inform and facilitate a discussion based on 28+ years of U.S. counter-drug experience
- I hope to learn from you!

Globalization & Interdependence

- There really is something new!
- Reducing Barriers to Free Trade (NAFTA, EU Expansion, Schengen Agreement, etc.)
- Technology (Internet, money flows)
- Illicit Markets for: Arms, Drugs, Human Beings, Intellectual Property and Money

Why Drugs?

State Sponsorship declining

Powerful private donors declining

Shift from 'Corporate' to 'Franchise' model

Terrorist groups are looking to other sources for funding

Cost of actual terrorist attacks is moderate

Big money to build & sustain effective operational capability

Massive Profit Potential

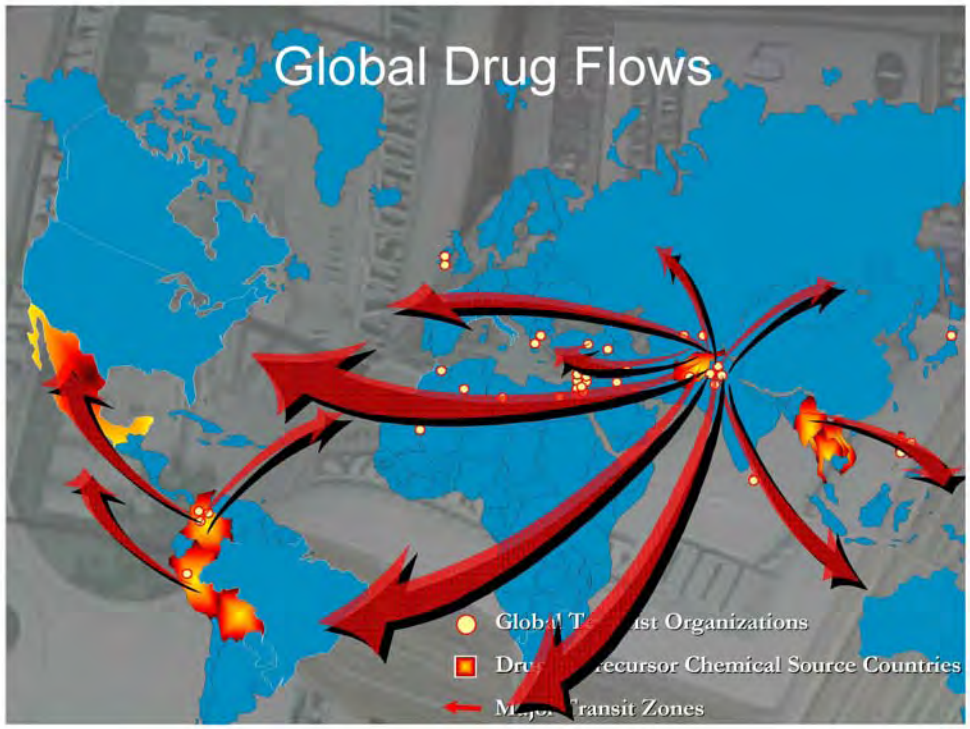
- U.N. estimates $322 billion spent on illicit drugs globally each year
  - ONDCP estimates Americans spend $65 billion on illicit drugs annually
- Globally, illegal drugs are [illegible] of the most lucrative commodities traded
- Drug Revenue
  - Transportation
  - Security
  - Production
  - Distribution

DEA Sensitive

Common Themes: Drugs and Terror - Transnational Crime

- Foreign based command and control
- Domestic operators – Subordinate cells
- Highly compartmentalized - Sophisticated
- Use of corruption, intimidation & violence
- Thrive in areas of "ungoverned space"

Foreign Terrorist Organizations
Foreign Terrorist Organizations


Global Drug Flows
Global Terrorist Organizations
Drug Precursor Chemical Source Countries
Major Transit Zones

DEA Foreign Offices

Total: 86 Foreign Offices

DEA Sensitive

Drugs and Terrorism or Drugs as Terrorism?

The Terrorism Alphabet

- Drugs as a weapon of mass destruction
  - –Atomic
  - –Biological
  - –Chemical
  - –Drugs

Drugs & Terrorism or Drugs as Terrorism?

- 23,000 + Americans die as a direct result of illegal drugs every year!
- Millions addicted – Health impacts
- Tens of millions suffer
  - – Crime & violence
  - – Abuse & neglect
  - – Lost human potential & productivity
  - – Environmental damage

Drugs and Terrorism or Drugs as Terrorism?

- In addition to financing for traditional terrorist activities, drugs inflict damage on a massive scale because they:
  - Diminish respect for the rule of law
  - Corrupt or otherwise challenge public security
  - Erode public confidence in democratic governance
  - Undermine regional stability

Drugs and Terrorism or Drugs as Terrorism?

- Examples of insurgents/terrorist organizations that use drug trafficking to advance their aims:
  - FARC, AUC - Colombia
  - Shining Path – Peru
  - Wa United Army/Sha United Army – Burma
  - Taliban / HIG - Afghanistan

Drugs and Terrorism or Drugs as Te

- Mexico as a victim of drug induced "terror"
  - No traditional (officially designated) terrorist organizations involved in drug trafficking
  - Pervasive corruption
  - Incredible violence – policemen decapitated, heads left on a pike with a warning "that you learn to respect us"

Las cabezas de los policías fueron descubiertas alrededor de las 3 de la madrugada Foto **Eric Miralrio/Cuartoscuro.com**

Drugs and Terrorism or Drugs as Terrorism?

- Citizens left helpless – Los Zetas, etc.
- Other examples – Brazilian Favellas
- Puerto Rico – police won't enter public housing projects without a force of 50 or more officers

Drugs-Terrorism Nexus

- Numerous links have been identified worldwide between Drug Trafficking and Terrorist Organizations
- From FARC and AUC to Hezbollah and Hamas—to Political / Religious Extremists

GTO/GDTO Commonalities

- GTOs
  - Clandestine operations
  - Rely heavily on corruption, intimidation & violence
  - Sophisticated organizational structures
  - Rely on shadow facilitators
    - Money launderers
    - Arms traffickers
    - Smugglers
    - Counterfeiters
  - Rely on latest technology
    - Communications
    - Navigation
  - Thrive best in weak nation states
    - Disrupt governments
  - Need large amounts of money
  - Ability to quickly regenerate
  - Motivated by political, and/or ethnic and/or religious ideology
- GDTOs
  - Clandestine operations
  - Rely heavily on corruption, intimidation & violence
  - Sophisticated organizational structures
  - Rely on shadow facilitators
    - Money launderers
    - Arms traffickers
    - Smugglers
    - Counterfeiters
  - Rely on latest technology
    - Communications
    - Navigation
  - Thrive best in weak nation states
    - Disrupt governments
  - Need large amounts of money
  - Ability to quickly regenerate
  - Motivated primarily by greed
    - May have a lesser ideological and/or political motivation

Financing Terrorism

- Cost of actual terrorist attacks is moderate
- Terrorist groups need money to survive as viable organizations
  - Recruiting
  - Training
  - Corrupting officials
  - Carrying out operations
  - Logistical support
- State sponsorship of terrorism
- continues to decline
- Terrorist groups looking to other sources for funding:
  - Drug trade
  - NGO and private fund raising
  - Kidnapping for ransom
  - Extortion
  - Other contraband trade, etc.

Drug Profits

- Globally, illegal drugs are one of the most lucrative commodities traded
- Drug profits are among the sources of funding used by terrorist organizations
  - Taxing farmers
  - Providing security
  - Transportation
  - Production
  - Distribution

Taliban Opium Receipt (1997)

"To the honorable road tax collectors"

"Gentlemen, the bearer of this letter, who possess 4 kilograms of white good, has paid the custom duty at the Shinwar Custom. It is hoped that the bearer will not be bothered further."

Signed by Incharge of Shinwar Custom
Stamp
Nangarhar Province
Shinwar Loy Wolaswal
Custom Section

29/6/76 (*Afghanistan Calendar Date which is September 20, 1997*)

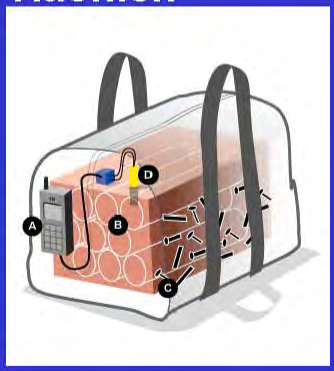
(The stamp at the top had an Arabic text meaning "In the name of GOD WHO is merciful)

Monzar al Kasar

- Working within foreign systems: Napoleonic Code & Agent Provocateur
- Cop to Cop Relations the Key
- Creating Opportunities
- Gathering Evidence

MADRID TERRORIST ATTACK (3-11-2004)

Financed w/ local sale of MDMA and Hashish



A. Cellular Phone
B. 10 Kgs of conventional dynamite: ECO-2
C. Metal fragments (shrapnel)
D. Cooper Detonator

Telephone received a call or alarm is activated. The electric impulse goes from the cable to the detonator, which activates the explosives.

TERRORIST OPERATION - 2

2. Unsuccessful Attacks:
   1. Spanish High Speed Line Madrid-Lleida (03.30.04)
   2. Spanish High Speed Line Madrid-Sevilla (04.02.04)

Initiation Device

Distance Activation system CABLE-MANDO: comprised of 136 meters of cable connected to an electric detonator which is battery operated.

Explosive Charge

- 12 kilograms of color white gelatinous substances (GOMA 2-ECO dynamite)

- Explosives inside of plastic bags

- Electric Detonator

MADRID TERRORIST OPERATION -3

3. Leganés Explosion (04-03-2004)

Questions?

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anthony.p.placido@usdoj.gov

Universal Patterns in Modern Wars
Sean Gourley (Oxford University)

Questions

1) Why do power laws occur in the distribution of events sizes?

2) Furthermore, why should the power law coefficient cluster around 2.5 for multiple different wars and even global terrorism?

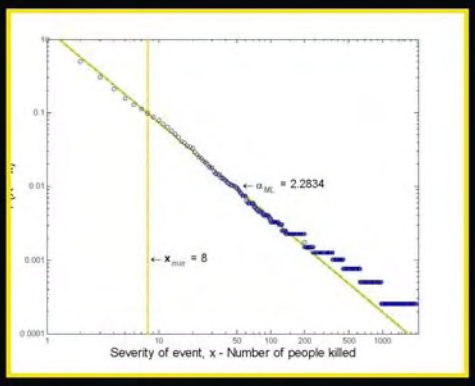
Distribution of Attack Strength

↓

Structure of Insurgency

↓

Group Dynamics



{ difficult… }

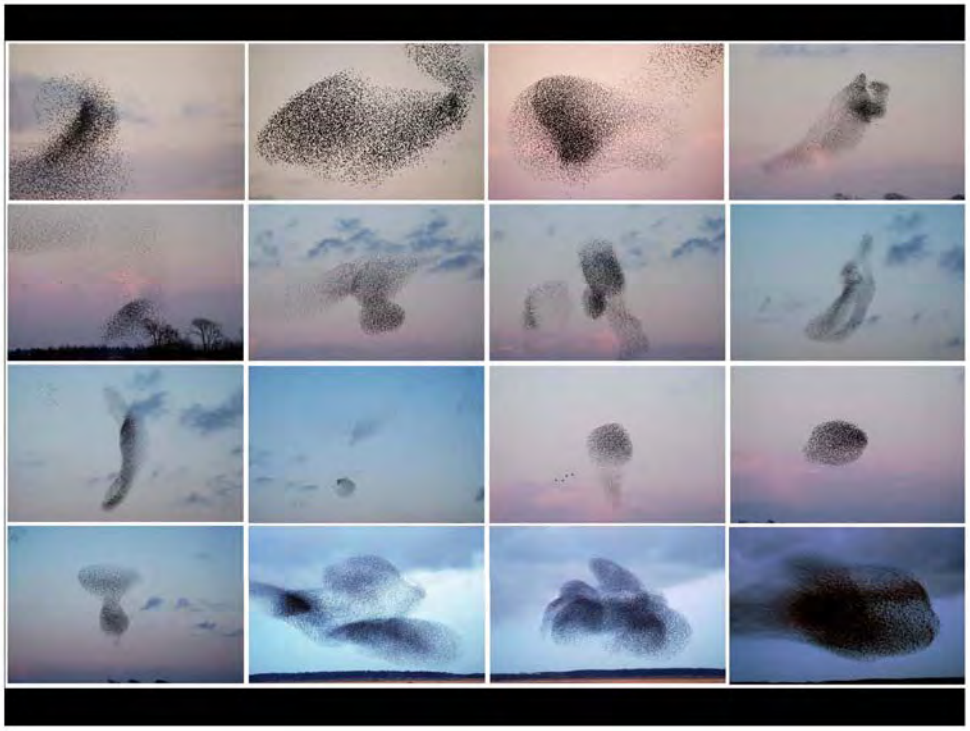
Whack-a-mole

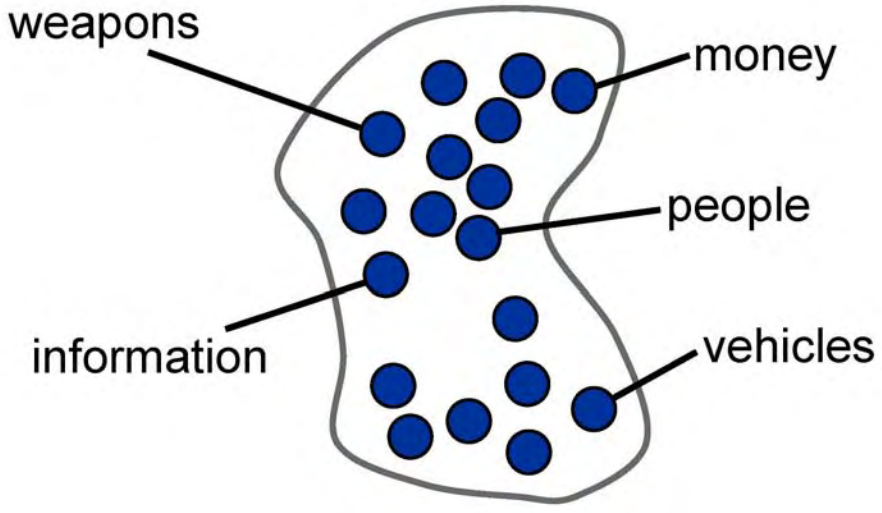
Streaming News

Streaming News

March 9th 2007

.....10 injured in attack by Farc guerrillas, Buenaventura, Colombia --- 2 shot dead in Shorja market, Baghdad --- 11 police officers killed by explosives in Lashkar Gah, Afghanistan --- 16 killed by suicide truck bomb in local restaurant, Ramadi, Iraq.....





‘Soup’ of Components

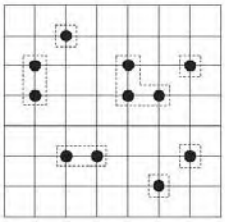
Coalescence Fragmention

Two competing processes

Clustering models

Cont and Bouchard - static percolation-type model, in which crowds form by random connections between agents

Eguiluz and Zimmermann- (EZ) model, based on cluster formation and fragmentation and was introduced to model herd formation among traders in financial markets. Produces power-law distributions and is analytically solvable.



$n_{s=1} = 4$

$n_{s=2} = 2$

$n_{s=3} = 1$

etc.

$n_s \sim s^{-\alpha}$ $\alpha = 2 \rightarrow 2.5$ for $2D \rightarrow \infty D$

Coalescence

formation bias

small groups — large groups

connections

non-geographic — geographic

Fragmentation

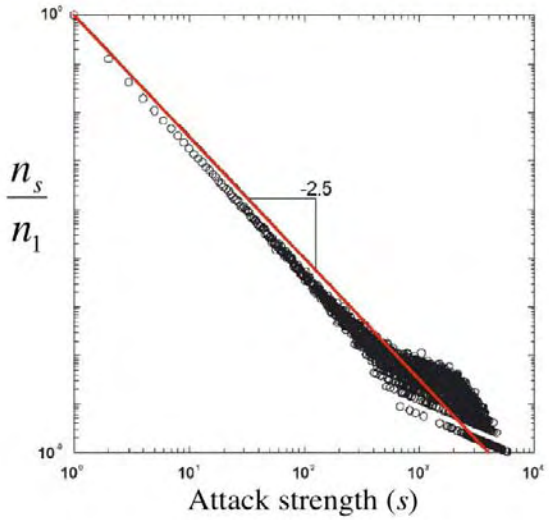
fragment bias

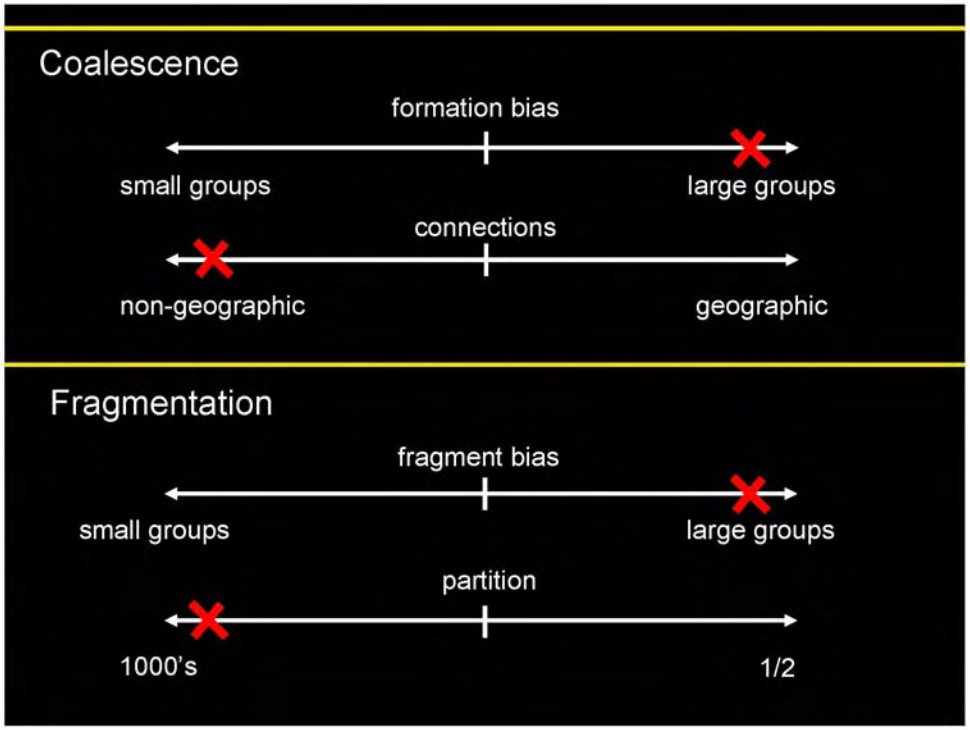
small groups — large groups

partition

1000's — 1/2

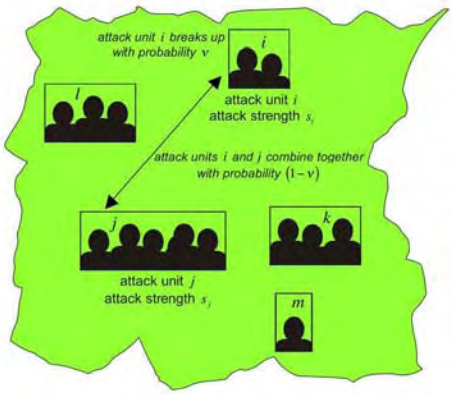
Numerical Simulation

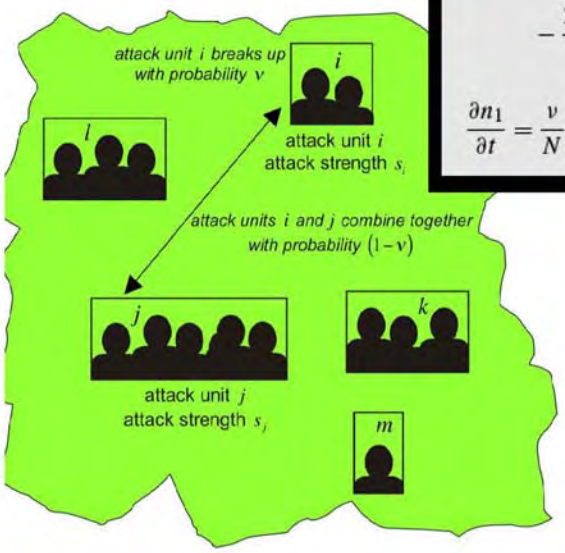




Our model

- Insurgent army comprises dynamically-evolving groups called *attack units* (e.g. guerrilla units or terrorist cells) of varying strengths
- Destructive potential is the key. Small groups might be very powerful, have the ability to inflict large amounts of damage
- At each point in time one group is chosen where the chances of getting selected are proportional to strength
- The selected group will either *fragment* into smaller groups or *coalesce* with another group, randomly chosen proportional to size, forming a stronger group

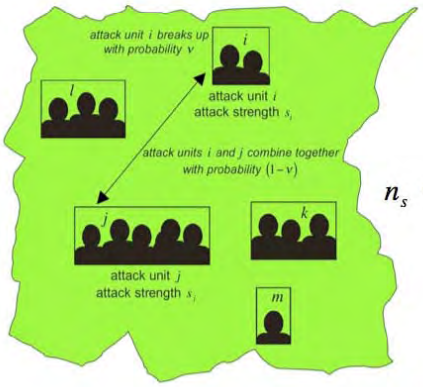




$$\frac{\partial n_s}{\partial t} = -\frac{\nu s n_s}{N} + \frac{(1-\nu)}{N^2}\sum_{s'=1}^{s-1} s' n_{s'}(s-s')n_{s-s'} - \frac{2(1-\nu)\,s\,n_s}{N^2}\sum_{s'=1}^{\infty} s' n_{s'}, \quad \text{for } s \geq 2$$

$$\frac{\partial n_1}{\partial t} = \frac{\nu}{N}\sum_{s'=2}^{\infty}(s')^2 n_{s'} - \frac{2(1-\nu)n_1}{N^2}\sum_{s'=1}^{\infty} s' n_{s'}.$$

$$n_{s=1} = 1$$
$$n_{s=2} = 1$$
$$n_{s=3} = 2$$
$$n_{s=6} = 1$$



total attack strength = N

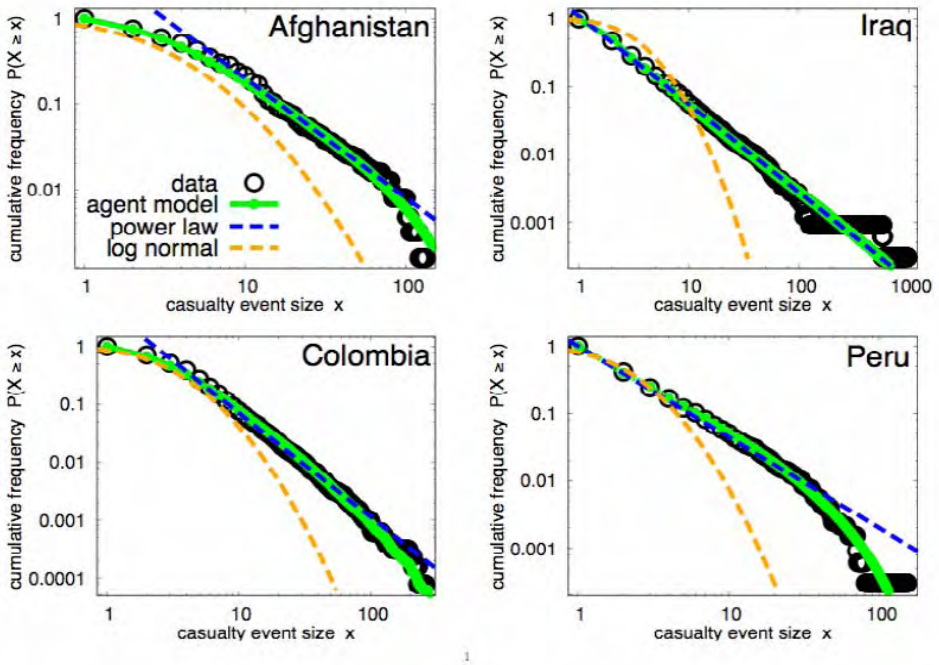
$$n_s \propto N \,.\, \exp\left\{-s.\ln\left[\frac{\left(1-\frac{\nu}{2}\right)^2}{(1-\nu)}\right]\right\} . s^{-\frac{5}{2}}$$

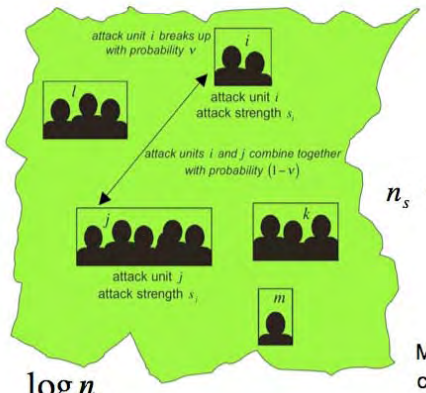
$$\alpha = 2.5$$

Simple underlying rules

(1) Coalescence

(2) Fragmentation



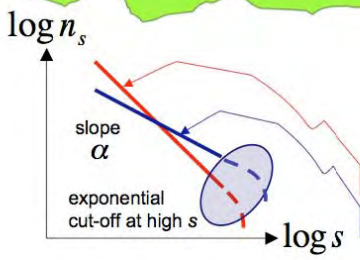


total attack strength = N

$$n_s \propto N \,.\, \exp -\left\{ s.\ln\left[\frac{\left(1-\frac{v}{2}\right)^2}{(1-v)}\right]\right\} . s^{-\frac{5}{2}}$$

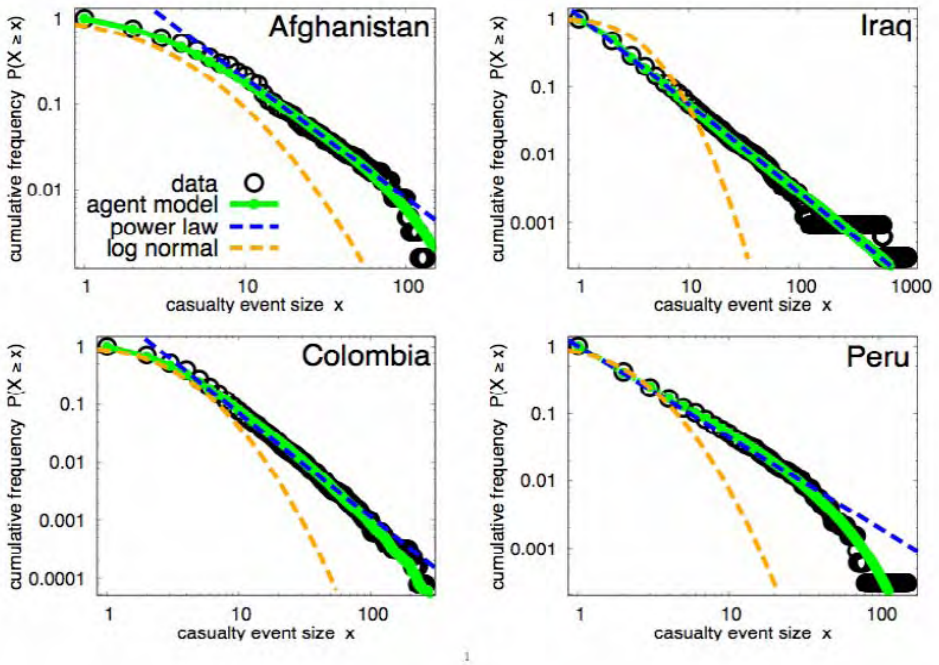
Modifying the probability of coalescence-fragmentation so that larger attack units are more rigid, gives

$$n_s \propto s^{-\left(\frac{5}{2}-\delta\right)}$$

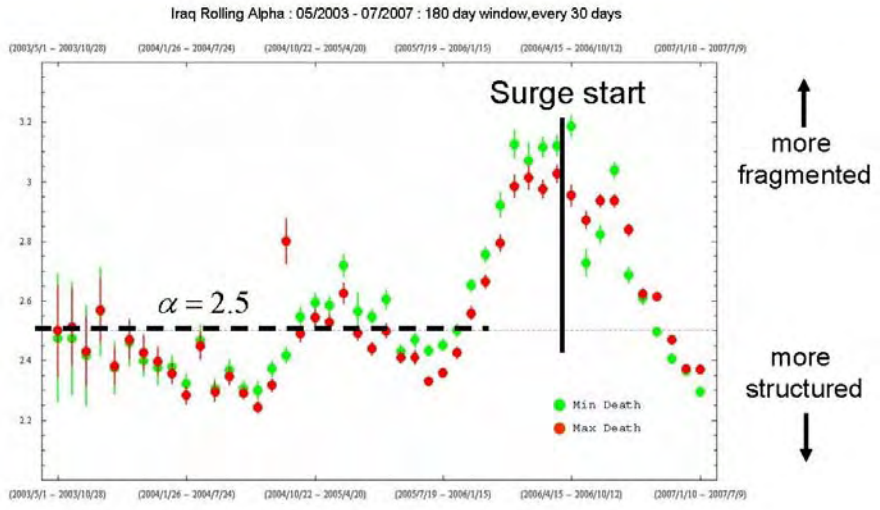


$\delta = 0$ corresponds to a power - law with $\alpha = 2.5$

$\delta = 0.7$ corresponds to a power - law with $\alpha = 1.8$



Iraq: real-time monitoring



Conclusions

1) Underlying the complexity of modern insurgency is a (relatively) simple set of forces

2) Forces of coalescence and fragmentation are independent of religion, politics, geography, economy etc..

3) Connections between elements are transient in nature and connect over a high dimensional network

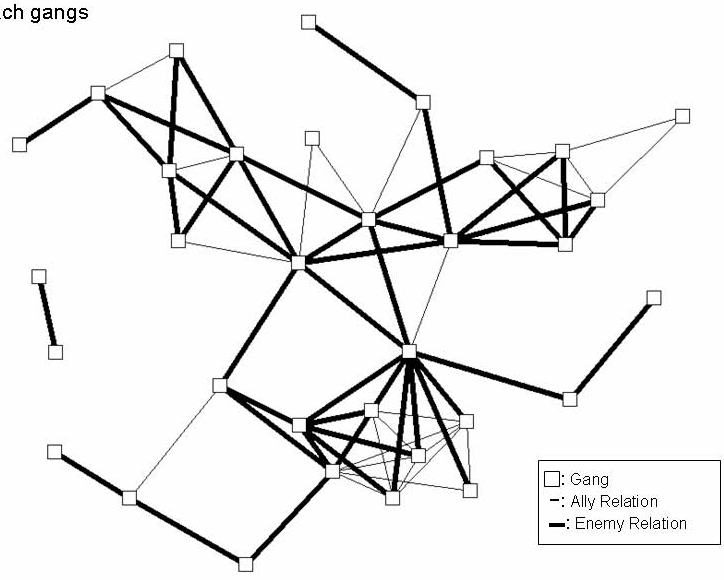
4) Coalescence seems to be the dominant force creating the structure

Other Applications - Gang Size

Gangs Operating in California

Black Guerrilla Family
Black P. Stones (Jungles)
Black Panthers
Bloods [1]
Damu Ridas
Crenshaw Mafia
The Denver Lanes
Pirus
Cedar Block Pirus
Compton Pirus
Crips [2]
83 Gangster Crips
G-Crips
Grape Street Watts Crips
Insane Crips
PJ Watts Gang
Rollin' 20 Crips
Rollin' 30 Crips
Rollin' 60 Crips
Westside Crips
Folk Nation
Gangster Disciples [3]
Westmob
West Side Baller's On Point
Bahala Na Gang
Big Circle Gang
Born To Kill [4]
Chinese Triads
14K
Four Seas
Chung Ching Yee (Joe Boys)
United Bamboo Gang (Taiwanese)
Wah Ching
Wo Hop To
Criminally Related Tongs
Bing Kong Tong
Hip Sing Tong
Ying On Tong
Hmong Gangs
Masters of Destruction
Japanese Mafia
Nip Family
Nip Family Juniors
Pinoy Real
Ramirez Gang
Satanas
Tiny Rascal Gang
Lady Rascals
Tiny Little Rascals
Tiny Rascal Gangsters
Vargas Gang
Vietnamese Boyz
Armenian Mafia
Armenian Power
Aryan Brotherhood
Blade Blasters
Freight Train Riders of America
Hammerskins
Hells Angels
The Hounds
Original Gangster Smokers
38th Street Gang
Big Hazard
Breed Street Gang
Clanton 14
Venice 13
Culver City Boyz
Echo Park
Gulf Cartel
Insane Deuces
Latin Kings [9]
Mara Salvatrucha
Maras
Maravilla
Mexican Mafia
Avenues (43) [10][11]
Onterio Varrio Sur (Black Angels)
Sureños
Florencia 13
Barrio Longo 13
Rountable Surenos
Nuestra Familia
Norteños
Varrio Nuevo Estrada
White Fence
[edit]Indian-American
Sher Puttar
La Cosa Nostra (Italian Mafia)
Bonnano Family
Colombo Family
Gambino Family
Genovese Family

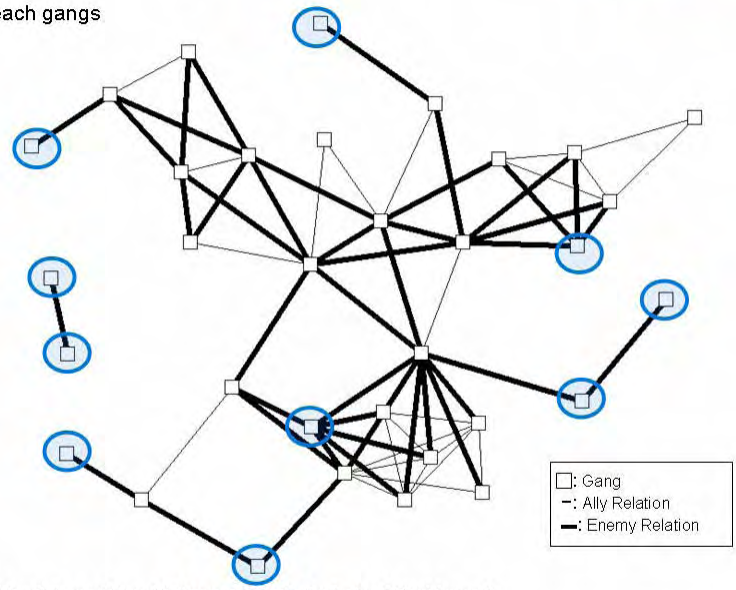
From George Tita:
Long Beach gangs



Structural Predictors of Gang Violence: A Triadic Analysis of Rivalries and Allies; Nakamura, Tita & Krackhardt; Draft: Revised Jan 21, 2007

From George Tita:
Long Beach gangs

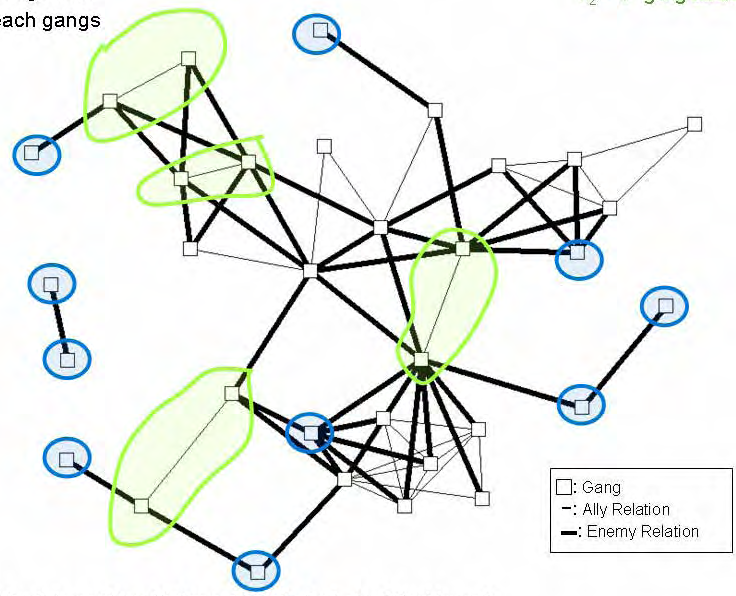
n_1 = 10 gang clusters of size 1



Structural Predictors of Gang Violence: A Triadic Analysis of Rivalries and Allies; Nakamura, Tita & Krackhardt; Draft: Revised Jan 21, 2007

From George Tita:
Long Beach gangs

n_1 = 10 gang clusters of size 1
n_2 = 4 gang clusters of size 2



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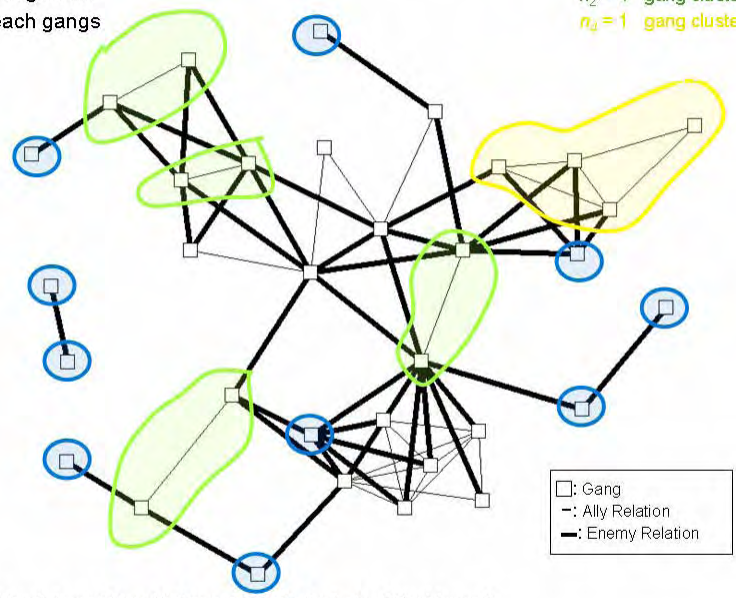
Long Beach gangs

n_1 = 10 gang clusters of size 1
n_2 = 4 gang clusters of size 2
n_4 = 1 gang clusters of size 4



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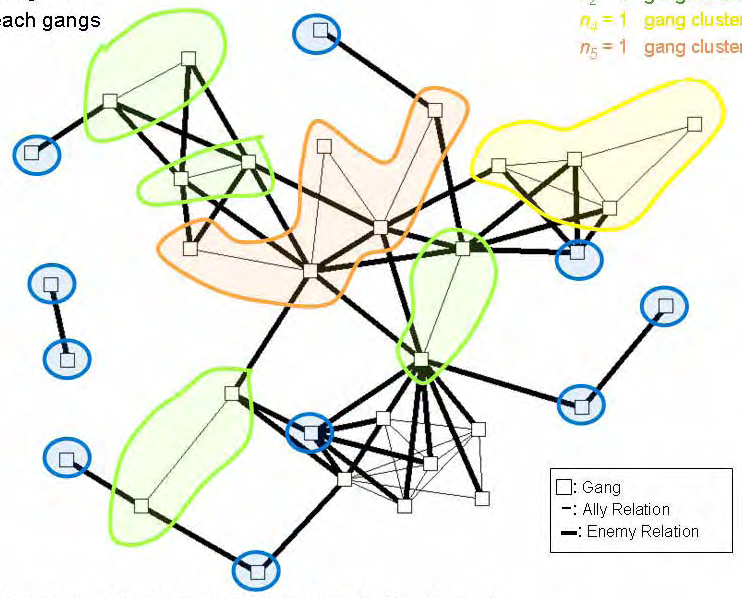
n_1 = 10 gang clusters of size 1
n_2 = 4 gang clusters of size 2
n_4 = 1 gang clusters of size 4
n_5 = 1 gang clusters of size 5



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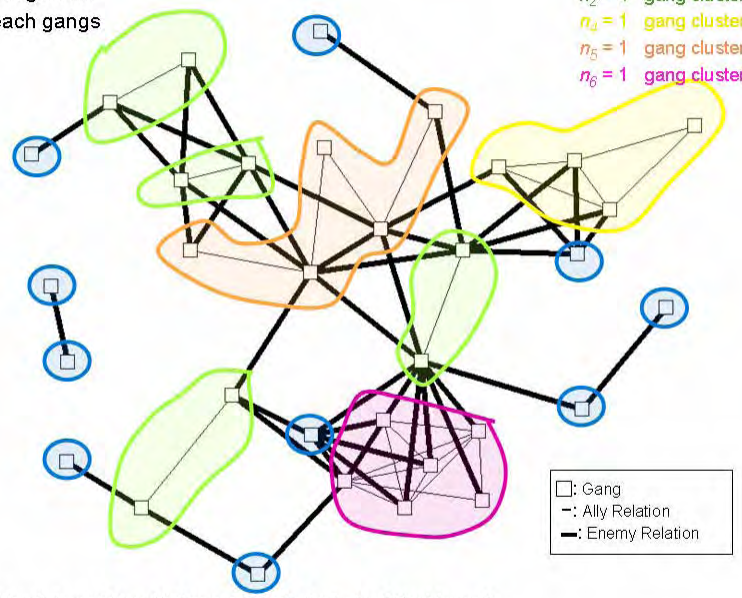
n_2 = 4 gang clusters of size 2
n_4 = 1 gang clusters of size 4
n_5 = 1 gang clusters of size 5
n_6 = 1 gang clusters of size 6



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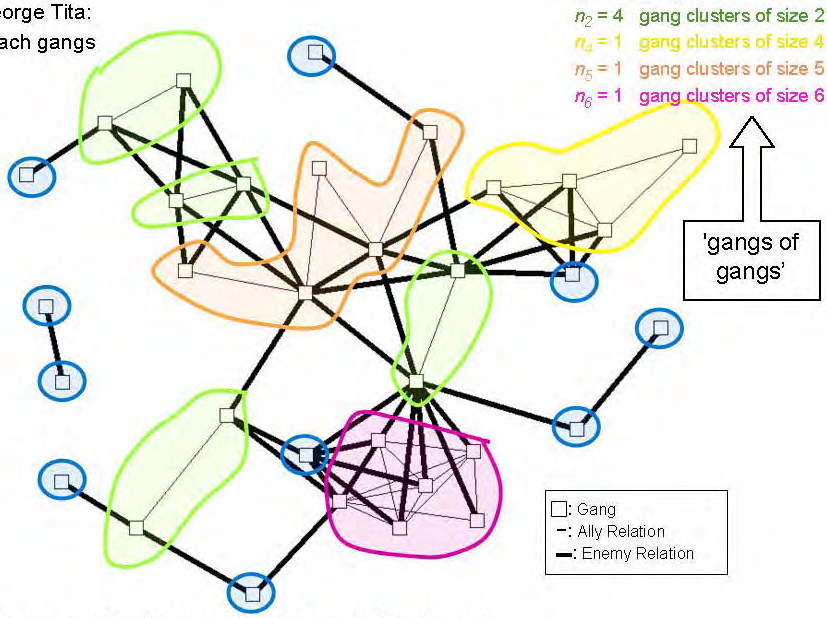
n_2 = 4 gang clusters of size 2
n_4 = 1 gang clusters of size 4
n_5 = 1 gang clusters of size 5
n_6 = 1 gang clusters of size 6



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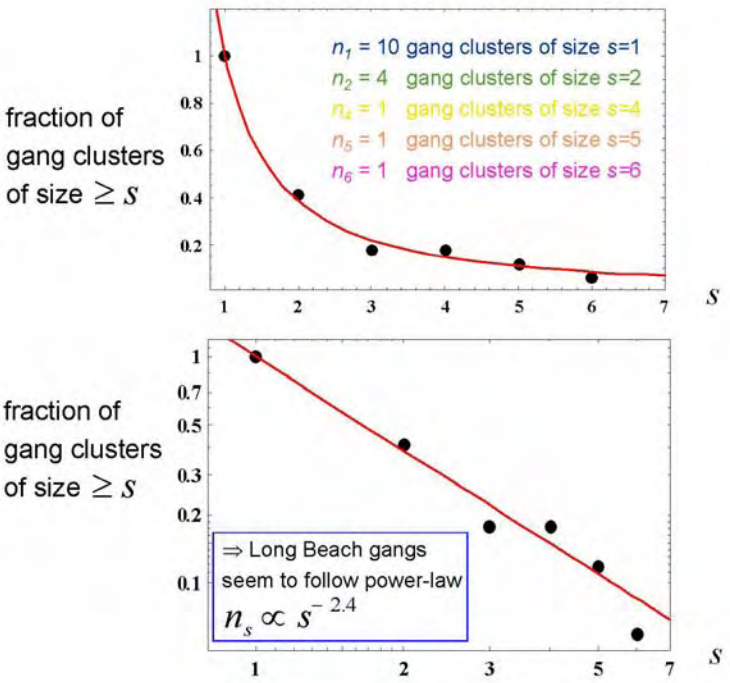
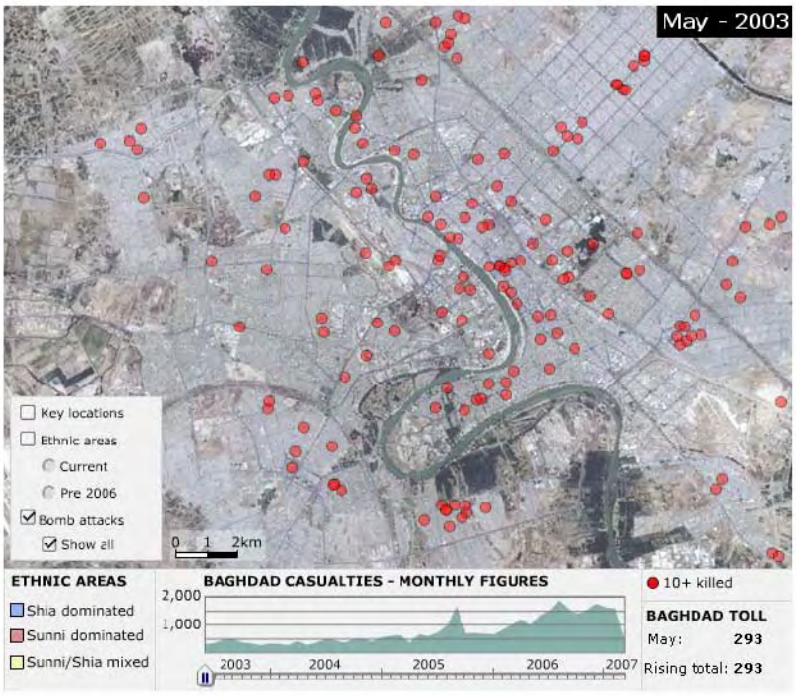
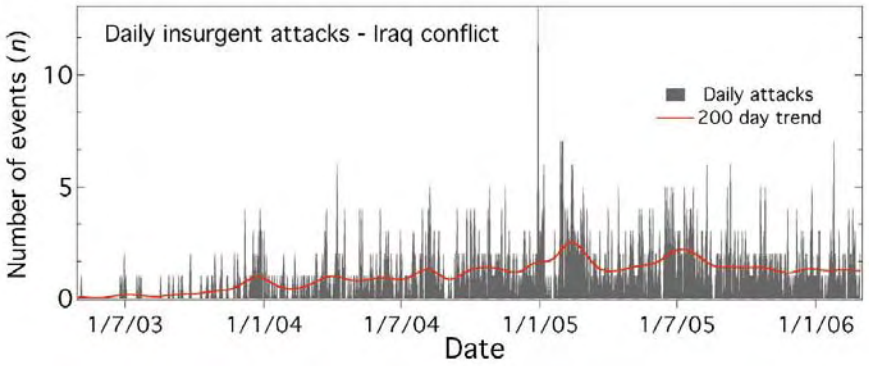

fraction of gang clusters of size $\geq s$
n_1 = 10 gang clusters of size s=1
n_2 = 4 gang clusters of size s=2
n_4 = 1 gang clusters of size s=4
n_5 = 1 gang clusters of size s=5
n_6 = 1 gang clusters of size s=6
1
0.8
0.6
0.4
0.2
1 2 3 4 5 6 7
s
fraction of gang clusters of size $\geq s$
1
0.7
0.5
0.3
0.2
0.1
⇒ Long Beach gangs seem to follow power-law
$n_s \propto s^{-2.4}$
1 2 3 5 7
s


May - 2003
Key locations
Ethnic areas
Current
Pre 2006
Bomb attacks
Show all
0 1 2km
ETHNIC AREAS
Shia dominated
Sunni dominated
Sunni/Shia mixed
BAGHDAD CASUALTIES - MONTHLY FIGURES
2,000
1,000
2003 2004 2005 2006 2007
10+ killed
BAGHDAD TOLL
May: 293
Rising total: 293

Attack timing



methodology

- News
- Analysis
- Modeling
- Policy implications

UNITED NATIONS
Office on Drugs and Crime

Countering Transnational Crime - The role of the United Nations Office on Drugs and Crime (UNODC)

Brian Taylor, Chief Anti-Trafficking Section

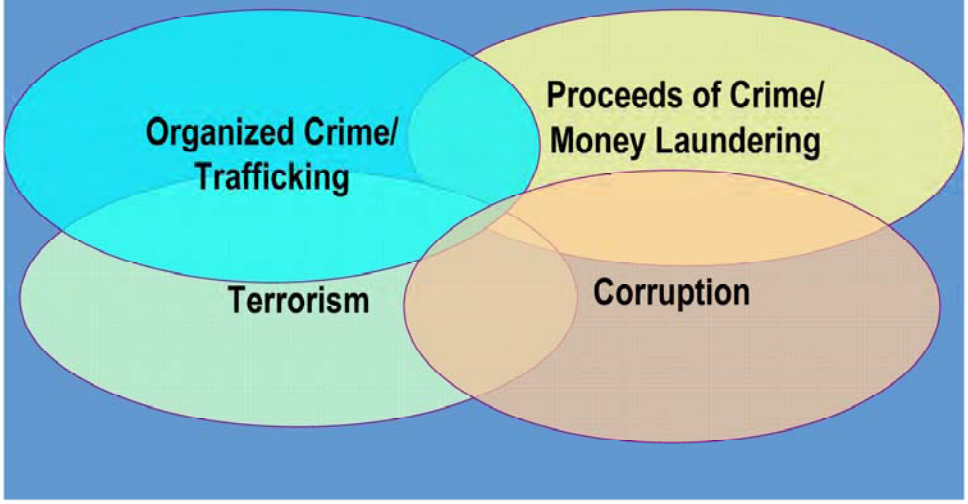
UN Office on Drugs and Crime

UNITED NATIONS
Office on Drugs and Crime

Organized crime – The challenges

UNITED NATIONS
Office on Drugs and Crime

Organized crime and Terrorism



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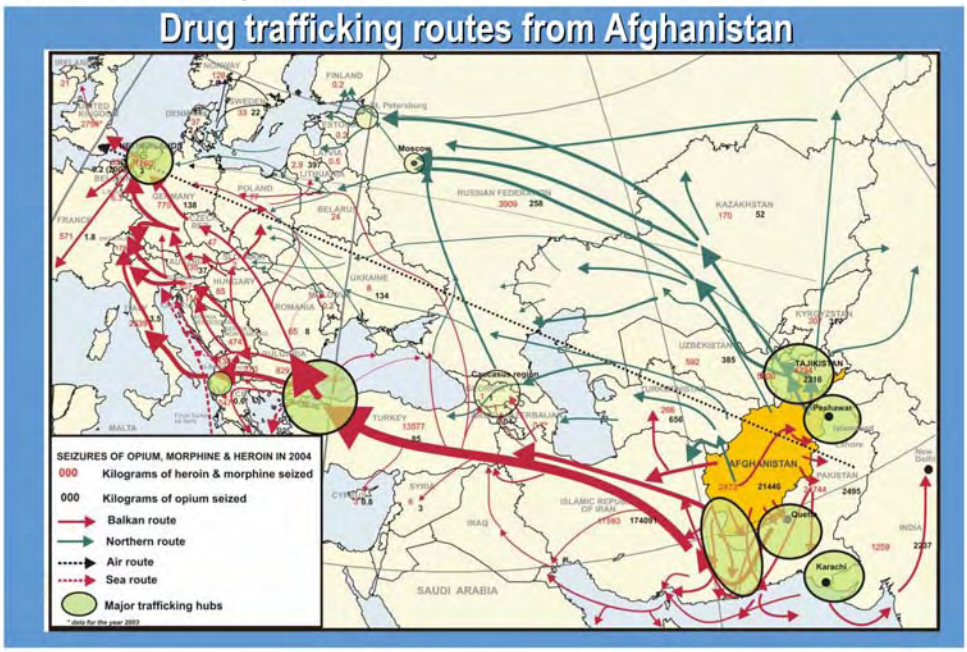
Drug trafficking routes from Afghanistan



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Law enforcement – problem areas

- Weak border controls
- Lack of strategy and focus
- Poor inter-agency working
- Inadequate intelligence systems
- Lack of effective cross-border and international cooperation
- Lack of equipment / forensic support
- Lack of trained staff & specialist expertise in modern enforcement methods
- Need for legislative assistance – recovering proceeds of crime

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FIELD AND PROJECT OFFICES

UNITED NATIONS
Office on Drugs and Crime

Border Control

Control of internal border

Mobile Units

Drug control at airports

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Office on Drugs and Crime

The UNODC-WCO Container Control Programme (CCP)

- Ecuador, Senegal, Ghana, Pakistan
- Establishment of Joint Port Control Units – police / customs
- Training of managers and the Joint Port Control Units
- Improved cooperation – more effective risk profiling – improved intelligence
- Establishment of expert mentor service on site

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Law Enforcement Training

- Planning and implementation of specialist operations
- Investigation of major crime
- Covert intelligence gathering
- Use of informants
- Intelligence systems
- Financial investigation
- Computer Based Training

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Counter Kidnap Initiative

- Global increase in kidnapping;
- Need for more coordinated national and international efforts;
- Manual – practical tool - developed for investigators
- Supplemented by training - to improve effectiveness in prevention and investigation of cases;
- Sharing of experience and international good practice;

UNITED NATIONS
Office on Drugs and Crime

Witness Protection Good Practices

- Consultations - witness protection officials
- International expert group meetings
  a) Vienna, Austria (International)
  b) Mexico City, Mexico (Latin America)
  c) Bangkok, Thailand (Asia-Pacific)
  d) Vienna, Austria (Europe, Africa, Middle East)
- Manual to be published in January 2008

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Regional Law Enforcement Cooperation

UNITED NATIONS
Office on Drugs and Crime

CARICC (Central Asian states)
GCCI (Gulf states)

- ✓ Law Enforcement Focal Point
- ✓ International Cooperation & Coordination
- ✓ Inter-Agency Focus
- ✓ Liaison Officer Network (FANC)
- ✓ Regional Intelligence Database
- ✓ Tactical/Operational Intelligence & Strategic Assessments
- ✓ Focus for Specialist Services

UNITED NATIONS
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UNODC Laboratory and Scientific Section

To contribute to the worldwide availability and use of quality laboratory services, scientific support and data

Capacity building

Integration of scientific support

- Law enforcement authorities
- Judicial system
- Regulatory authorities
- Health authorities
- Policy and trend analyses

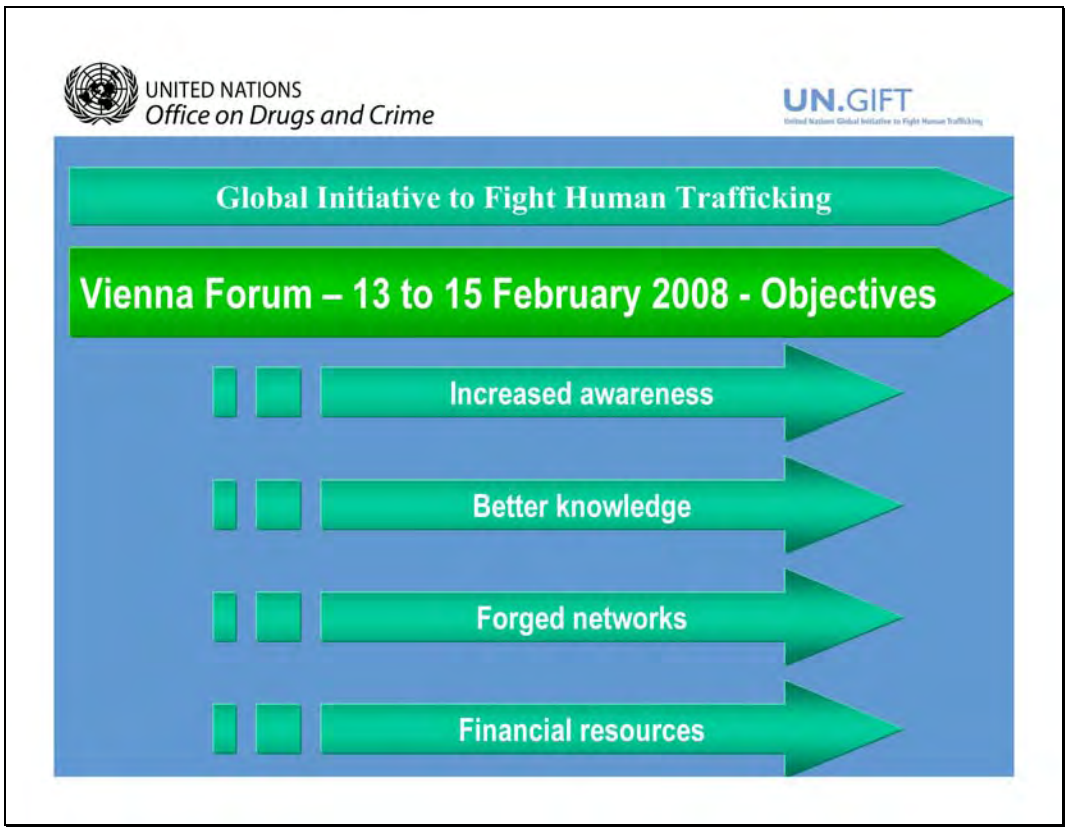
UNITED NATIONS
Office on Drugs and Crime

UN.GIFT

United Nations Global Initiative to Fight Human Trafficking

A catalyst for action.

UNITED NATIONS
Office on Drugs and Crime
UN.GIFT
Global Initiative to Fight Human Trafficking
Objectives
Prevent trafficking
Dismantle and prosecute crime groups
Support and protect victims


UNITED NATIONS
Office on Drugs and Crime
UN.GIFT
Global Initiative to Fight Human Trafficking
Vienna Forum – 13 to 15 February 2008 - Objectives
Increased awareness
Better knowledge
Forged networks
Financial resources

UN.GIFT
l Initiative to Fight Human Trafficking
ut UN.GIFT
News
Vienna Forum
Regional Events
Contact
News
Human Trafficking in Israel
Young women from the countries of the former Soviet Union are being lured to Israel on the promise of jobs with good salaries - but instead are abused and forced to work as prostitutes.
This is according to Hila Tene, a lawyer at the Department for International Agreements and Litigation at the Israeli Ministry of Justice, who recently took part in an expert group meeting at the United Nations in Vienna, Austria.
Ms Tene was one of several legal experts invited by the United Nations Office on Drugs and Crime (UNODC) to provide guidance on the development of anti-trafficking legislations.
She said: "Israel is primarily a destination country for victims of trafficking, mostly for prostitution. Most of these women come from countries of the former Soviet Union. They're mainly aged between 18-25 and answered very impressive ads in local newspapers."
More
Time for Action
UN.GIFT
Global Initiative to Fight Human Trafficking
HUMAN TRAFFICKING:
A CRIME THAT SHAMES US ALL
Press Releases
30/10/07 OSCE: Judicial handling of trafficking cases in Kosovo a concern, says OSCE Mission
26/10/07 OSCE: OSCE conference in Vilnius calls for zero tolerance, more co-operation to fight human trafficking
25/10/07 UNODC: Photography Exhibition on Human Trafficking To Open at UN Headquarters in New York
24/10/07 OSCE: Preventing human trafficking focus of OSCE conference in Lithuania
19/10/07 OSCE: OSCE Centre supports anti-trafficking seminar for orphaned girls in Tajikistan
19/10/07 IOM: IOM Partners Government in US-funded Programme to Combat Human Trafficking
Video and Audio

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Office on Drugs and Crime
UNODC WEBSITE:
http://www.unodc.org/
THANK YOU
FOR YOUR ATTENTION

FARC: GUERILLA OR CARTEL?

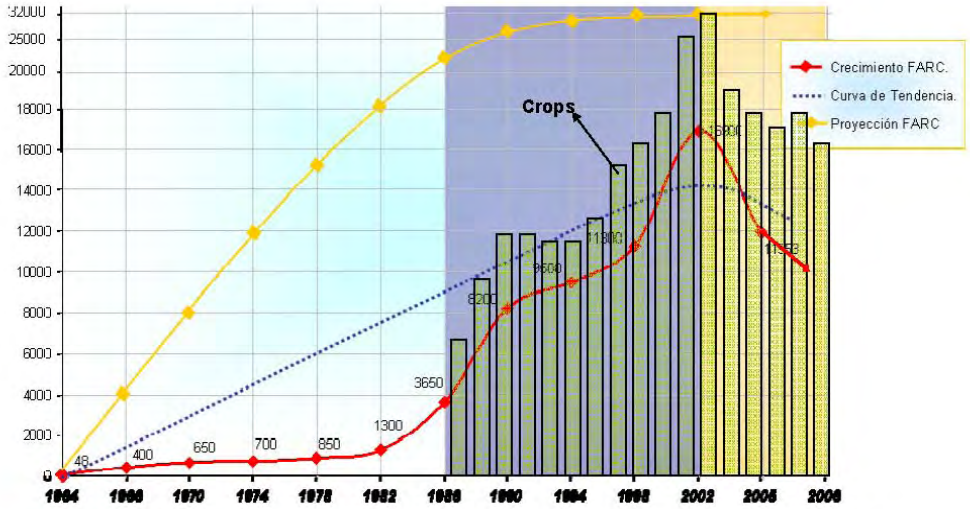
Mayor Juan Carlos Nieto Aldana
Director de Programas de Seguridad Democratica
Ministerio de Defensa

Libertad y Orden

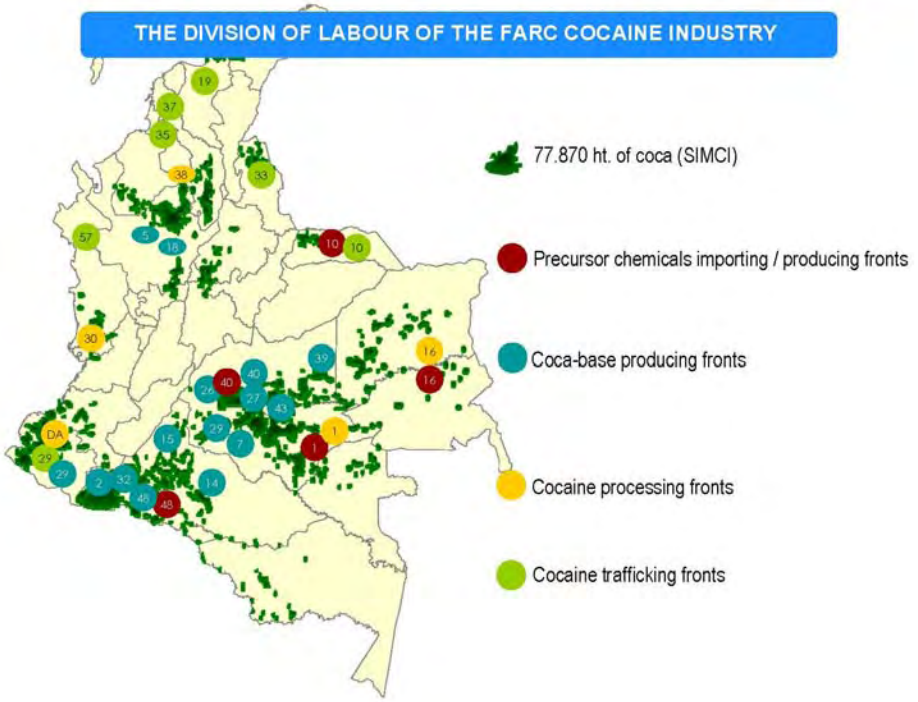
Ministry of Defence
Republic of Colombia

STRATEGIC LOGIC vs. ECONOMIC LOGIC

EXPANSION OF COCA FIELDS AND FARC GROWTH

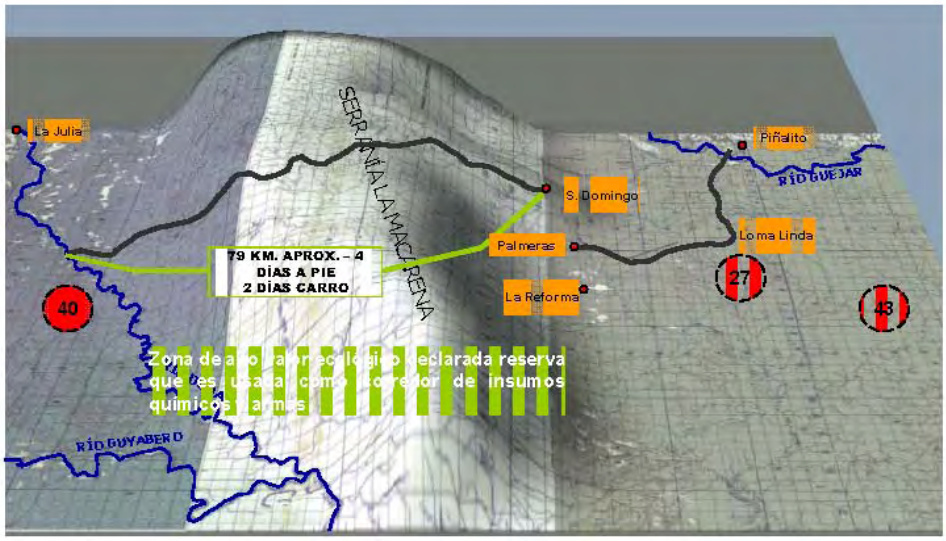


THE DIVISION OF LABOUR OF THE FARC COCAINE INDUSTRY

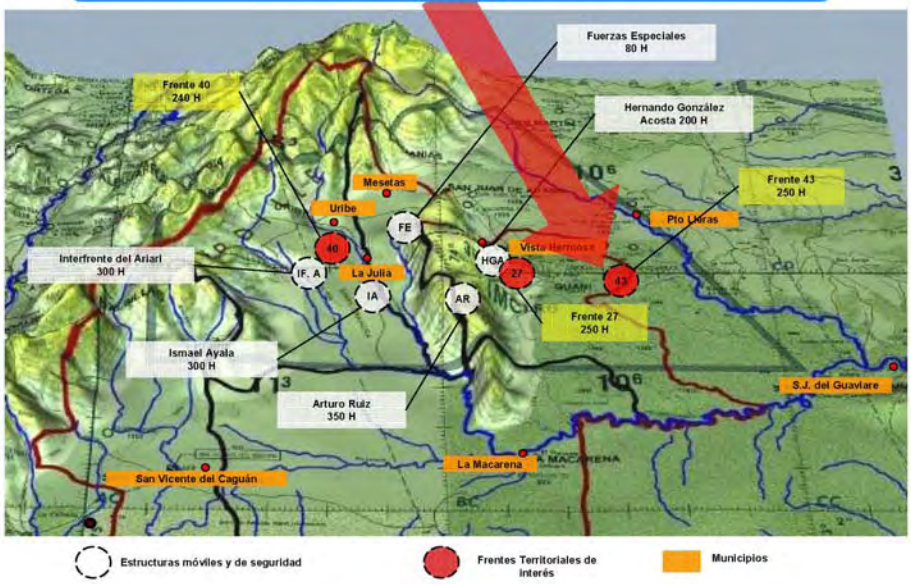


THE COCA ECONOMY OF THE FARC'S EASTERN BLOCK

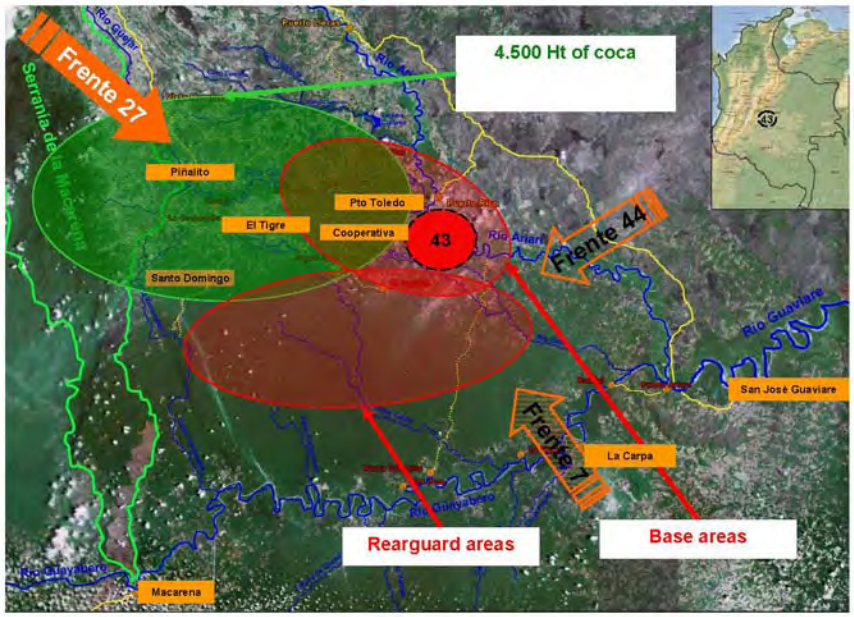
THE COCA ROUTE



43 FRONT



43 FRONT: BASE AREAS



2002 4 14

2002 4 14

"JOHN 40"

"JOHN 40"

"JOHN 40"

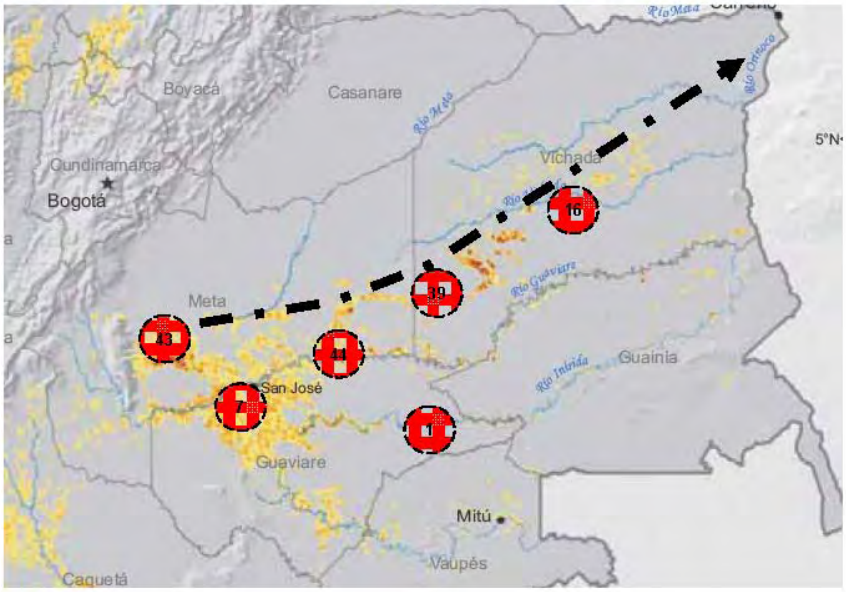
“JOHN 40”

“JOHN 40”

JOHN 40's COUNTRY HOUSE

JOHN 40's COUNTRY HOUSE

THE EASTERN BLOCK'S EXPORT ROUTE

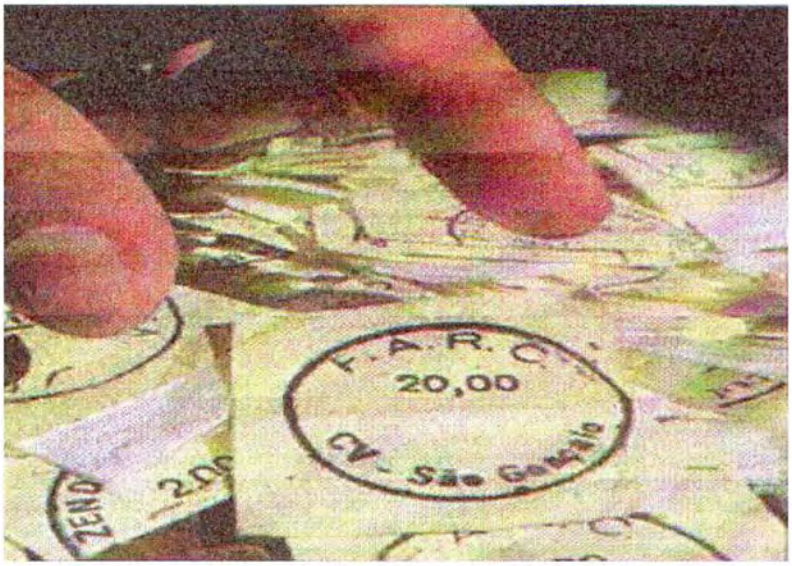


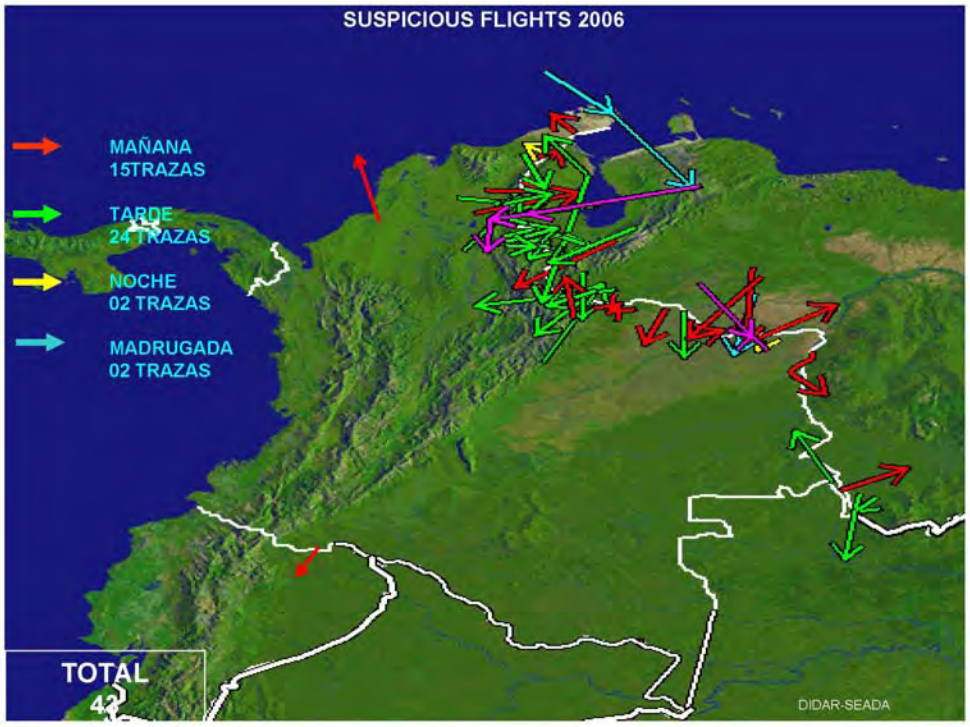
16 FRONT

"NEGRO ACACIO" 16th FRONT

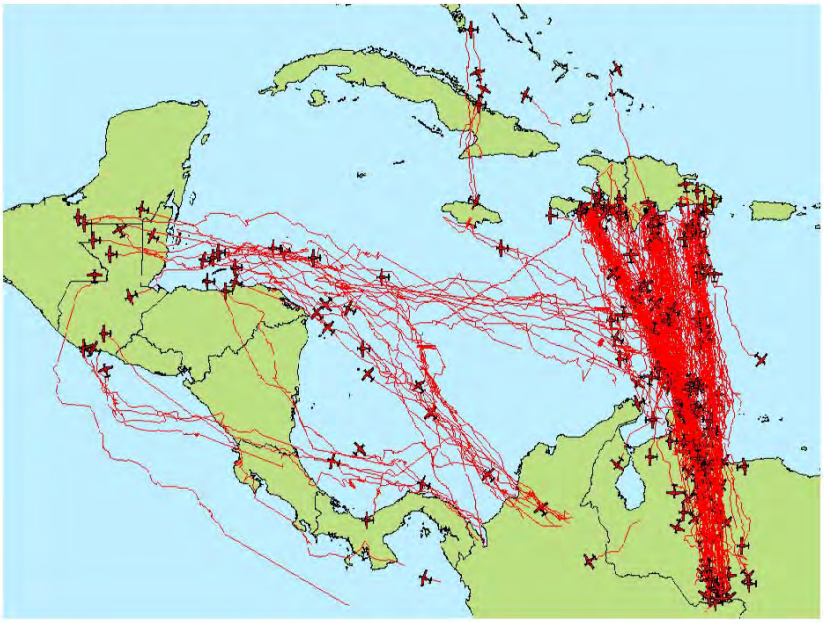
"FERNANDINHO"

"SAMPLES" FROM RIO





SUSPICIOUS TRACKS (NARCOTICS) IN THE CARIBBEAN 2006



GUNS FOR COCAINE: COLOMBIA AND HONDURAS

Ethalson Giovanni Mejía Hoy R.I.P.

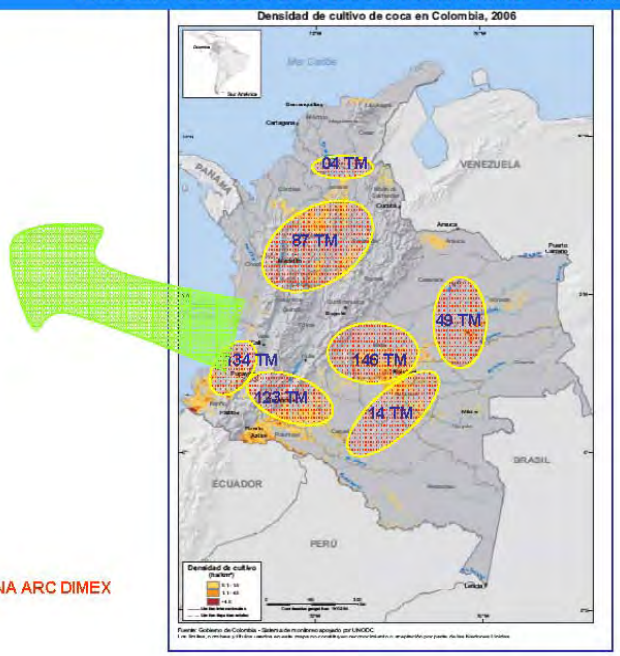
"NEGRO ACACIO" 16th FRONT

FARC AND TIJUANA CARTEL CONNECTION

VIDEO MONO JOJOY AND
DR. CARLOS CHARRY

DR. CARLOS CHARRY

INTERNATIONAL ROUTES FOR NARCOTICS – PACIFIC



FUENTE: JINA ARC DIMEX

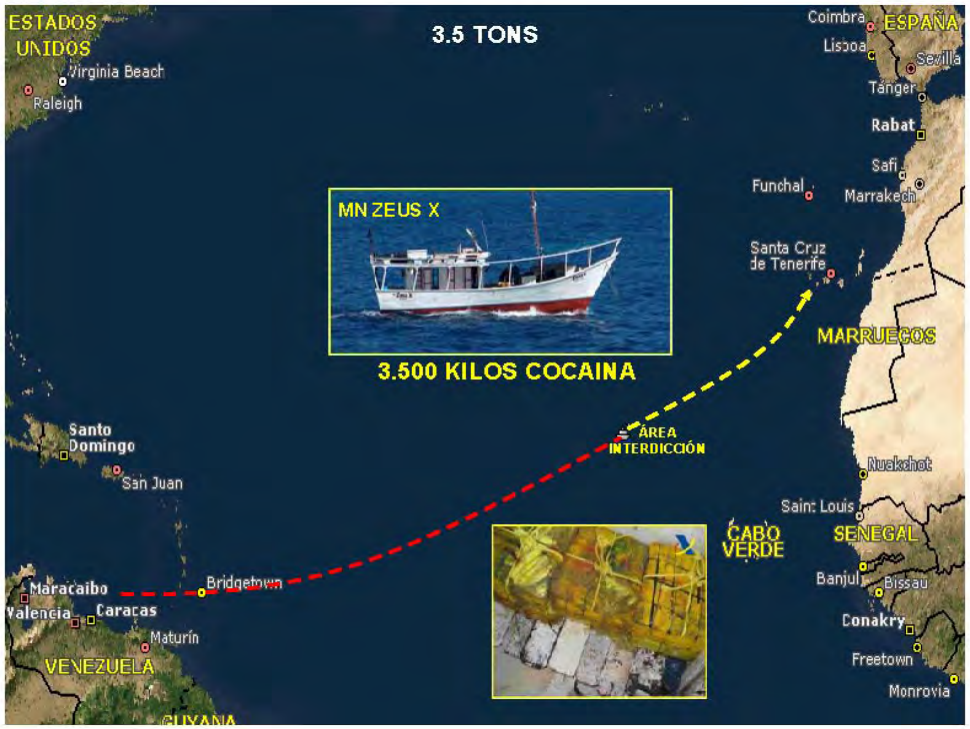
THE FARC IN THE SOUTH PACIFIC

60 FRONT **ONT FARC**
Gilberto Arroyabe Alias El Grillo
62 armed men
Main Area: No
realiza desplazamientos zona rural municipio de Argelia.

29 FRONT **ONT FARC**
Alias Jhon Jairo o Aldemar
169 armed men
Main Area: Patia River, Up river area Tapaje, Iscuandé.

Columna Móvil Daniel Aldana
Gustavo Gonzáles Sánchez Alias Rambo
94 armed men
Main Area: Presence at Hamlets of Mira, Guiza, Nulpe y Chagüi.

Villahermosa
MÉXICO
BELICE
GUATEMALA
Tegucigalpa
Viaje organizado
NICARAGUA
I. SAN ANDRES
COSTA RICA
PANAMÁ
COCO ISLAND
REFUELING AREA
MALPELO ISLAND
GALÁPAGOS ISLAND
CURRENTS ROUTES
JAMAICA
REPÚBLICA DOMINICANA
ARRIVE AREA
STORAGE PLACES
DEPARTURE AREA
Barranquilla
Cartagena
Maracaibo
Caracas
Valencia
Ciudad Guayana
San José de Cúcuta
VENEZUELA
Bucaramanga
Medellín
Santafé de Bogotá
Cali
COLOMBIA
Quito
ECUADOR
Guayaquil
PERÚ
BRASIL
Manaus


3.5 TONS
ESTADOS UNIDOS
Virginia Beach
Raleigh
Coimbra
ESPAÑA
Lisboa
Sevilla
Tánger
Rabat
Safi
Funchal
Marrakech
Santa Cruz de Tenerife
MN ZEUS X
3.500 KILOS COCAINA
MARRUECOS
Santo Domingo
San Juan
ÁREA INTERDICCIÓN
Nuakchot
Saint Louis
CABO VERDE
SENEGAL
Banjul
Bissau
Conakry
Freetown
Monrovia
Maracaibo
Valencia
Caracas
Maturín
Bridgetown
VENEZUELA
GUYANA

ILEGAL IMIGRATION ROUTES AND NARCOTICS ROUTES

And what are we doing?

"PLAN CONSOLIDACIÓN"

Ministry of Defence
Republic of Colombia

Ministry of Defence

Objectives

OPERATIONAL CONCEPT

To recover full and permanent control of critical zones in the country that meet the following criteria as much as possible:

Criteria for area selection

Areas that from the point of view of the FARC have

- High strategic / operational value (important for the "Strategic Plan")
- High symbolic / historical value
- High economic / logistical value

Areas that from the point of view of the state

- Are *"operationally controllable"*
- *Conclusive results* can be achieved in a reasonable amount of time (2 years)
- Are zones that can be *"consolidated."*
- Are zones where resources from different sources can *converge* and be "*aligned*": (Plan Colombia (drug trafficking / illicit crops), CCAI- Social Action, Development Plan, international cooperation (development and peace programs), and private investment (agribusiness projects: palm, cacao, bananas, etc).

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Objectives

DESIRED ENDSTATE

- **Strategic:** A region that is integrated into the life of the nation, where the Law rules and the formal economy is properly functioning. A region that is free from guerrillas and paramilitaries and any other destabilizing agent and where the public security forces and other state institutions enjoy the support of the population.
- **Operational:** Interruption, isolation, and neutralization of the enemy's base areas and support zones, and recovery of their operation bases (populated and colonized regions / coca markets), that are in the government consolidation areas.
- **Tactical:** neutralization and legal prosecution of the organizational structures that are the enemy's power base: structures for political organization and recruiting, command and control structure, intelligence network (militia), economic logistics network (inputs), and financial networks (drug trafficking, extortion).

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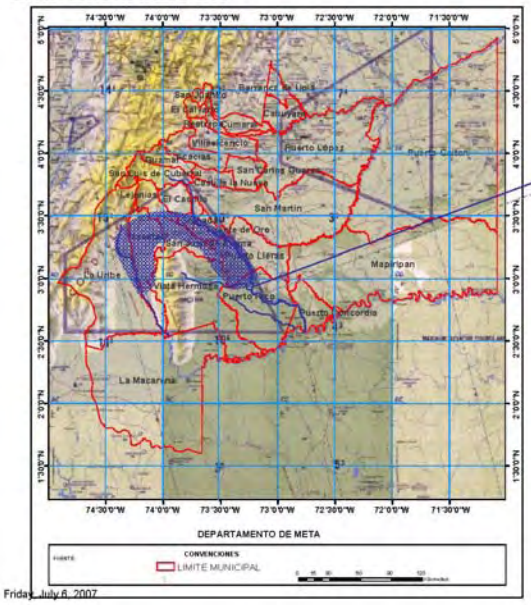
Characterization



Ariari and El Duda Region

Friday, July 6, 2007

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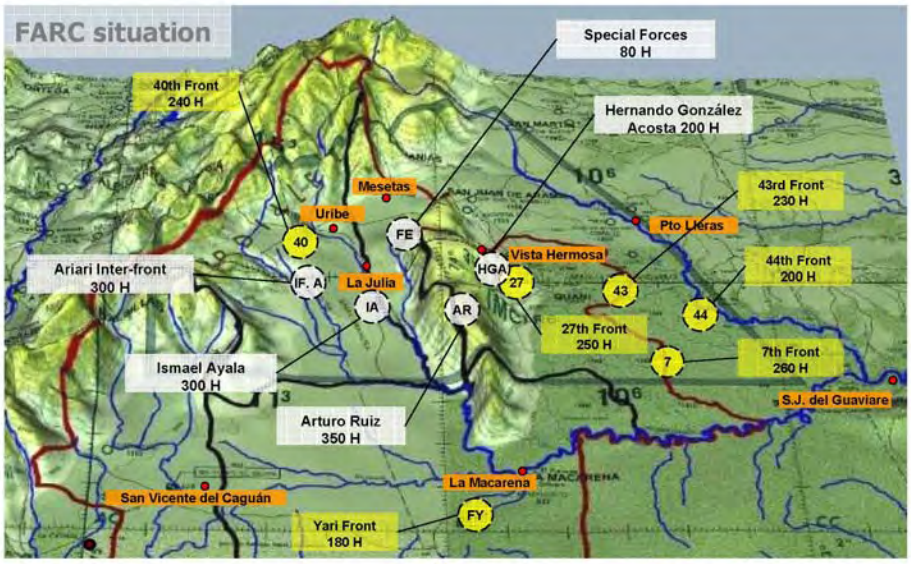
Description of the problem



Friday, July 6, 2007

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Illicit crops

- **Sources of income: Ranching and Agriculture (palm, rice, banana, cotton, sorghum, cacao)**
- **Pervading presence of illegal armed groups; FARC, BACRIM – drug traffickers**
- **Great portion of the population obtain resources from illegal activities associated with the production and illegal traffic of coca and cocaine.**

Municipality	Coca Area (Ha) 2005 /2006
La Macarena	843 / 574
La Uribe	335 / 32
Mapiripan	**1,778 / 3,311**
Mesetas	306 / 67
Puerto Concordia	912 / 469
Puerto Gaitan	113 / 214
Puerto Lleras	1,097 / 578
Puerto Rico	**3,411 / 3,519**
San Juan de Arama	149 / 22
San Martín	82 / 45
Vista Hermosa	**4,586 / 2,289**
Total	**13,612 / 11,063**

- 36% reduction in the area planted
- Extremely high level of crop mobility
- 27% of the crops are in lots larger than 3 hectares; some large cultivations persist
- Meta represents 14% of the total area planted with coca in Colombia and the greatest yield with 6.6 harvests per year

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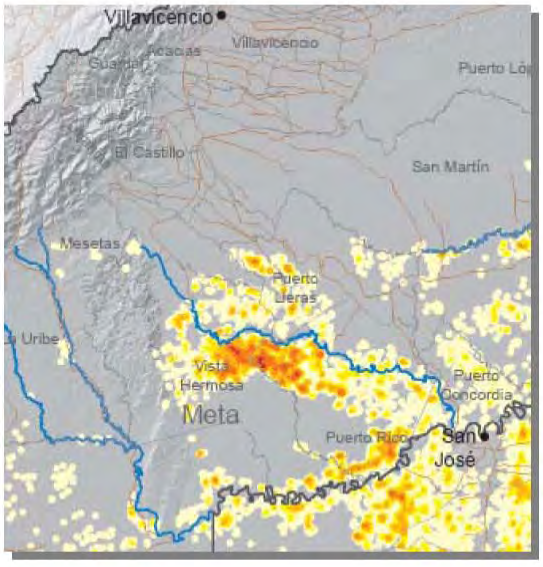
Illicit crops

Crop density 2006



Source: Simci-UN

- 36% reduction
- 11,000 ha.
- 6.6 harvests
- 9900 kg/ha/year
- 70% pcc paste
- 14% total has
- 23% total cocaine

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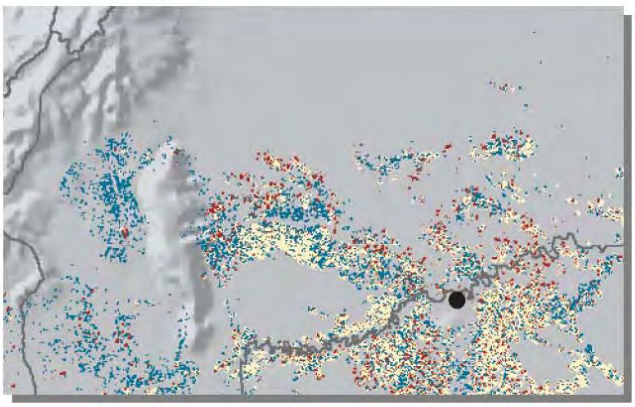
Illicit crops

Variation in crops 2000-2006



2% of agrarian use

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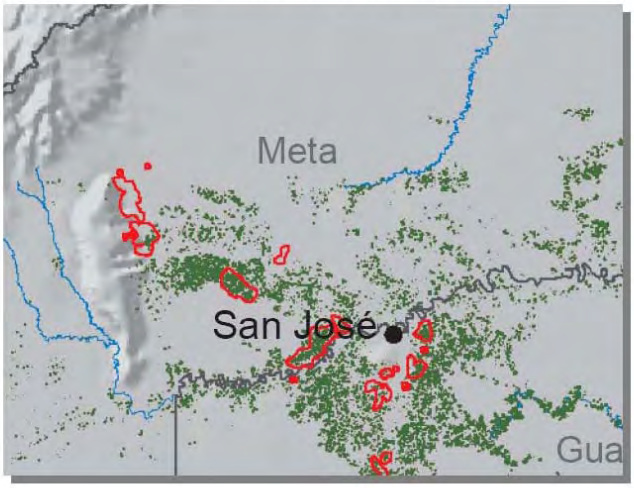
Illicit crops

Plantings vs. manual eradication 2006



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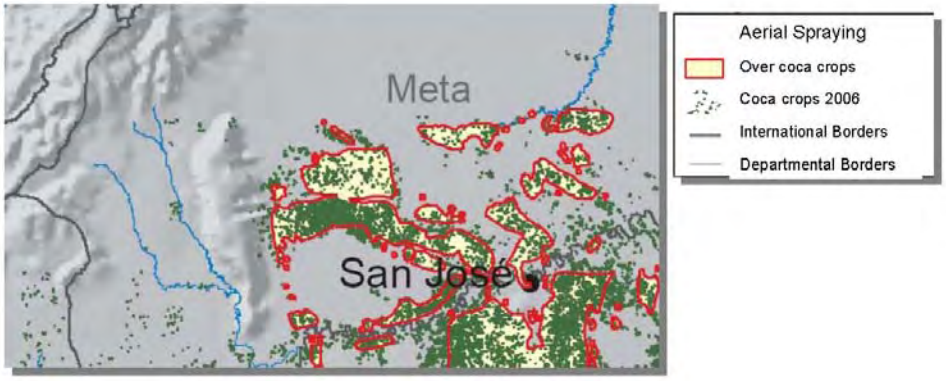
Illicit crops

Crops vs. spraying 2006



Friday, July 6, 2007

The arrival of the National Police in Piñalito

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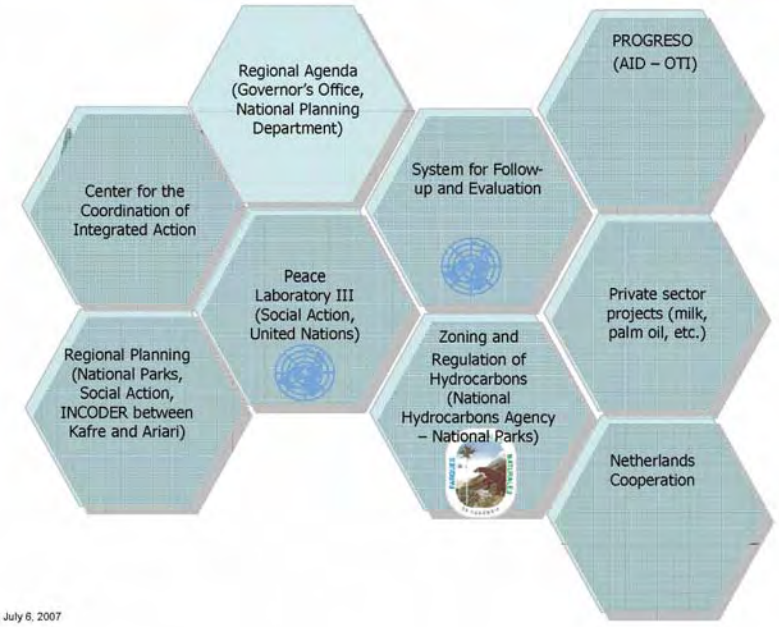
Republic of Colombia

Consolidation Plan



Friday, July 6, 2007

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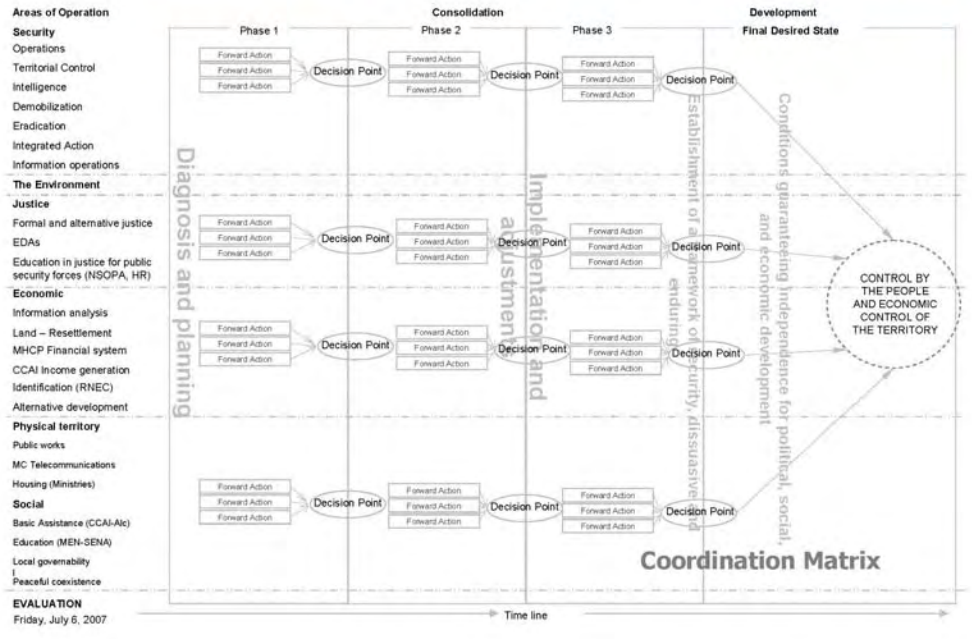
Consolidation Plan



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Consolidation Plan

Coordination Matrix

Armed Forces – Police Security

- Establishment of geographically based battalions
- Establishment of Police stations
- Time line for forced eradication (Spraying and manual)
- Other actions such as operations, intelligence, psychological operations, relocation of theaters of operation

Environment

- Programs for alternative development
- Regional planning project
  - Peasant reservation zone
  - Buffer zone

→ Land titles → Relocation

Social

- JUNTOS Network (Identification, income and jobs, education, health, nutrition, habitability, family dynamics, insurance and bankarization, and legal support)
- Areas of cooperation: RGCP Regional Government Consolidation Program / Office of Transition Initiatives / PROGRESO, Netherlands

Justice

- Alternative justice
  - Legal conciliation
  - Fair Justice
- Creation of EDA Support Structures

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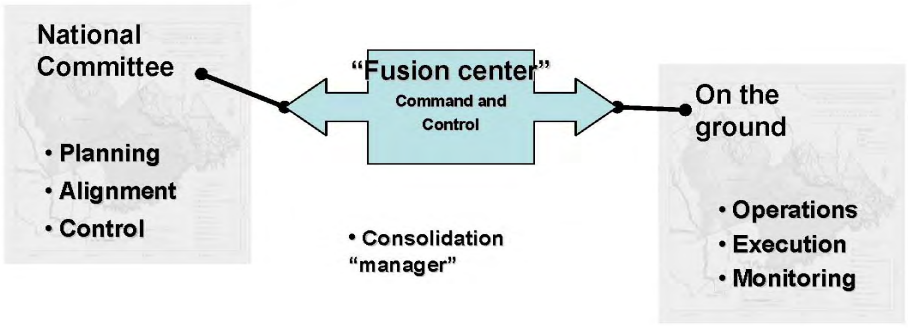
Consolidation Plan

Coordination mechanism



Coordination Public Security Forces	(perimeter security, Armed Forces coordination – Police stations, Joint Intelligence)
Inter-institutional coordination	(judicial authorities – supervisory institutions for national projects)
Project coordination:	(Environmental, International Cooperation, Regional Planning)

THANKS

Libertad y Orden

Ministry of Defence

Republic of Colombia

Criminal Insurgencies in South and Southeast Asia: A Brief Regional Survey

Dr. Caroline F. Ziemke
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Alexandria, VA 22311 USA
cziemke@ida.org

1

The views expressed in this presentation are the author's alone and do not necessarily represent or imply the endorsement of the Institute for Defense Analyses, the Council on Asian Terrorism Research, or any agency of the United States government.

2

Outline

- An explanation of my sources
  - The Council on Asian Terrorism Research
- Short Country outlines
- Regional trends
- Barriers to effective regional responses

A Few Words on Sources

- Council on Asian Terrorism Research
  - Founded in 2005
  - Consortium of researchers from 11 nations across the South and Southeast Asian regions
  - Meet biannually to share research findings and conduct workshops on issues related to terrorism and insurgency
- This briefing presents some of the key findings and themes that have emerged in the first six CATR symposia

Sri Lanka

- The Liberation Tigers of Tamil Eelam (LTTE) is the grandfather of criminal insurgent groups in the region.
- Since its emergence in the 1980s, the LTTE has built an empire of licit and illicit businesses across the globe.
  - Assassination for hire
  - For-profit terrorist training camps
  - Arms and human smuggling operations through its extensive shipping network
- The LTTE also runs a "state-of-the-art" diaspora management operation that reaches to Europe and North America.
  - "Membership" fees from Tamil expatriots
  - Satellite television network, phone cards
  - Business "start ups" for Tamil émigrés: restaurants, convenience and grocery stores, kiosks
  - Cultural "clubs," excursions home for Tamil adolescents

Evolution of LTTE Criminal Activities

- The LTTE provides a highly successful business model for ambitious insurgent organizations
  - Criminal infrastructure reaches across South and Southeast Asia and includes ties with criminal and insurgent organizations of all ideological stripes
- Profits from international criminal and "grey" activities fund insurgent operations in Sri Lanka and training for LTTE cadres.

India: Jammu and Kashmir

- The Hizb ul-Mujahideen (HuT) has become the most influential terrorist/insurgent group in Indian Kashmir
- HuT has metamorphosed from an ideologically/politically-motivated terrorist group into an organized crime family
  - Funding from Pakistan has dried up since 2002
  - Indian government investment in economic development and infrastructure modernization provides influx of funds
- HuT runs "protection rackets" that target local businessmen, farmers, construction contractors
  - Torture/ murder of migrant laborers, businessmen
- HuT criminal activity has become a major barrier to Kashmir peace process
  - Has a vested interest in maintaining unrest, keeping local governance weak and corrupt

Pakistan

- 2002 crackdown forced jihadist groups to atomize and regroup
  - Reconstituted under new names
  - Established non-jihadist, often humanitarian, public mission statements
- Redistributed financial assets:
  - Invested in "real property," including health and education related businesses to launder funds, store assets
  - Heavy investment in agricultural real estate, driving prices up and pricing legitimate buyers out of the market

Bangladesh

- Insurgents in Chittagong Hill Tracts have long been engaged in organized criminal activities
  - Money laundering, drug and arms trafficking, smuggling, extortion, armed robbery
  - Networks that reach across borders
- Government believes violent Islamist groups are still relatively small, isolated
  - Engaged in small-time, low risk crimes
  - Yet, there are signs of training, transfers of terrorist technologies from elsewhere in region

Nepal

- Maoist insurgent groups have long engaged in a range of criminal activities
  - Local extortion, kidnapping for ransom, bank robbery
  - Ties to illegal international arms markets and smuggling operations
- Maoists are now part of a unity government, but have refused to demobilize and disarm

Malaysia

- Manufacture and smuggling of electronic components for AQ Khan proliferation network
- Extent of ties between Malaysian groups and Malay insurgents in Southern Thailand still unknown, but probably significant

The Philippines

- Abu Sayyaf Group (ASG)
  - Ideological roots in 1980s Afghan jihad and Moro independence movement
  - Through 1990s, operated as hyper-violent kidnapping for profit organization
  - Since Philippine Army killed bandit leader Commander Robot, the group has shifted back to ideologically-based terror operations
  - No ransom operations since 2004
  - Involved in bribery and extortion of local government, military, media
  - Local criminal groups continue to use ASG affiliation to buy legitimacy
- RSM has also used funds raised through criminal activities to "buy" friendly media coverage.

Philippines

- Also a robust Communist/Moro Nationalist insurgency (CPP) that funds its activities through "revolutionary taxes" to fund its operations
  - About $50M / year
  - Uses funds to buy protection, friendly media, local government and military officials

13

Thailand

- Thai government continues to claim that the primary source of ethnic unrest in Muslim South is violent organized crime groups
  - Government is beginning to acknowledge presence of ethnic/ideological insurgent groups
- Drug trafficking and drug-running has long been a prominent feature of economic life in the Malay-speaking provinces of Pattani, Yala, and Narathitwat
- There needs to be more research done on the extent of criminal activities across the Thai – Malaysian border.

14

Regional Trends

- Pressure related to war on terror has forced insurgent / terrorist groups to diversify into criminal / grey activities
  - Raise funds to support operations and protect existing financial assets
  - Forged links with secular insurgent groups and international organized crime
  - May have been facilitated, early on, by links with JI
- Religious ideology is no barrier to cooperation with "immoral" criminal activities like drug trafficking
- Criminal and insurgent groups combine benefits of "globalization" with the existence of underground organizations dating back to the colonial era

Regional Trends

- A number of organizations in the region have attempted to acquire aviation capabilities to enhance their underground logistics networks.
- Terrorist and insurgent groups in the region have become more sophisticated in handling their financial affairs.
  - Hiding illicit funds behind legitimate front businesses confounds the limited law-enforcement capabilities in region
  - Most states have financial intelligence units, but cooperation is still weak or non-existent
- Criminal and insurgent groups have learned to take advantage of weak international law enforcement and intelligence cooperation across the region

Barriers to Effective Regional Responses

- Criminal insurgent organizations have created local social infrastructures that provide the basic social services governments do not
  - Further delegitimize national governments and create support, or at least tolerance, among local populations
- The process of creating regional legal and enforcement regimes in Asia is cumbersome
  - The "Asian Way" – decision-making through consensus
  - Continued lack of consensus on definitions and norms
  - While criminal insurgent organizations are highly agile and adaptable

Barriers to Effective Regional Responses

- Cooperative responses are hampered by legal/political legacies of authoritarianism
  - Public opinion in region resists CT legislation, fearing it would be a backdoor to repression of legitimate political opposition
- Lingering international resentments present obstacles to intra-regional cooperation:
  - Indonesia: Malaysia harbored terrorists
  - Malaysia: Indonesia exported its radicals
  - Thailand: Terrorists in S. Thailand are getting support from Malaysians across the border
  - Sri Lanka: SEA nations are not doing enough to crack down on LTTE businesses in the region

Conclusion

- Despite close criminal and insurgent cooperation, ideologically-motivated groups pose the greatest threat to long term stability in the CATR region
  - The leadership of these groups operate according to fundamentally different psychological and business models
  - Ideological leaders follow aesthetic model of bin Laden
  - Criminal insurgents see political fight as a means to pursue profit and power
- Success is defined differently, so effective deterrent strategies must aim at different priorities
  - Find ways to cleave the "spiritually-motivated" from the materialists

Law Enforcement Sensitive

On-Line Pharmacies: A Global Problem

U.S. Department of Justice · Drug Enforcement Administration

Special Operations Division

Law Enforcement Sensitive

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Threat Assessment

- Nearly 7 million Americans are abusing prescription drugs*—more than the number who are abusing cocaine, heroin, hallucinogens, Ecstasy, and inhalants, combined. That 7 million was just 3.8 million in 2000, an 80 percent increase in just 6 years.
- Prescription pain relievers are new drug users' drug of choice, vs. marijuana or cocaine.
- Opioid painkillers now cause more drug overdose deaths than cocaine and heroin combined.
- Nearly 1 in 10 high school seniors admits to abusing powerful prescription painkillers. A shocking 40 percent of teens and an almost equal number of their parents think abusing prescription painkillers is safer than abusing "street" drugs.
- Misuse of painkillers represents three-fourths of the overall problem of prescription drug abuse; hydrocodone is the most commonly diverted and abused controlled pharmaceutical in the U.S.
- Twenty-five percent of drug-related emergency department visits are associated with abuse of prescription drugs.

Law Enforcement Sensitive

Law Enforcement Sensitive

Threat Assessment

- The illicit sale of pharmaceuticals is a serious global problem. The Internet is one of the most popular illicit sources for schedule II-V pharmaceuticals.
- The illicit sale of pharmaceuticals is a serious global problem. The Internet is one of the most popular illicit sources for schedule II-V pharmaceuticals.
- Domestic and foreign "rogue" Pharmacies sell directly to the consumer with no "medical evaluation". Domestic and foreign "rogue" Pharmacies sell directly to the consumer with no "medical evaluation".
- Counterfeit, adulterated, or contaminated products imported into the U.S. market.
- Methods of acquiring prescription drugs for abuse include "doctor-shopping," traditional drug-dealing, theft from pharmacies or homes, illicitly acquiring prescription drugs via the Internet, and from friends or relatives.
- DEA Internet drug trafficking initiatives over the past 3 years have identified and dismantled organizations based both in the U.S. and overseas, and arrested dozens of conspirators. As a result of major investigations such as Operations Web Tryp, PharmNet, Cyber Rx, Cyber Chase, and Click 4 Drugs, Bay Watch, and Lightning Strike, tens of millions of dosage units of prescription drugs and tens of millions of dollars in assets have been seized.

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Strategic Direction

DEA utilizes a combination of enforcement, regulatory and intelligence strategies to counter emerging on-line pharmacy trafficking trends by targeting foreign and domestic command and control communications and financial operations.

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OSI Strategic Direction

Identify, Target, Investigate, Disrupt and Dismantle the International, National, State and Local **Chemical and Pharmaceutical Internet Trafficking Organizations** Having the **Most Significant Impact** upon America.

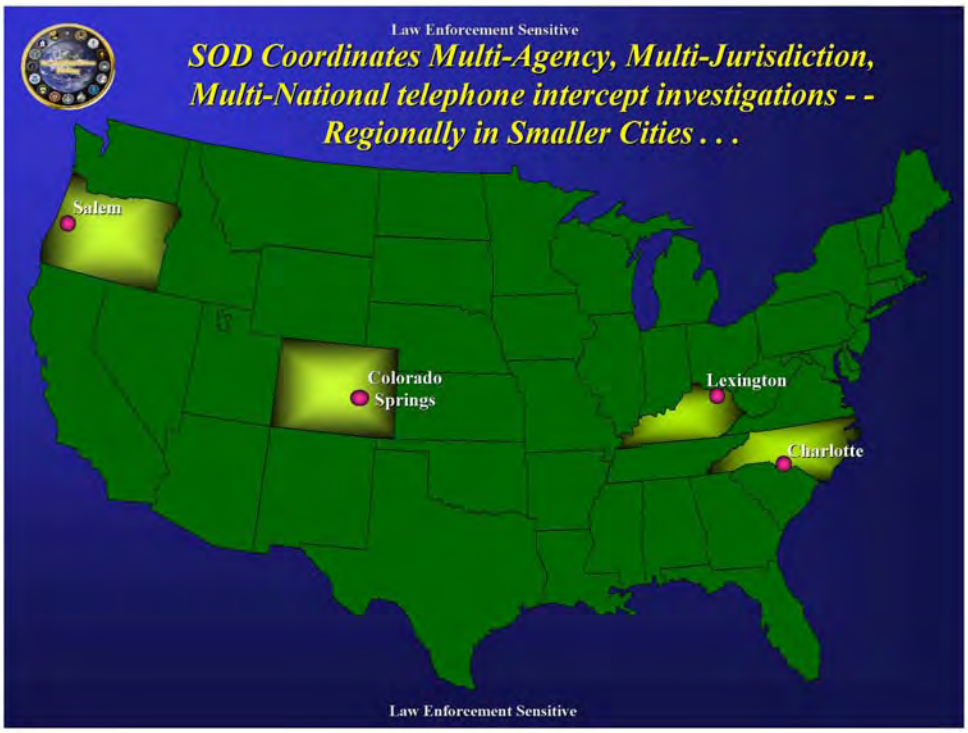
Law Enforcement Sensitive

Law Enforcement Sensitive

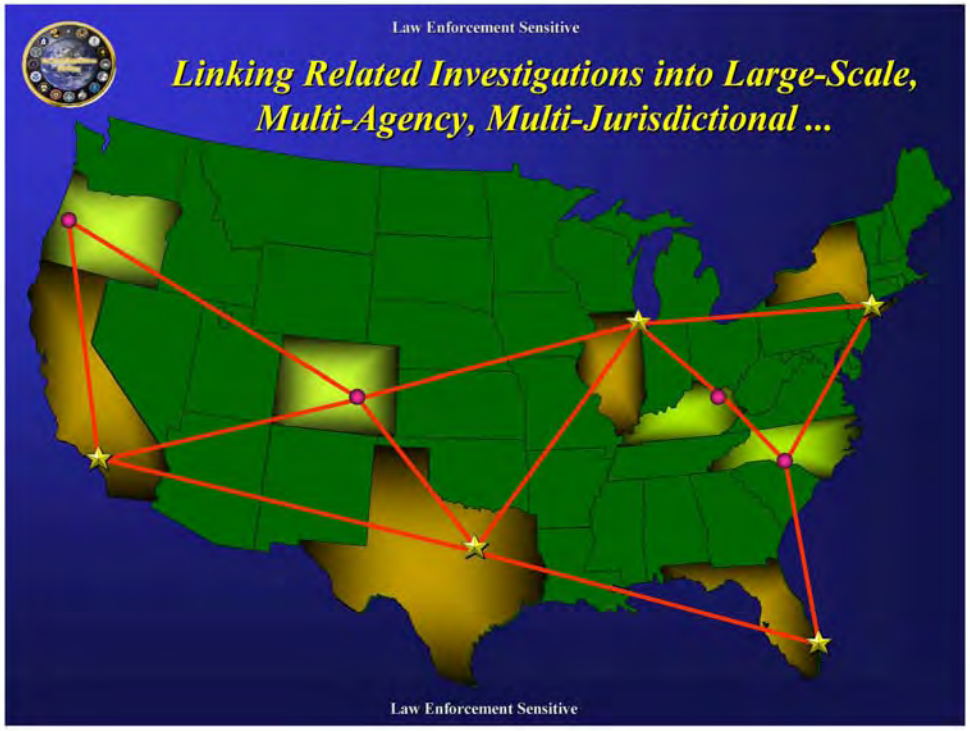
OSI's Role

- Proactive Unit that provides **investigative direction and analytical support** to the field for intercepting Pharmaceutical / Chemical traffickers utilizing the internet.
- Provides domestic and foreign offices with **websites, e-mails & telephone numbers** associated with identified major drug trafficking organizations. **De-confliction.**
- Provides **case coordination** to ensure that multi-jurisdiction, multi-nation and multi-agency investigations and prosecutions have the greatest disruptive impact on targeted organizations.

Law Enforcement Sensitive


Law Enforcement Sensitive
SOD Coordinates Multi-Agency, Multi-Jurisdiction, Multi-National telephone intercept investigations - - Regionally in Smaller Cities . . .
Salem
Colorado Springs
Lexington
Charlotte
Law Enforcement Sensitive

Law Enforcement Sensitive
Nationwide, domestically in Large Cities . . .
Salem
New York
Chicago
Colorado Springs
Lexington
Charlotte
Los Angeles
Dallas
Miami
Law Enforcement Sensitive


Law Enforcement Sensitive
Linking Related Investigations into Large-Scale, Multi-Agency, Multi-Jurisdictional ...
Law Enforcement Sensitive

Law Enforcement Sensitive
... and International Investigations that achieve High-Impact Results.
EUROPE
SOUTHEAST ASIA
MEXICO
CARIBBEAN
BOGOTA
Law Enforcement Sensitive

Law Enforcement Sensitive
... and International Investigations that achieve High-Impact Results.
EUROPE
SOUTHEAST ASIA
KABUL
MEXICO
CARIBBEAN
BOGOTA
AFRICA
Law Enforcement Sensitive

Law Enforcement Sensitive
On-line Pharmacy Trafficking Strategy
TARGETING AND ANALYSIS
TECHNOLOGY
LEGISLATION
U.S. Department of Justice
Drug Enforcement Administration
DEMAND REDUCTION
TRAINING / EDUCATION
Law Enforcement Sensitive

Law Enforcement Sensitive

Is it legal to buy controlled substances from foreign Internet sites and have them shipped to the U.S.?

- **No,** having controlled substances shipped to the U.S. is illegal unless the purchaser is registered with DEA as an importer and is in compliance with 21 U.S.C. 952, 953 and 954 and 21 CFR part 1312.
- Illegal importation of controlled substances is a felony that may result in imprisonment and fines (21 U.S.C. 960) .
- **Penalties**

  Sch. 2 20 years, $1,000,000

  Sch. 3-5 5 years, $250,000

Law Enforcement Sensitive

Law Enforcement Sensitive

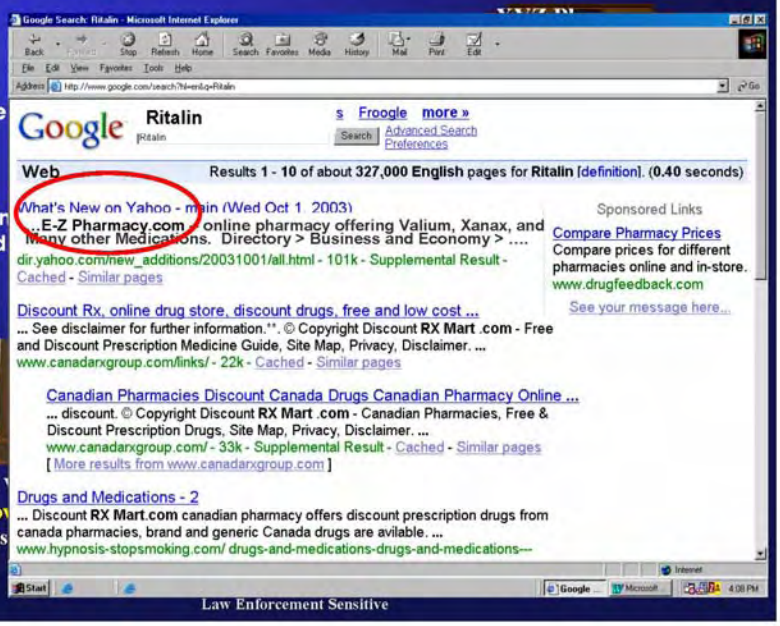
Illegal Online Pharmacy

Google

Custome

Order, Questionn
Credit Card
Info

E-Z Pharmacy
Internet Service Prov
(No DEA Regis

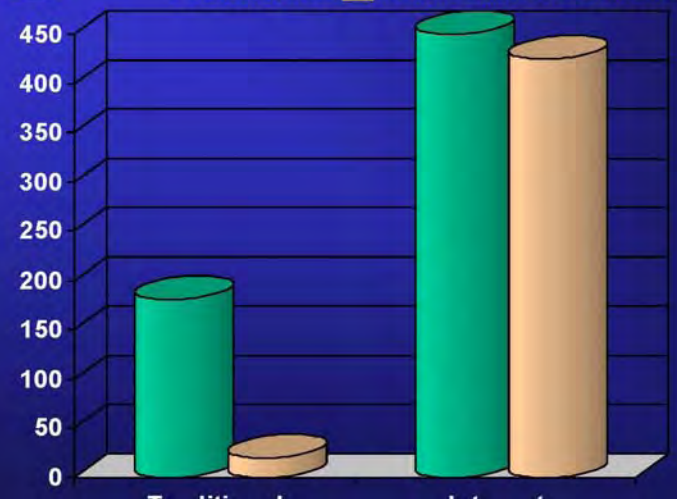


Law Enforcement Sensitive

Law Enforcement Sensitive

Controlled Substance Prescriptions

Traditional vs Web-Based Pharmacies



Source: 2003 Nat'l Community Pharmacy Assoc, Pfizer Digest NY, NY June 26, 2003

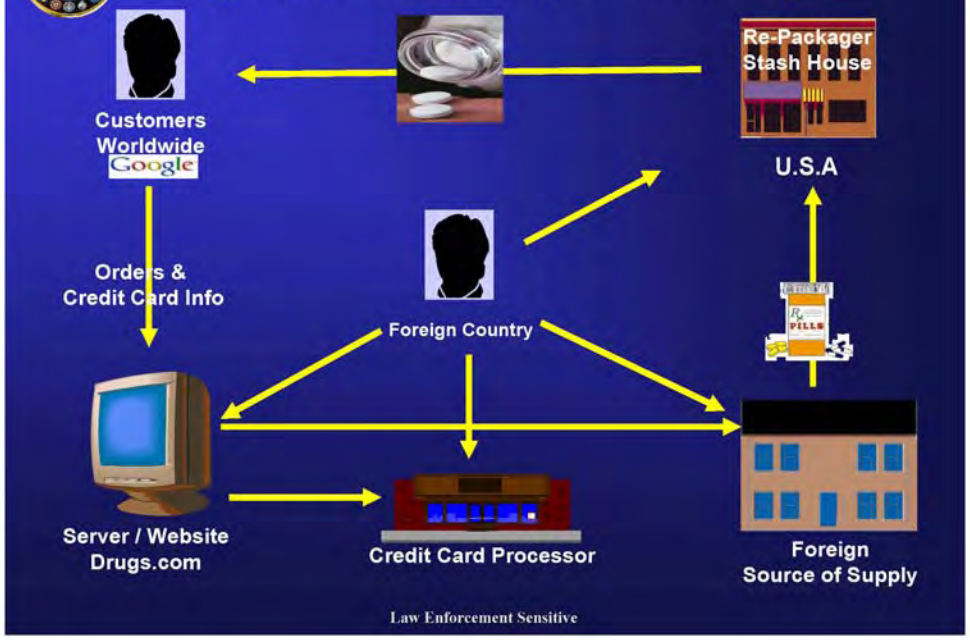
Traditional Pharmacy – Approximately 11% of prescriptions are for controlled substances

Internet Pharmacy – Approximately 95% of prescriptions are for controlled substances

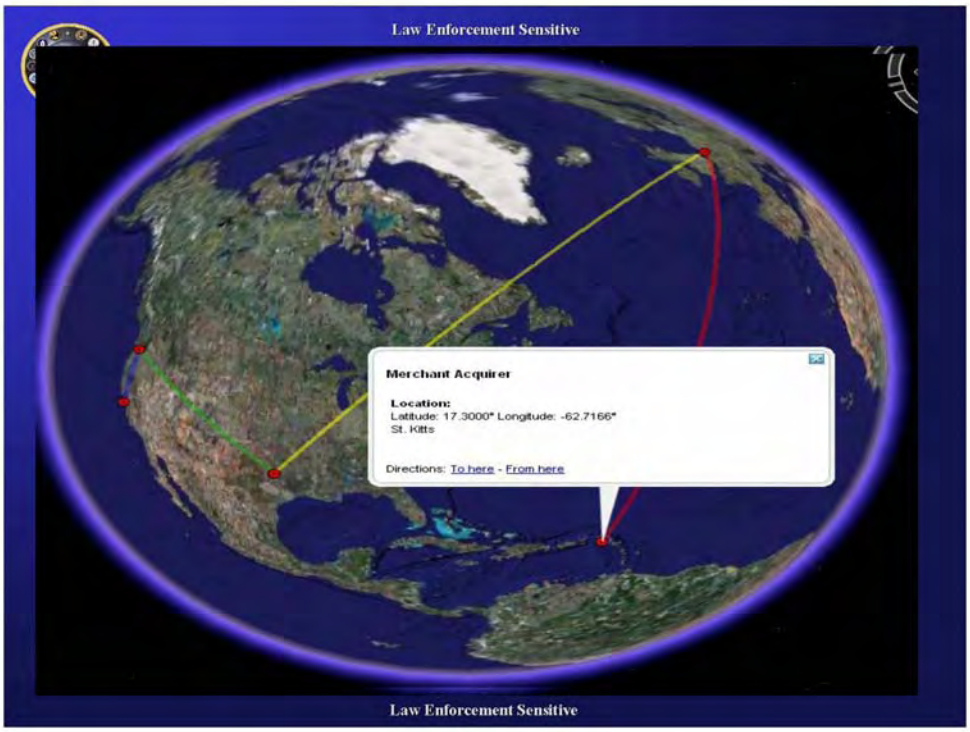
Law Enforcement Sensitive

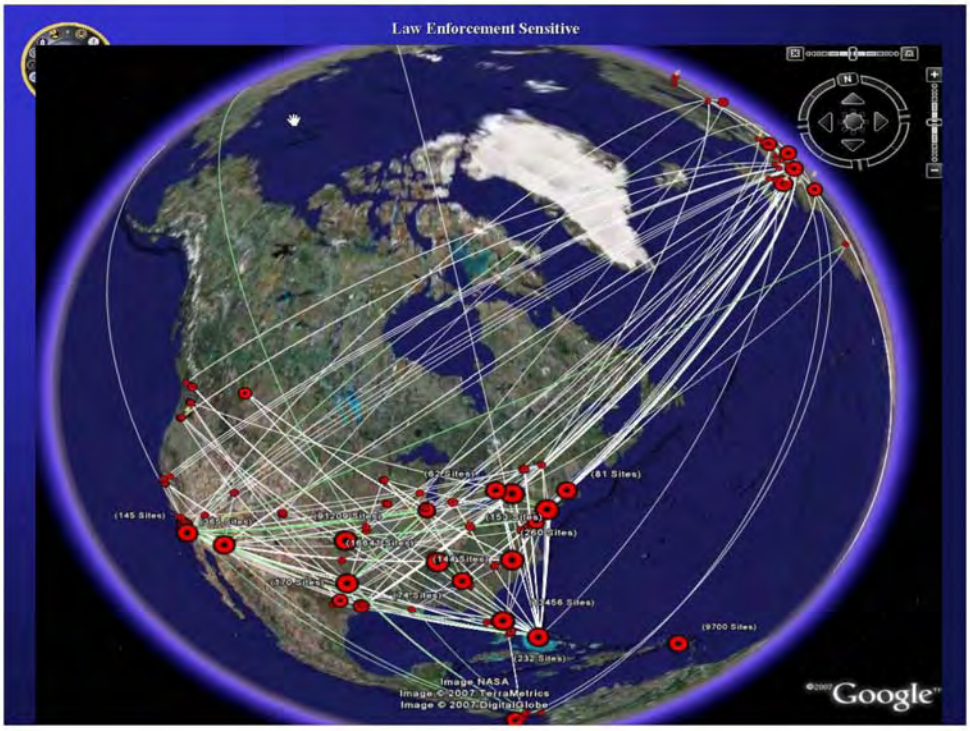
Law Enforcement Sensitive

Illegal Internet Pharmacy (International)



Law Enforcement Sensitive


Law Enforcement Sensitive
Merchant Acquirer
Location:
Latitude: 17.3000° Longitude: -62.7166°
St. Kitts
Directions: To here - From here
Law Enforcement Sensitive


Law Enforcement Sensitive
(81 Sites)
(145 Sites)
(9700 Sites)
Image NASA
Image © 2007 TerraMetrics
Image © 2007 DigitalGlobe
Google

Law Enforcement Sensitive

TARGETING AND ANALYSIS

1. Identify most significant Domestic / International Targets (Websites)
2. Identify Abuse Trends by Region / State
3. Identify rogue DEA Registrants
4. Identify Importation Trends
5. Identify Financial Processing Institutions

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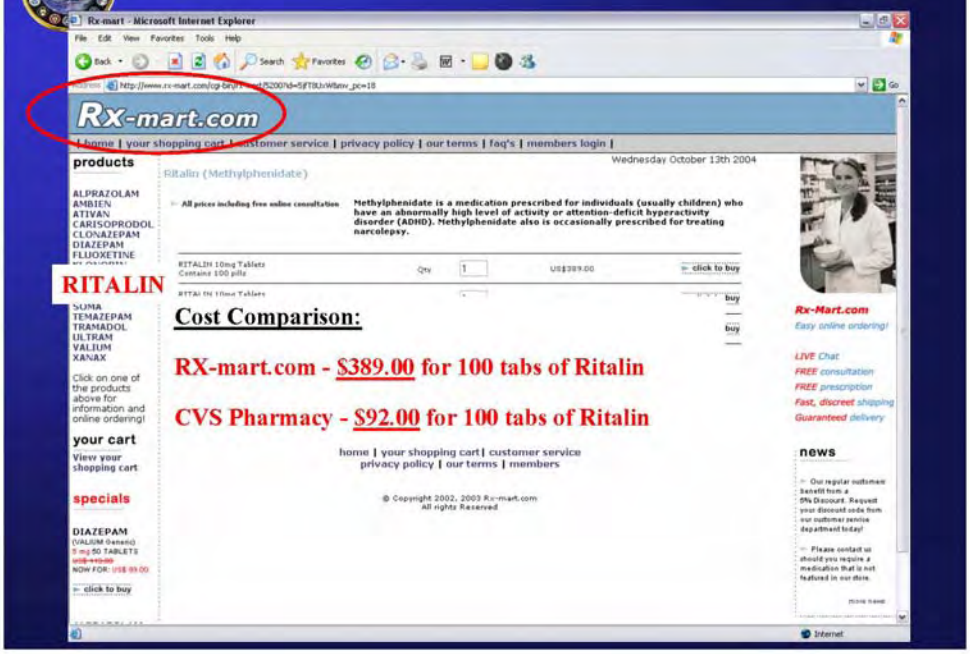
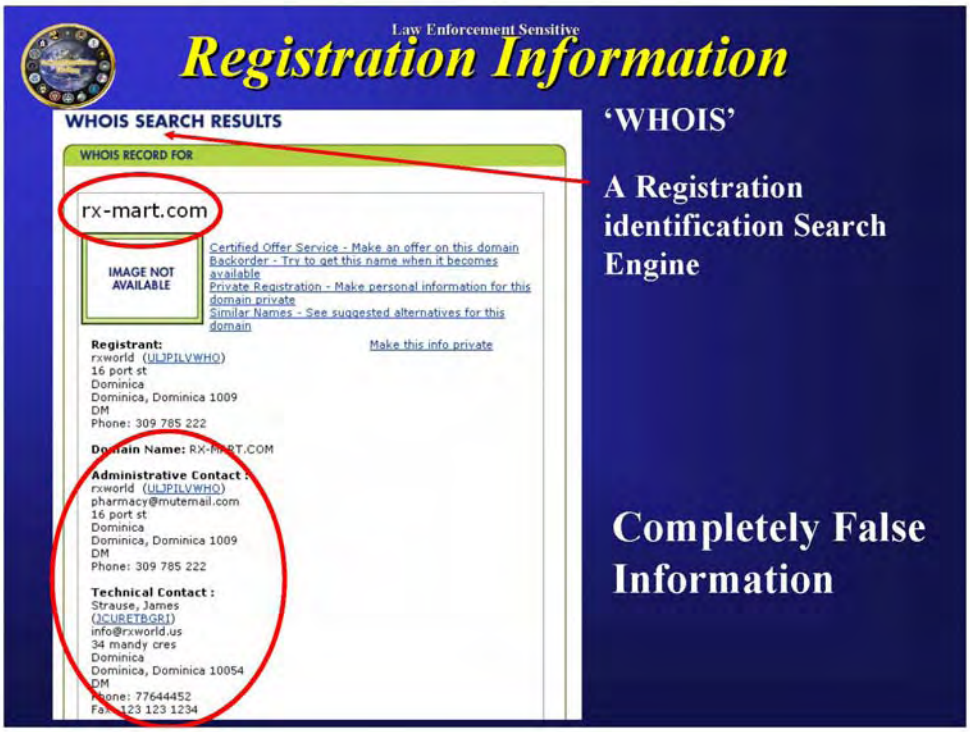


Law Enforcement Sensitive

Registration Information



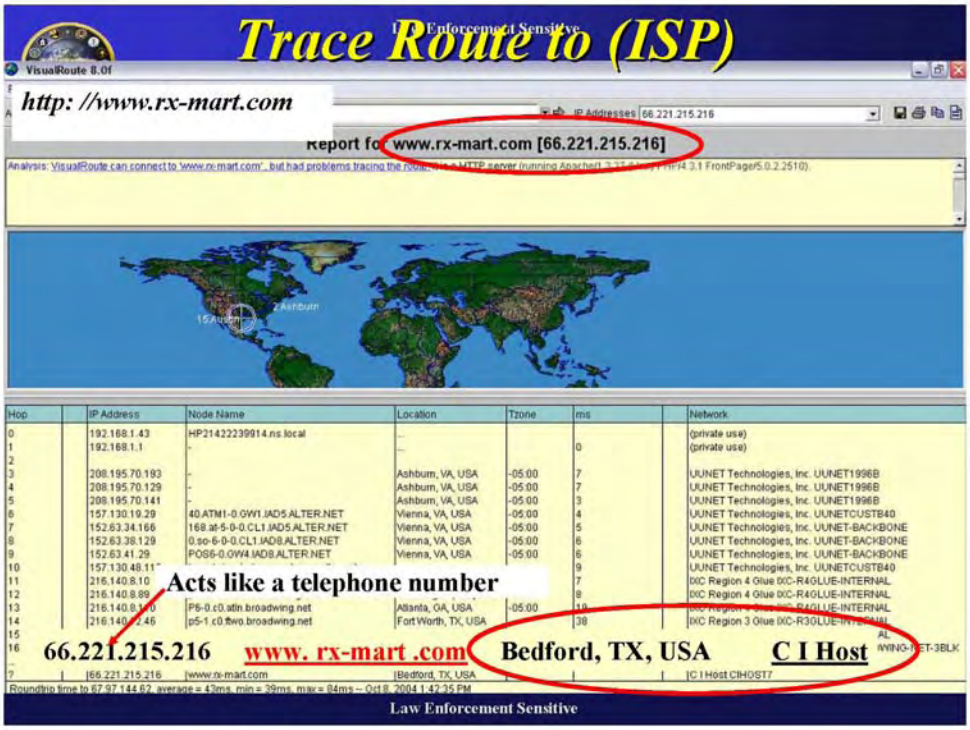
'WHOIS'

A Registration identification Search Engine

Completely False Information

Law Enforcement Sensitive

Trace Route to (ISP)



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Internet Protocol Address

- IP address - unique numeric address used to identify computers on the Internet. *(An IP address acts like a telephone number)*

  66.221.215.216

- Every computer accessing the Internet is assigned an IP address by the ISP, so that information sent to/from that computer may be directed properly from the source to the destination.

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Terminology Comparison

Telephone	Internet
Dialed digits: 7034956500	**IP number: 66.221.215.216 (www.rx-mart.com)**
Telephone Company	**Internet Service Provider (ISP) CI Host**

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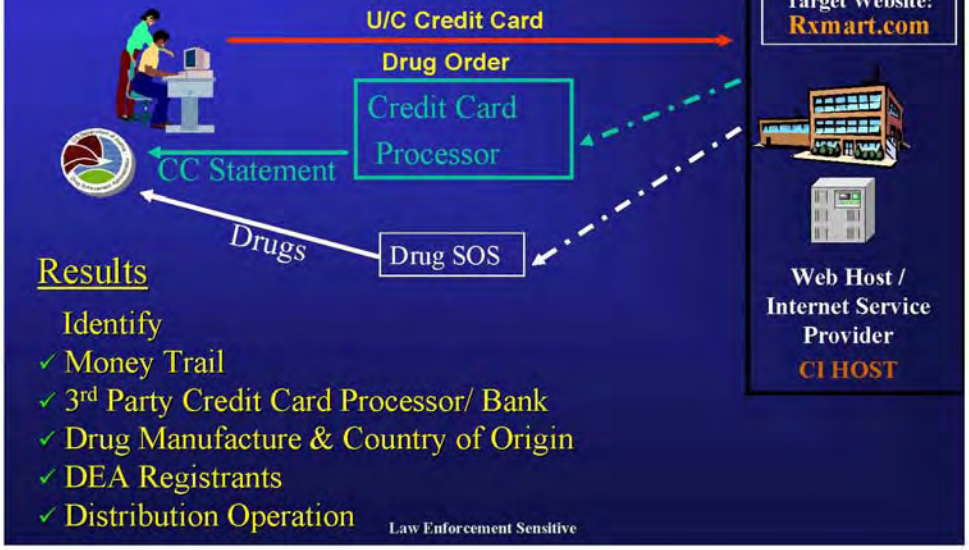
Law Enforcement Sensitive

FIELD INVESTIGATIONS

U/C Purchases



Results

Identify

- ✓ Money Trail
- ✓ 3rd Party Credit Card Processor/ Bank
- ✓ Drug Manufacture & Country of Origin
- ✓ DEA Registrants
- ✓ Distribution Operation

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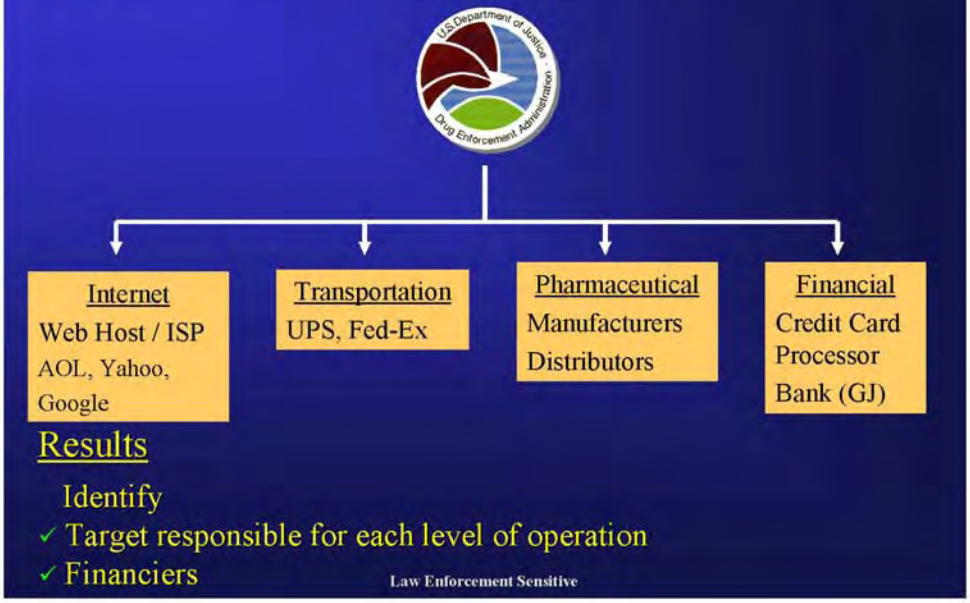
FIELD INVESTIGATIONS

Subpoenas



Results

Identify

- ✓ Target responsible for each level of operation
- ✓ Financiers

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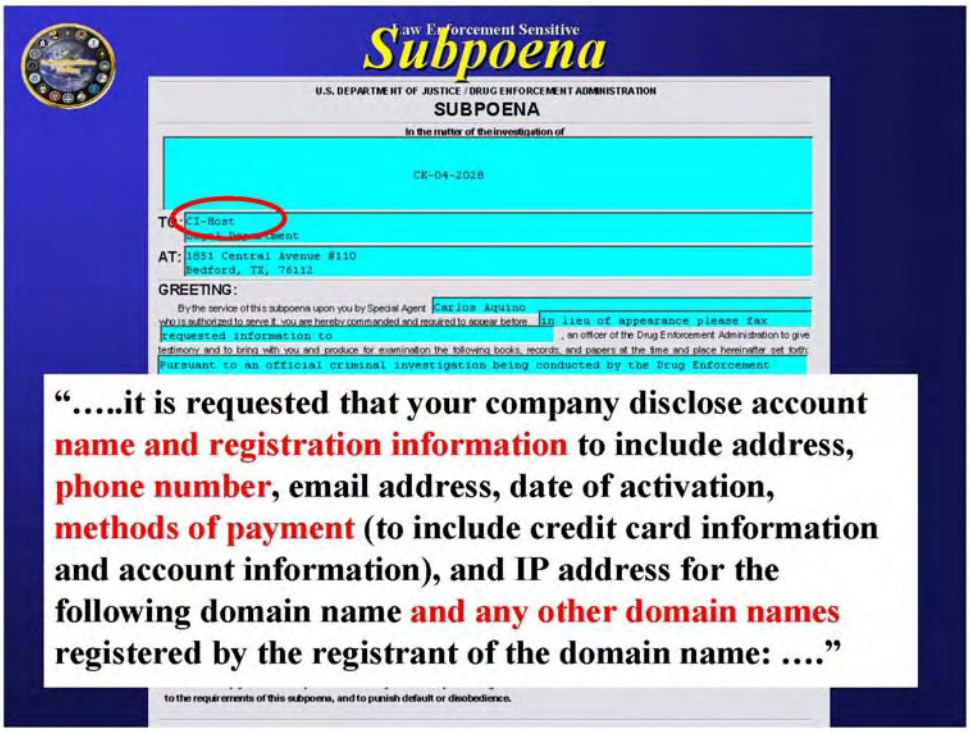
Subpoena



U.S. DEPARTMENT OF JUSTICE / DRUG ENFORCEMENT ADMINISTRATION

SUBPOENA

In the matter of the investigation of

CK-04-2028

TO: CI-Host

AT: 1851 Central Avenue #110
Bedford, TX, 76112

GREETING:

By the service of this subpoena upon you by Special Agent Carlos Aquino who is authorized to serve it, you are hereby commanded and required to appear before in lieu of appearance please fax requested information to , an officer of the Drug Enforcement Administration to give testimony and to bring with you and produce for examination the following books, records, and papers at the time and place hereinafter set forth:

Pursuant to an official criminal investigation being conducted by the Drug Enforcement

to the requirements of this subpoena, and to punish default or disobedience.

"…..it is requested that your company disclose account name and registration information to include address, phone number, email address, date of activation, methods of payment (to include credit card information and account information), and IP address for the following domain name and any other domain names registered by the registrant of the domain name: …."

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FIELD INVESTIGATIONS

Develop and Debrief Sources

Internet

- Internet Service Providers, Search Engines

Pharmaceutical

- DEA Registrants, Manufacturers, Distributors

Transportation

- Shipping, Airlines

Financial

- Credit Card Processors, Banks

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FIELD INVESTIGATIONS

Search Warrants

Websites, IP addresses

E-mail Accounts

Target Website:
Rxmart.com

Web Host / Internet Service Provider

Results

- ✓ Contents of all e-mails available at ISP
- ✓ Registrant / Owner information
- ✓ Identify organizational structure, financial and distribution operations
- ✓ Identify Customers
- ✓Basis for additional leads, subpoenas and search warrants

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U.S. Department of Justice
Drug Enforcement Administration

www.dea.gov

Preservation Letter

Custodian of Records
CI-Host
1851 Central Avenue #110
Bedford, TX 76112

Dear Sirs,

I am writing to confirm our telephone conversation earlier and to make a formal request for the preservation of records and other evidence pursuant to 18 U.S.C. 2703(f) pending further legal process.

You are hereby requested to preserve, for a period of 90 days, the records described below currently in your possession, including records stored on backup media, in a form that includes the complete record. You also are requested not to disclose the existence of this request to the subscriber or any other person, other than as necessary to comply with this request. If compliance with this request may result in a permanent or temporary termination of service to the accounts described below, or otherwise alert the subscriber or user of the accounts as to your actions to preserve the referenced files and records, please contact me before taking such action.

This preservation request applies to the following records and evidence:

A. All stored electronic communications and other files reflecting and including communications, content and header information to or from the following user accounts at CI-Host, including records stored on backup media.

List all accounts: .rx-mart.com , shackcorp.com……..

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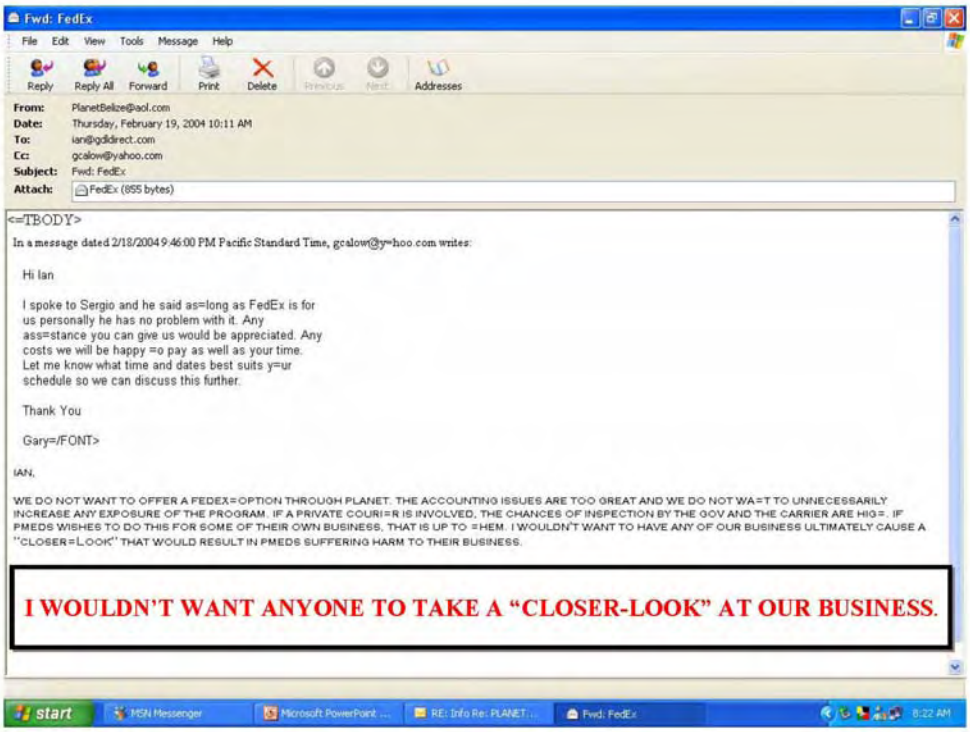
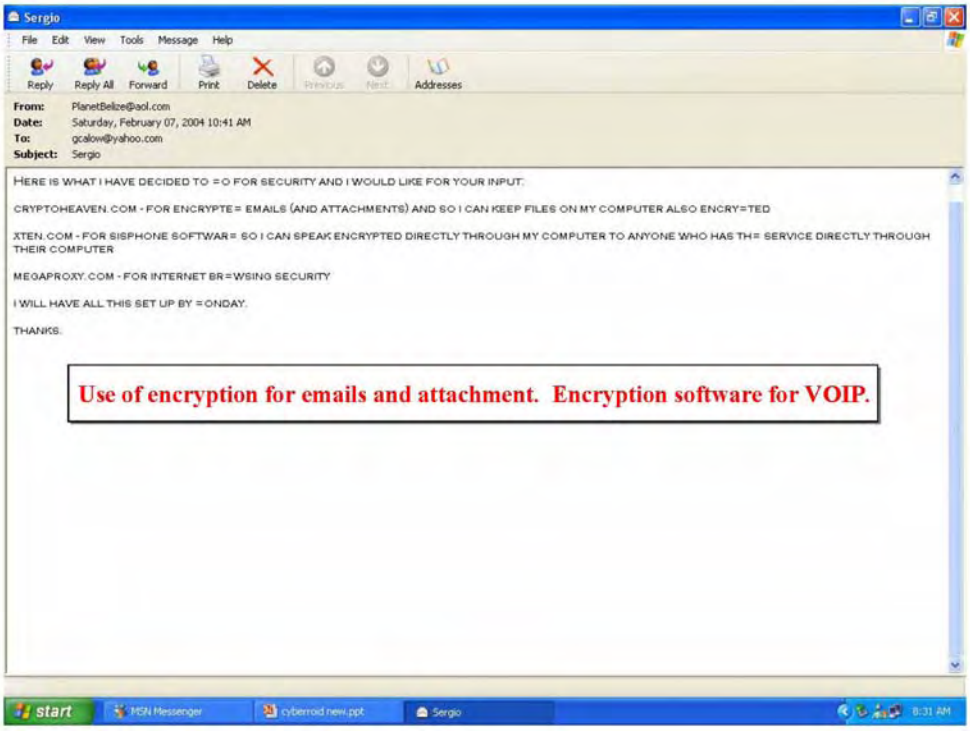
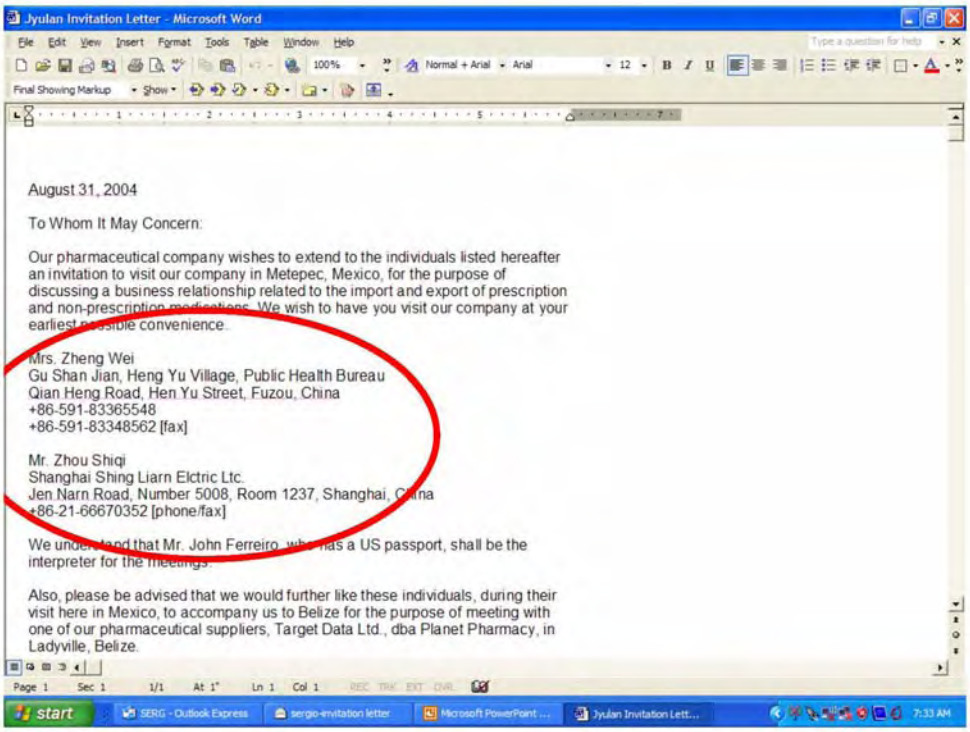
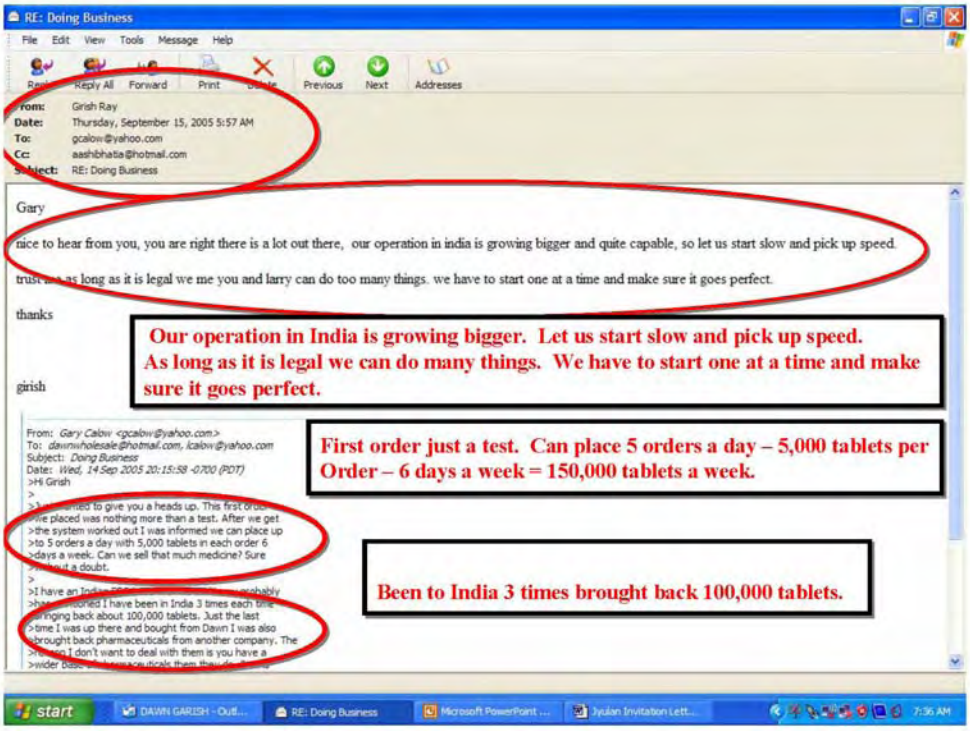
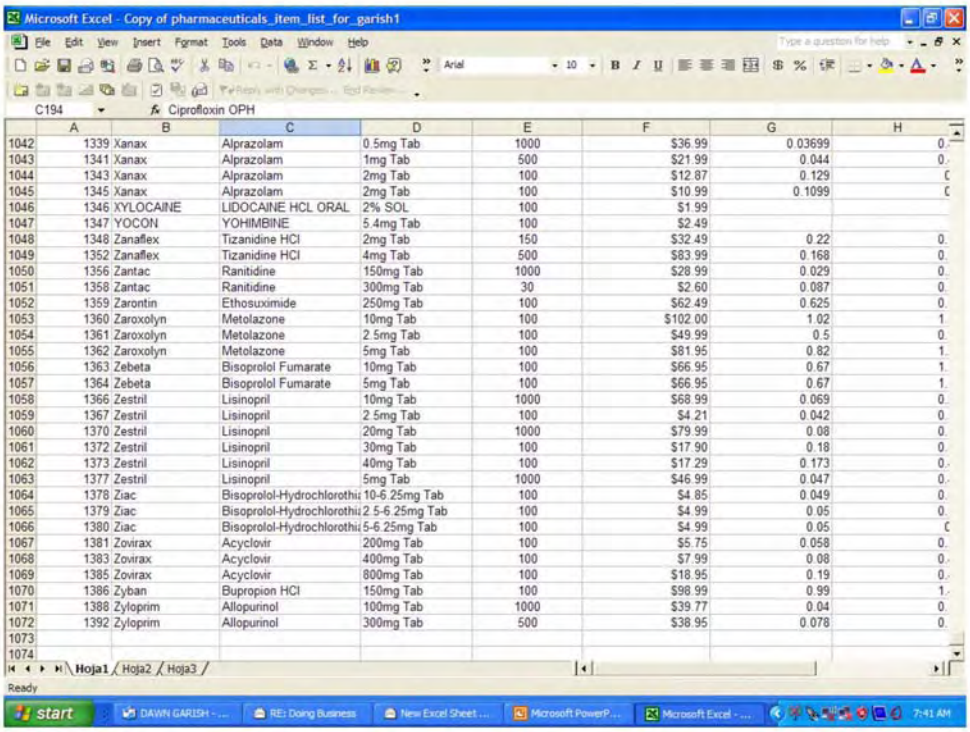

Fwd: FedEx
File Edit View Tools Message Help
Reply Reply All Forward Print Delete Previous Next Addresses
From: PlanetBelize@aol.com
Date: Thursday, February 19, 2004 10:11 AM
To: ian@gdidirect.com
Cc: gcalow@yahoo.com
Subject: Fwd: FedEx
Attach: FedEx (855 bytes)
<=TBODY>
In a message dated 2/18/2004 9:46:00 PM Pacific Standard Time, gcalow@y=hoo.com writes:
Hi Ian
I spoke to Sergio and he said as=long as FedEx is for us personally he has no problem with it. Any ass=stance you can give us would be appreciated. Any costs we will be happy =o pay as well as your time. Let me know what time and dates best suits y=ur schedule so we can discuss this further.
Thank You
Gary=/FONT>
IAN,
WE DO NOT WANT TO OFFER A FEDEX=OPTION THROUGH PLANET. THE ACCOUNTING ISSUES ARE TOO GREAT AND WE DO NOT WA=T TO UNNECESSARILY INCREASE ANY EXPOSURE OF THE PROGRAM. IF A PRIVATE COURI=R IS INVOLVED, THE CHANCES OF INSPECTION BY THE GOV AND THE CARRIER ARE HIG=. IF PMEDS WISHES TO DO THIS FOR SOME OF THEIR OWN BUSINESS, THAT IS UP TO =HEM. I WOULDN'T WANT TO HAVE ANY OF OUR BUSINESS ULTIMATELY CAUSE A "CLOSER=LOOK" THAT WOULD RESULT IN PMEDS SUFFERING HARM TO THEIR BUSINESS.
I WOULDN'T WANT ANYONE TO TAKE A "CLOSER-LOOK" AT OUR BUSINESS.
start MSN Messenger Microsoft PowerPoint ... RE: Info Re: PLANET... Fwd: FedEx 8:22 AM


Sergio
File Edit View Tools Message Help
Reply Reply All Forward Print Delete Previous Next Addresses
From: PlanetBelize@aol.com
Date: Saturday, February 07, 2004 10:41 AM
To: gcalow@yahoo.com
Subject: Sergio
HERE IS WHAT I HAVE DECIDED TO =O FOR SECURITY AND I WOULD LIKE FOR YOUR INPUT:
CRYPTOHEAVEN.COM - FOR ENCRYPTE= EMAILS (AND ATTACHMENTS) AND SO I CAN KEEP FILES ON MY COMPUTER ALSO ENCRY=TED
XTEN.COM - FOR SISPHONE SOFTWAR= SO I CAN SPEAK ENCRYPTED DIRECTLY THROUGH MY COMPUTER TO ANYONE WHO HAS TH= SERVICE DIRECTLY THROUGH THEIR COMPUTER
MEGAPROXY.COM - FOR INTERNET BR=WSING SECURITY
I WILL HAVE ALL THIS SET UP BY =ONDAY.
THANKS.
Use of encryption for emails and attachment. Encryption software for VOIP.
start MSN Messenger cyberroid new.ppt Sergio 8:31 AM


Jyulan Invitation Letter - Microsoft Word
August 31, 2004
To Whom It May Concern:
Our pharmaceutical company wishes to extend to the individuals listed hereafter an invitation to visit our company in Metepec, Mexico, for the purpose of discussing a business relationship related to the import and export of prescription and non-prescription medications. We wish to have you visit our company at your earliest possible convenience.
Mrs. Zheng Wei
Gu Shan Jian, Heng Yu Village, Public Health Bureau
Qian Heng Road, Hen Yu Street, Fuzou, China
+86-591-83365548
+86-591-83348562 [fax]
Mr. Zhou Shiqi
Shanghai Shing Liarn Elctric Ltc.
Jen Narn Road, Number 5008, Room 1237, Shanghai, China
+86-21-66670352 [phone/fax]
We understand that Mr. John Ferreiro, who has a US passport, shall be the interpreter for the meetings.
Also, please be advised that we would further like these individuals, during their visit here in Mexico, to accompany us to Belize for the purpose of meeting with one of our pharmaceutical suppliers, Target Data Ltd., dba Planet Pharmacy, in Ladyville, Belize.


RE: Doing Business
From: Girish Ray
Date: Thursday, September 15, 2005 5:57 AM
To: gcalow@yahoo.com
Cc: aashbhatia@hotmail.com
Subject: RE: Doing Business
Gary
nice to hear from you, you are right there is a lot out there, our operation in india is growing bigger and quite capable, so let us start slow and pick up speed.
as long as it is legal we me you and larry can do too many things. we have to start one at a time and make sure it goes perfect.
thanks
girish
Our operation in India is growing bigger. Let us start slow and pick up speed. As long as it is legal we can do many things. We have to start one at a time and make sure it goes perfect.
First order just a test. Can place 5 orders a day – 5,000 tablets per Order – 6 days a week = 150,000 tablets a week.
Been to India 3 times brought back 100,000 tablets.



Microsoft Excel - Copy of pharmaceuticals_item_list_for_garish1

File Edit View Insert Format Tools Data Window Help

C194 Ciprofloxin OPH

	A	B	C	D	E	F	G	H
1042	1339	Xanax	Alprazolam	0.5mg Tab	1000	$36.99	0.03699	0.
1043	1341	Xanax	Alprazolam	1mg Tab	500	$21.99	0.044	0.
1044	1343	Xanax	Alprazolam	2mg Tab	100	$12.87	0.129	0
1045	1345	Xanax	Alprazolam	2mg Tab	100	$10.99	0.1099	0
1046	1346	XYLOCAINE	LIDOCAINE HCL ORAL	2% SOL	100	$1.99		
1047	1347	YOCON	YOHIMBINE	5.4mg Tab	100	$2.49		
1048	1348	Zanaflex	Tizanidine HCl	2mg Tab	150	$32.49	0.22	0.
1049	1352	Zanaflex	Tizanidine HCl	4mg Tab	500	$83.99	0.168	0.
1050	1356	Zantac	Ranitidine	150mg Tab	1000	$28.99	0.029	0.
1051	1358	Zantac	Ranitidine	300mg Tab	30	$2.60	0.087	0.
1052	1359	Zarontin	Ethosuximide	250mg Tab	100	$62.49	0.625	0.
1053	1360	Zaroxolyn	Metolazone	10mg Tab	100	$102.00	1.02	1.
1054	1361	Zaroxolyn	Metolazone	2.5mg Tab	100	$49.99	0.5	0.
1055	1362	Zaroxolyn	Metolazone	5mg Tab	100	$81.95	0.82	1.
1056	1363	Zebeta	Bisoprolol Fumarate	10mg Tab	100	$66.95	0.67	1.
1057	1364	Zebeta	Bisoprolol Fumarate	5mg Tab	100	$66.95	0.67	1.
1058	1366	Zestril	Lisinopril	10mg Tab	1000	$68.99	0.069	0.
1059	1367	Zestril	Lisinopril	2.5mg Tab	100	$4.21	0.042	0.
1060	1370	Zestril	Lisinopril	20mg Tab	1000	$79.99	0.08	0.
1061	1372	Zestril	Lisinopril	30mg Tab	100	$17.90	0.18	0.
1062	1373	Zestril	Lisinopril	40mg Tab	100	$17.29	0.173	0.
1063	1377	Zestril	Lisinopril	5mg Tab	1000	$46.99	0.047	0.
1064	1378	Ziac	Bisoprolol-Hydrochlorothi	10-6.25mg Tab	100	$4.85	0.049	0.
1065	1379	Ziac	Bisoprolol-Hydrochlorothi	2.5-6.25mg Tab	100	$4.99	0.05	0.
1066	1380	Ziac	Bisoprolol-Hydrochlorothi	5-6.25mg Tab	100	$4.99	0.05	0
1067	1381	Zovirax	Acyclovir	200mg Tab	100	$5.75	0.058	0.
1068	1383	Zovirax	Acyclovir	400mg Tab	100	$7.99	0.08	0.
1069	1385	Zovirax	Acyclovir	800mg Tab	100	$18.95	0.19	0.
1070	1386	Zyban	Bupropion HCl	150mg Tab	100	$98.99	0.99	1.
1071	1388	Zyloprim	Allopurinol	100mg Tab	1000	$39.77	0.04	0.
1072	1392	Zyloprim	Allopurinol	300mg Tab	500	$38.95	0.078	0.
1073								
1074								

Hoja1 / Hoja2 / Hoja3

Ready

start DAWN GARISH - ... RE: Doing Business New Excel Sheet ... Microsoft PowerP... Microsoft Excel - ... 7:41 AM

Results of ISP Search Warrant

Law Enforcement Sensitive

Shack Corp - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://www.shackcorp.com/

From: Defendant
Sent: Wednesday, May 19, 2004 8:37 AM
To: Terrence Gordon
Subject: contract

" After a **quarter million dollars spent** a year and a half ago.. For Christmas, **Google** sent me a blanket, just to say 'thank you' to their valued clients and to 'help keep me warm over christmas' This was sent, hand addressed, to Australia..... "

" **Its not easy to get rich. My goal is towards the upper echelon of economic independence. All things considered, it should only take about 800 million. That's um, 3000 packs of valium sold a day for 5 years.** Well, that's actually about 821 mill, but I'm sure there'll be a few costs in there somewhere.... "

Kindest Regards,
Defendant
CEO
Shack Corp

Done Internet

Law Enforcement Sensitive

Search Warrant Results

ATLANTA (Sept. 2006)

- 8 Arrests
  - Federal Charges
  - CCE
- $21,000,000 seized

CHICAGO (Oct. 2006)

- 11 Arrests
  - Federal Charges
- $1,000,000 seized

Score –
S: 19 Arrests
$22,000,000 Seized

Law Enforcement Sensitive

FIELD INVESTIGATIONS

Intercepts

U.S. Department of Justice · Drug Enforcement Administration

Title –III on e-Mail Accounts

Telephones

Target Website:
Shackcorp.com

Web Host / Internet Service Provider

Results:

- ✓ Real-time actionable intelligence
- ✓ Phones: Identify who is behind the computer
- ✓ Coordinated Enforcement efforts

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Law Enforcement Sensitive

SPECIAL OPERATIONS DIVISION

CLICK 4 DRUGS

DRUG ENFORCEMENT ADMINISTRATION

Law Enforcement Sensitive

Law Enforcement Sensitive

Operation CLICK4DRUGS

Anchorage

New York

Florida

Puerto Rico

Law Enforcement Sensitive

Law Enforcement Sensitive

Operation CLICK4DRUGS

Global Pharmacy

Waterview Pharmacy

Africk Drugs

Antonio Quinones
Internet Facilitator
Arrested – 12/21/06

Susana Mendez
Owner of Global Pharmacy
and Waterview Pharmacy
Arrested – 12/21/06

Dr. Alfred Valdivieso-Rodriguez
Doctor who prescribed for the
Organization
Arrested – 1/29/07 and 3/20/07

Dr. Joaquin Tomas
Manager Africk Drugs
Arrested – 5/8/06

Law Enforcement Sensitive

Law Enforcement Sensitive

Operation CLICK4DRUGS

USA TODAY · THURSDAY, DECEMBER 28, 2006 · 3A

Nation

Feds say Internet drug ring shut down

4 accused of selling illegally prescribed meds

By Donna Leinwand
USA TODAY

Federal agents say they have shut down an Internet pharmacy operation and arrested four people who allegedly sold millions of dollars of illegally prescribed drugs to customers across the nation.

Drug Enforcement Administration agents are still seeking four doctors from Puerto Rico who allegedly wrote the prescriptions based on Internet health questionnaires, DEA spokeswoman Erin Mulvey said Wednesday. The agency also continues to investigate other websites that might be associated with drug operation, she said.

Antonio Quinones, 46, and three associates were arrested Dec. 21 in the Miami area and charged with drug dealing, money laundering and tax fraud, according to an indictment filed in U.S. District Court in New York.

Quinones, arrested at his Miami Beach penthouse, and his associates ran 10 websites, Mulvey said. Customers could answer a few questions about their health and then order such drugs as Vicodin and amphetamines, she said.

The doctors being sought by authorities reviewed the forms and ordered the prescriptions, Mulvey said. The sites, in operation for at least three years, did about $50,000 a day in business, she said. Such prescriptions violate laws that require a physician to meet with a patient to determine whether there is a legitimate medical need before prescribing a controlled drug.

A message left at Quinones' Miami Beach home was not returned. Agents seized $817,000 from him, along with a 54-foot boat, a Ferrari and two guns. Prosecutors are seeking $42.6 million they say was laundered through various bank accounts, the indictment says.

"They had customers all over the United States, millions of orders," Mulvey said.

The indictment alleges Quinones and his associates operated businesses under several names, including The Doctor's Online, Inc., Health Rx Marketing and Brothers Pharmacy, Inc. Agents earlier closed two pharmacies in Georgia and one in Maryland that allegedly supplied the ring, Mulvey said.

Customers could answer a few questions about their health and then order such drugs as Vicodin and amphetamines.

Operation for at least three years, did about $50,000.00 a day in business.

sold millions of dollars of illegally prescribed drugs to customers across the nation.

Law Enforcement Sensitive

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Operation CLICK4DRUGS

Solid proof nails 'druglord' IT CEO

Narcotics Control Bureau says it has 'clinching evidence' against the chief of Kolkata-based firm, Xponse Technologies Limited

Newspaper article in India

- Arrest of Sanjay Kedia by India Narcotics Control Bureau – joint investigation with DEA San Francisco
- Kedia owner of TruValue Pharmacy and XPONSE INC.
- Internet Facilitator and partner of Steve Mahana

Law Enforcement Sensitive

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Operation CLICK4DRUGS

Arrests	39
Seizures	
Vessels	2
Vehicles	15
Other Drugs (DU)	2,206,313
US Currency	$18,413,490
Other Assets	$7,840,056

Law Enforcement Sensitive

Law Enforcement Sensitive
OPERATION RAW DEAL
OFFICE OF CRIMINAL INVESTIGATIONS
U.S. JUSTICE DEPARTMENT
DRUG ENFORCEMENT ADMINISTRATION
DEPARTMENT OF THE TREASURY
SPECIAL AGENT
UNITED STATES POSTAL INSPECTION SERVICE
NATIONAL DRUG INTELLIGENCE CENTER
ICE
SPECIAL AGENT
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Law Enforcement Sensitive
International Partners
THAILAND
CANADA
GERMANY
BELGIUM
DENMARK
SWEDEN
MEXICO
CHINA
AUSTRALIA

Law Enforcement Sensitive

Operation RAW DEAL

Targeted Chinese Manufacturer

Underground Steroid Lab

Conversion Kit Website

Steroid Discussion Board

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ETHANDROSTENOLONE
(DIANABOL) 25MG/CAPSULE
100 CAPSULES
FOR ORAL USE ONLY
20 ML

Law Enforcement Sensitive

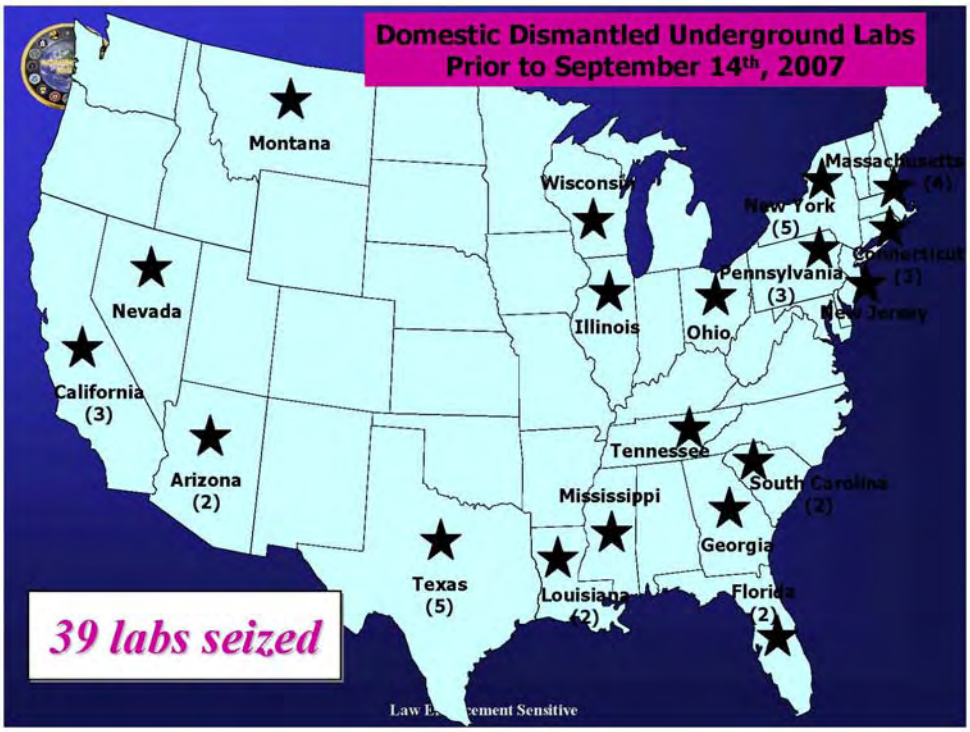
Operation RAW DEAL

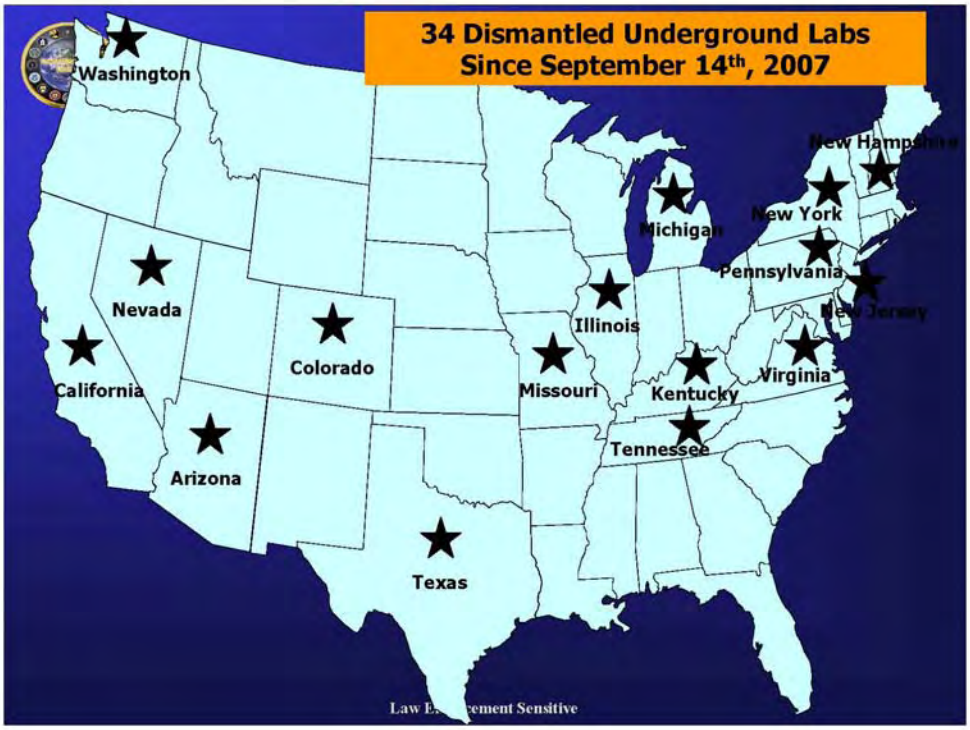
Law Enforcement Sensitive

Law Enforcement Sensitive

Operation RAW DEAL

Law Enforcement Sensitive


Domestic Dismantled Underground Labs
Prior to September 14th, 2007
Montana
Wisconsin
Massachusetts
(4)
New York
(5)
Connecticut
(3)
Pennsylvania
(3)
New Jersey
Nevada
Illinois
Ohio
California
(3)
Tennessee
Arizona
(2)
South Carolina
(2)
Mississippi
Georgia
Texas
(5)
Louisiana
(2)
Florida
(2)
39 labs seized
Law E... cement Sensitive


34 Dismantled Underground Labs
Since September 14th, 2007
Washington
New Hampshire
New York
Michigan
Pennsylvania
Nevada
Illinois
New Jersey
Colorado
Missouri
Kentucky
Virginia
California
Tennessee
Arizona
Texas
Law E... cement Sensitive

Law Enforcement Sensitive

Operation RAW DEAL

Arrests	124
Search Warrants	143
Seizures	
Steroids	11.4 million dosage units
Other Drugs (DU)	151,707
US Currency	$6.5 million
Ketamine	30 kilograms
Underground Labs	56
Pill Presses	27
Weapons	71

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Technology and Challenges

(Targets using Encrypted Communications)

Setup hushmail accounts-located outside of USA and cannot be subpoenaed.

No longer sending to USA mail servers that can be subpoenaed and compromised.

Important to encrypt email transmission. US Federal Government has taps at all maior internet backbones.

We will use Skype which is Encrypted IM chat and non-USA

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LEGISLATION

On-line Pharmacy Consumer Protection Act of 2004

(Pending at DOJ/OLP)

- Website registration / records
- Schedule III - V sentencing enhancements

  III- 5 to 10 yrs IV 3-5 yrs V 1-3 yrs
- One 'in-person' medical evaluation
- Website – post registrant information
- Seize / Forfeit Websites
- Standardize retention and delivery of Internet based subscriber records

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TRAINING / EDUCATION

Law Enforcement

- Special Operations Division Internet School
- DOJ / DEA Pharmaceutical Investigation Training
- Advanced National Advocacy Center Training
- Brief On-Line Pharmacy Trafficking Strategy

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DEMAND REDUCTION

INDUSTRY

- Internet ADS, PopUps - Google, Yahoo, AOL, ISP
- Financial - PayPal, WorldPay, Visa
- Transportation- UPS, Airborne, Fed-Ex
- Pharmaceutical / Registrants
- Square Trade - Yahoo and Google subscribes
- Industry Meetings, Screen Customers, Provide Leads

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DEMAND REDUCTION

PUBLIC

- Develop DEA Teen / Parent Website – 2005

  www.dea.gov and www.justthinktwice.com
- Public Service Announcements
- Media Interviews
- DEA Websites, 1-877-RxAbuse

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DEMAND REDUCTION

Nationwide / International

- Coordinated Enforcement Efforts
- Maximize impact
- Top to Bottom Strategy-Arrests/Seizures
- Seize Websites- DEA Banners
- Chat Room Buzz

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Multi-District Investigations

Rules to Live (or Die) by

- **DO** Forward Information/Leads to Other Districts as Soon as Possible
- **DON'T** Bring Down Your Investigation Prematurely

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Multi-District Investigations
Rules to Live (or Die) by

- DO Share Confidential Sources
- DON'T Burn Another District's Confidential Source

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Multi-District Investigations
Rules to Live (or Die) by

- DO Be Flexible in Scheduling Your Takedown
- DON'T Enter Into Pleas Without Considering Affects on Other Districts

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Multi-District Investigations
Rules to Live (or Die) by

- **DO** Continue Cooperation After Takedown
- **DON'T** Allow Decisions to be Influenced by Desires for Stats or Publicity

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U.S. Department of Justice · Drug Enforcement Administration

Special Operations Division

Steven S. Woodland
Section Chief – Special Operation Division
U.S. Drug Enforcement Administration

Steve.S.Woodland@usdoj.gov

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Transnational Crime and Corruption Center (TraCCC) – Caucasus Office

www.traccc.cdn.ge

Organized Crime, Unresolved Conflicts and Nuclear Smuggling

(The Case of Georgia)

Professional criminal bosses are called “thieves-in-law” in Georgia and other former Soviet republics

The institute of “thieves-in-law” was created in 1920-30s to control prisons and political prisoners

Since 2003 Georgian OC groups have been arrested in several Western European countries:

Austrla:

- In June 2005 the Austrian police arrested 41 Georgian citizens for alleged theft charges. In February 2006 police has detained two Georgian citizens suspected of robbery and living in Austria with refugee status. In June 2006 six members of Georgian OC group stole two violins (a Stradivari one worth 2.500.000 euros, and the second one worth 120.000 euros), jewelry, and electronics.

Belglum

- In May 2005 police detained Georgian OC group which was involved in smuggling of stolen cars, drugs, human trafficking, and racketeering - leader Paata Bakradze, Georgian “thief in law”.

Germany

- In the beginning of 2007 in Hanouver (Germany) Georgian OC group stole 15 carat blue diamond – leader Giorgi Kartvelishvili.

Spain

In June 2005 police undertook a "Wasp" operation which was one of the largest in Europe for the past years. It involved 400 policemen who engaged in armored troop-carriers and helicopters. Tariel Oniani, known as Georgian "thief in law", is suspected of organizing a criminal group, money laundering and transferring illegal immigrants from Georgia

Another "thief in law" Zakhar Kalashov was detained in Dubai in May 2006 and extradited to Spain. He was suspected of money laundering for "Russian Mafia".

Abkhazia

Smuggling Routes in Georgia

Sanctions against the secessionist government of Abkhazia:

On 19 January, 1996 a decision taken by the Council of the Heads of States of the Commonwealth of Independent States **on Measures for Settlement of the Conflict in Abkhazia, Georgia**, declared, that member-states of the CIS, without consent of the government of Georgia:

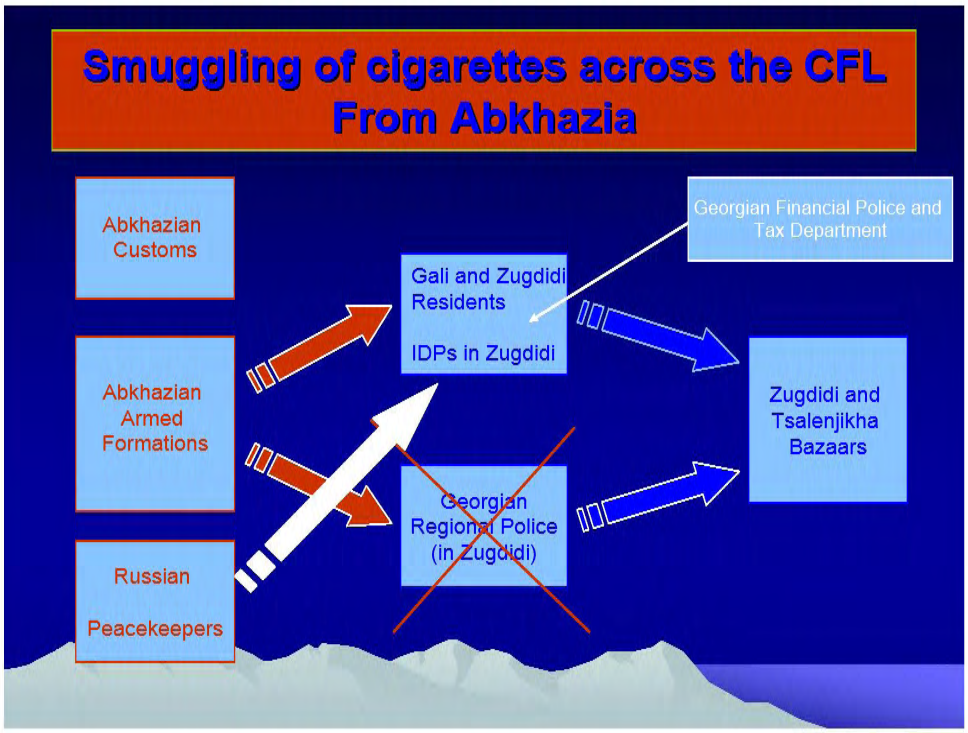
- *will not exercise trade-economic, financial, transport or other operations with the authorities of the Abkhaz side;*
- *will not permit the functioning of representations of the authorities of neither the Abkhaz side in their territories, nor the persons in a capacity of official representative of those authorities.*

According to this, all import export operations, which are not agreed upon by the Georgian government or did not get its approval, are illegal and contraband trade.

Who violates sanctions?

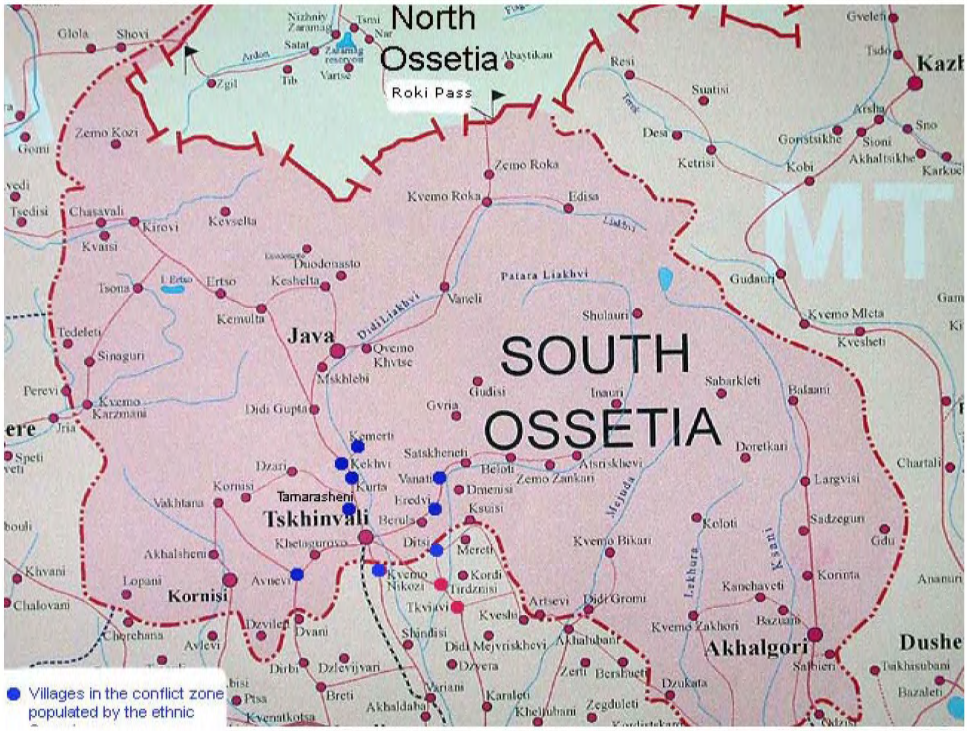
- Russian government and private companies;
- Turkish and other foreign private companies;
- Socially vulnerable part of Georgian population, IDPs.
- Before 2004 Georgian guerillas and law enforcement bodies
- Abkhaz de facto law enforcement and border guard
- Russian peacekeepers

- Но здесь проблем не будет.
- У меня здесь такса, -100 (сто)...
- Долларов?
- Нет лари. Проблем не будет.

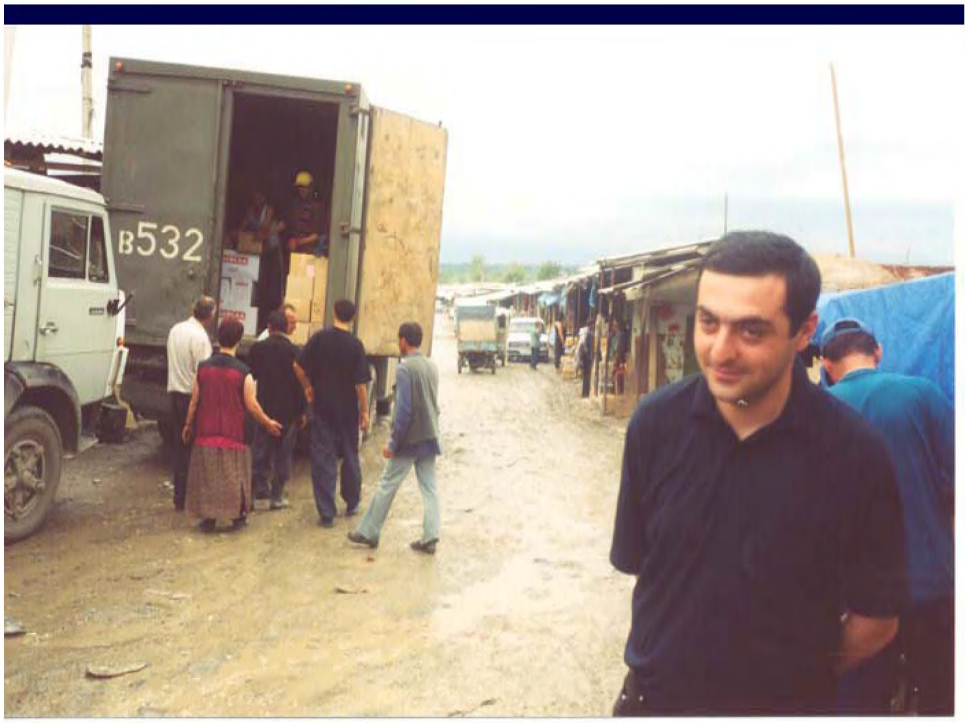

Smuggling of cigarettes across the CFL From Abkhazia
Abkhazian Customs
Abkhazian Armed Formations
Russian Peacekeepers
Gali and Zugdidi Residents
IDPs in Zugdidi
Georgian Financial Police and Tax Department
Georgian Regional Police (in Zugdidi)
Zugdidi and Tsalenjikha Bazaars

South Ossetia / The Region of Tskhinvali
Contraband Market in Ergneti

Smuggling Routes in Georgia
Psou Route
Russian Federation
Abkhazia
Sukhumi
Roki Tunnel
Gali
Zugdidi
Black Sea
South Ossetia
Pankisi
Kazbegi
Tskhinvali
Kutaisi
Poti
Akhmeta
Tbilisi
Lagodekhi
Batumi
Ajara
Sarpi
Akhaltsikhe
Akhalkalaki
Red Bridge
Sadakhlo
Turkey
Armenia
Azerbaijan


North Ossetia
Roki Pass
SOUTH OSSETIA
Java
Tskhinvali
Kornisi
Tamarasheni
Akhalgori
Villages in the conflict zone populated by the ethnic

БЕНЗИН
-АИ-95-80-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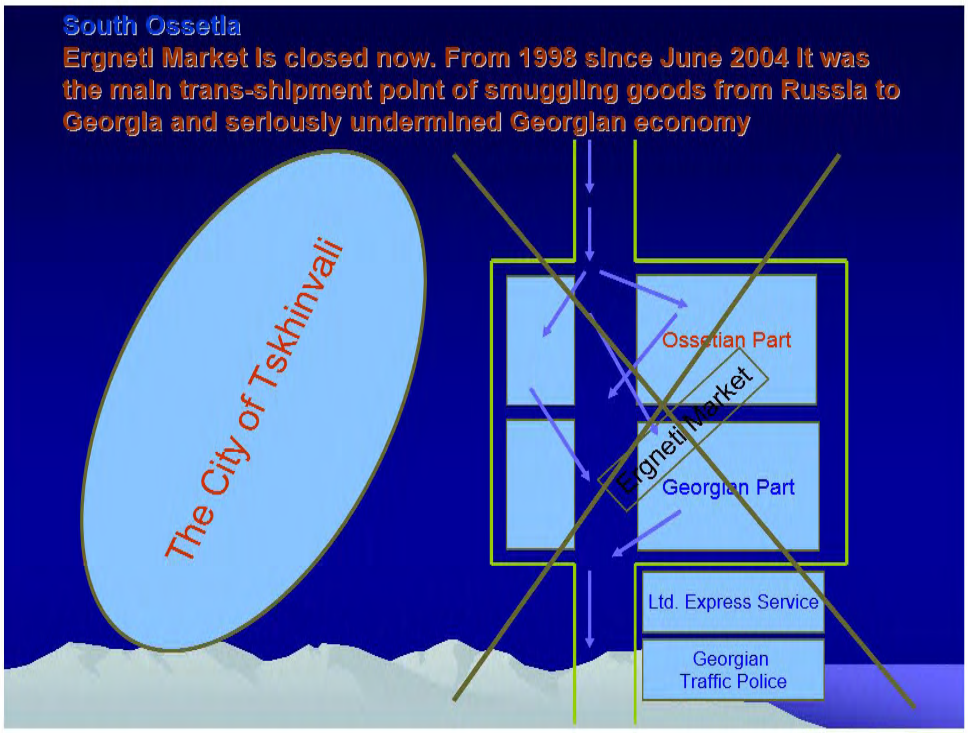
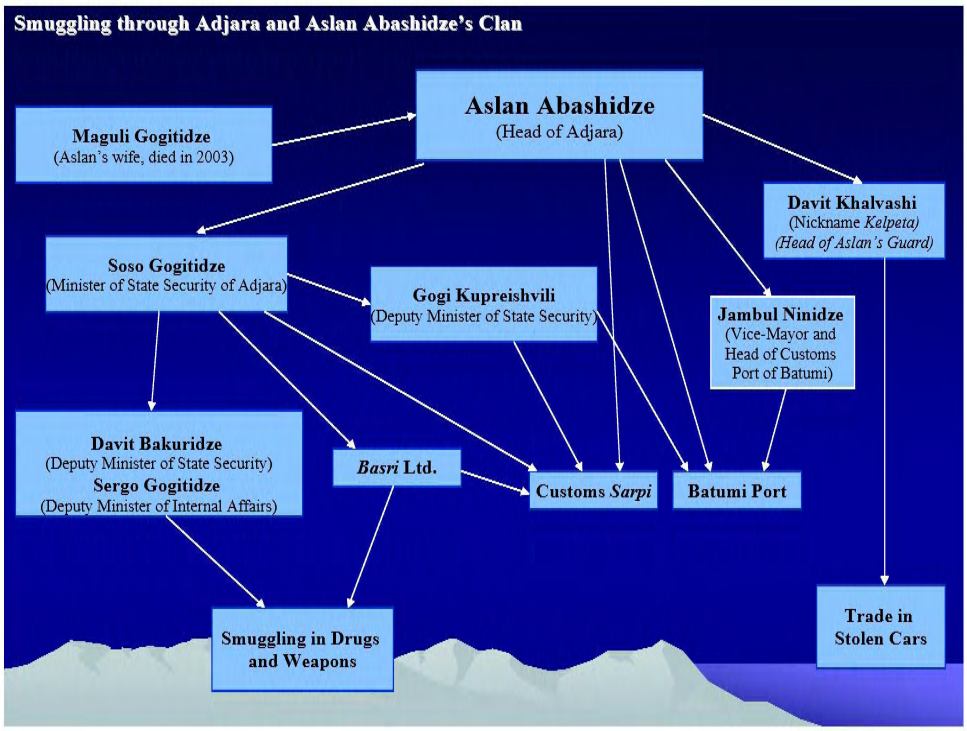


Typical Crime in Abkhazia & South Ossetia in 2007

- Terrosit acts, hostage taking, kidnapping;
- Organized crime groups;
- Participation of law enforcement in criminal actions;
- Participation of Russian peacekeepers in smuggling and violence;
- Participation of IDPs in smuggling;
- Illegal crossing of Georgian state border (Russian tourists, government officials, servicemen, and mercenary.)
- Illegal privatization of immovable property of Georgian refugees and IDPs to Russian citizens and private companies;
- Illegal bank operations by Russian banks;
- Illegal maritime communication with Abkhazia;
- Smuggling of weapons from Russia to separatist regimes in Abkhazia and South Ossetia

Adjara Autonomous Republic

Smuggling Routes in Georgia



Typical transnational crime in Ajara in 2007

Drugs:

Smuggling in *Subutex* from Western Europe, and *heroin* from Turkey. Transit in heroin from Central Asia to Turkey, Ukraine, and countries of Western Europe

Radioactive Materials:

Smuggling in weapons grade nuclear materials from Russia via Georgia and presence of abandoned radioactive materials in Georgia

Human trafficking:

Transportation of women to Turkey, Bulgaria and Schengen countries through border check point "Sarpi"

Pankisi Gorge

Pankisi Gorge in 1999-2005

- During the second military campaign in Chechnya in 1999-2000s Russian troops intentionally pushed out Chechens on the territory of Georgia in Pankisi gorge in order to justify Russian military intervention in to Georgia;

- Next step was Russia's request from the Georgian government to permit Russian troops fight Chechen terrorists in Pankisi gorge; Answer – No!;

- Russia's pressure & accusations: Georgia terrorist state and heaven for Chechen and international terrorists.

- December 1999 – OSCE monitoring on the Chechen part of Georgian-Russian border;

- April 2002. Georgia Train and Equip Program (GTEP). $64 millions spent. 2500 Georgian counter-terrorist troops trained;

- Russia continues pressure and accusations. On September 11, 2002 President Putin sent a letter to the UN Security Council, the UN Secretary General and the OSCE, informing the world of possible military operations on Georgian territory and confirming orders to the Russian military to start necessary preparations for the attack;

- Under the pretext of cleaning up the Pankisi Gorge of alleged Chechen fighters and of preventing Russian military involvement on its territory, the Georgian government moved troops to the Pankisi Gorge;

- While continuing accusations, Russia put veto and stopped OSCE monitoring of the Chechen part of Georgian-Russian border;

Typical crime in Pankisi gorge in 1999-2003

- **Kidnapping**

- **Smuggling in drugs (heroin, marijuana)**

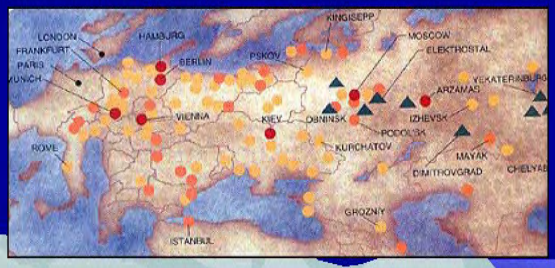
Nuclear Smuggling

Huge scale of this nuclear black market is a reality today. Reported cases of smuggling in radiological and nuclear materials cover the whole territory from Western Europe to the Pacific Ocean.

Experts indicate a significant shift in the locus of smuggling activity, from Europe to the Caucasus and Central Asia

This trend is worrisome because of proximity to regional trouble spots in the Middle East and South Asia.

Therefore, possible links of nuclear smuggling to contraband networks in these regions need to be explored further.



Since 1997 Georgia cooperates with IAEA on finding and neutralizing abandoned radioactive materials, training of personnel, and equipping border and customs check points.

Georgia signed and ratified Treaty on the Non-Proliferation of Nuclear Weapons and adopted Law on Nuclear and Radiation Security in 1998.

According to the Law, transit of radioactive waste through Georgia is prohibited.

A probability of smuggling in radiological and nuclear materials from or through Georgia is high

The next factors promote it:

- Presence of abandoned radioactive materials;
- Weak security of registered radioactive materials;
- Quality of state border security;
- Level of education among the population;
- Level of poverty in the country;
- Presence of uncontrolled separatists regions.

Radioactive sources in Georgia

There have been discovered up to 300 abandoned radioactive sources in Georgia after the Soviet collapse

Mostly they are materials which have been abandoned by:

1. Soviet and Russian troops which left Georgia's territory;

2. Georgian former soviet organizations during industrial construction.

There are also up to 1,500 registered sources in different research and medical organizations which due to poor security and safety conditions are dangerous or may be stolen.

Irradiation of cadets in Lilo

Place of location of abandoned radioactive sources on military base in Lilo.

Cesium 137 which was discovered in Lilo

The Tsalenjikha incident

Irradiated back of a farmer

Abandoned thermo-generator near the village of Khaishi , source - Strontium 90 with high radioactive emanation

THE SOURCE

STRONTIUM-90
Amount of radioactivity?
Similar to Chernobyl release!!

Four attempts of smuggling in HEU registered since 2000 in Georgia:

- Batumi case on April 19, 2000 – seizure of 0,9 kg of HEU fuel pellets (30% U-235 enrichment). One of persons was ethnic Ossetian from Tskhinvali and he was involved in private business. He was very influential in Tskhinvali region.
- Batumi case on July 24, 2001 – arrested four Georgian citizens for attempting to smuggle about two kilograms of uranium 235 to Turkey. The seized material was used as fuel in atomic reactors. One of the four suspects was the captain of a ship, presumably the vessel on which the smugglers hoped to transport the uranium to Turkey.
- Tbilisi case on 16 September 2000 - uranium and plutonium have been seized from three suspects who had 5g of uranium 235 and four containers with three grams of plutonium. Two Georgian and one Armenian citizen planned to sell the uranium for $100,000 and the plutonium for $750,000.
- Sadakhlo case on June 26, 2003 – illegal transportation of 170 grams of weapons grade HEU across the border. The man, Armenian citizen Sergo Mikoyan, said he got the material in Vladikavkaz, Russia.
- Kazbegi case in January, 2006 - Russian citizen attempting to smuggle into Georgia 100 grams weapons grade 90% enrichment U 235, for $1m (£500,000).

Oleg Khintsagov's Case

January, 2006

Oleg Khintsagov, Russian citizen, was arrested in Tbilisi for smuggling 100 grams of HEU into Georgia via the Kazbegi checkpoint

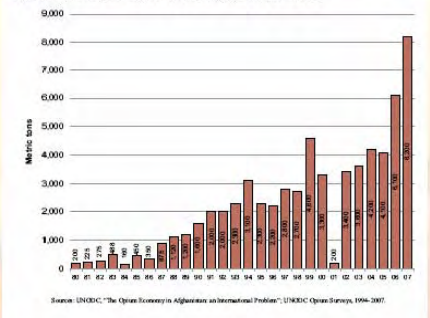
- All ways of nuclear smuggling via Georgia go in a direction from North to the South, from Russia via Georgia to Turkey.
- Only in one case nuclear materials have been imported from Armenia to Georgia, but even in this case it was designated to Turkey.
- In most cases nuclear smugglers have had been detained in Batumi, very close to Georgian-Turkish border.
- In one case nuclear material was designated from Russia via Georgia to Armenia (Sadakhlo case in 2003).
- In two cases (December 2001 and June 2003) Armenian citizens have been involved in smuggling, while in other cases – Georgian and Russian citizens.
- Most cases of detainments are based on operative information and not on alarm systems of nuclear detectors.
- There are five ways of illegal transit of nuclear materials via Georgia which smugglers already used according to reported information and among them North Ossetia and uncontrolled territory of Tskhinvali region / South Ossetia need special attention.

Economics of the Opiate Trade

Richard Lowe

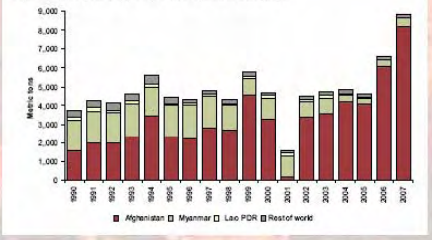
Price & Production

Figure 34: Potential opium production in Afghanistan (metric tons), 1980 – 2007

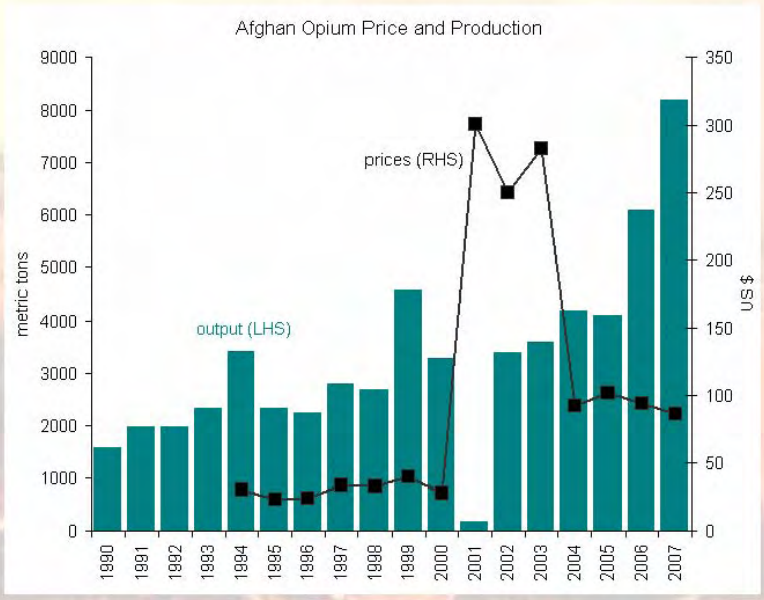


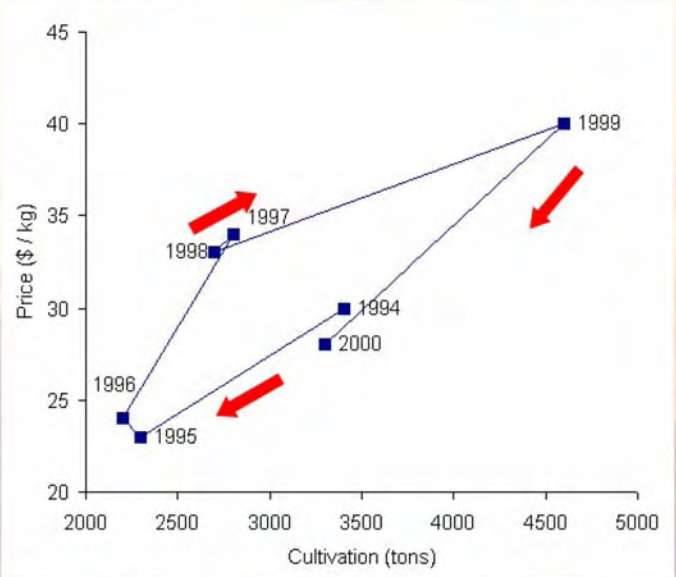
Source: UNODC, "The Opium Economy in Afghanistan: an International Problem", UNODC Opium Surveys, 1994-2007.

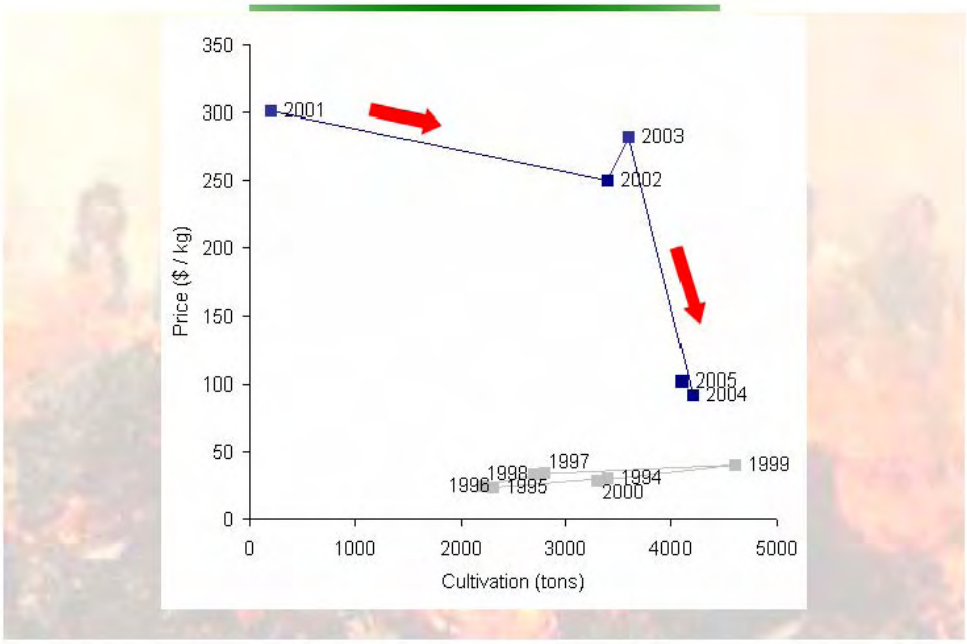
Figure 35: Global potential opium production (metric tons), 1990 – 2007



Price & Production






350
300
250
200
150
100
50
0
Price ($ / kg)
2001
2003
2002
2005
2004
1997
1998
1999
1996
1995
1994
2000
0
1000
2000
3000
4000
5000
Cultivation (tons)

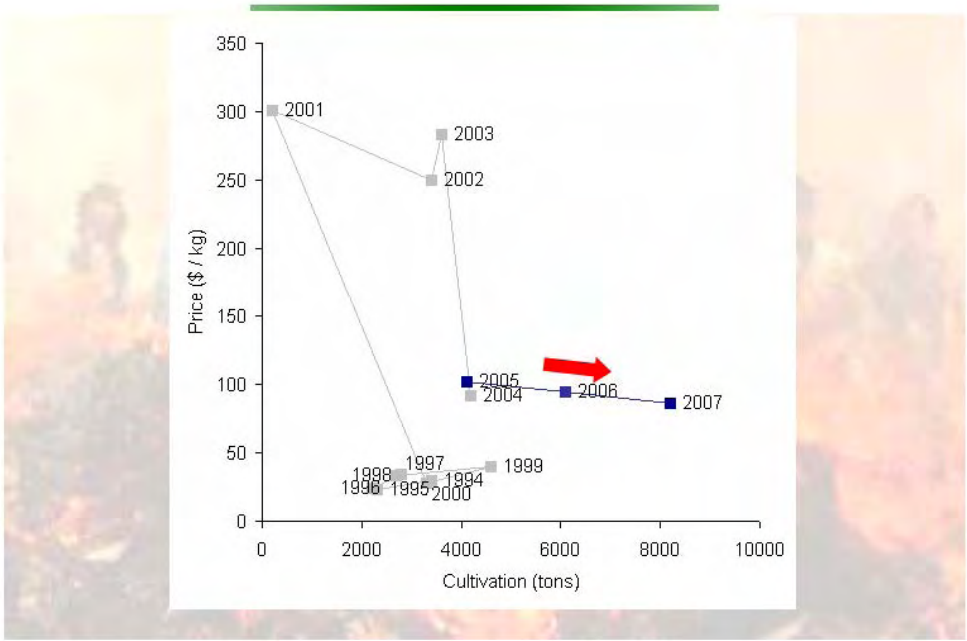
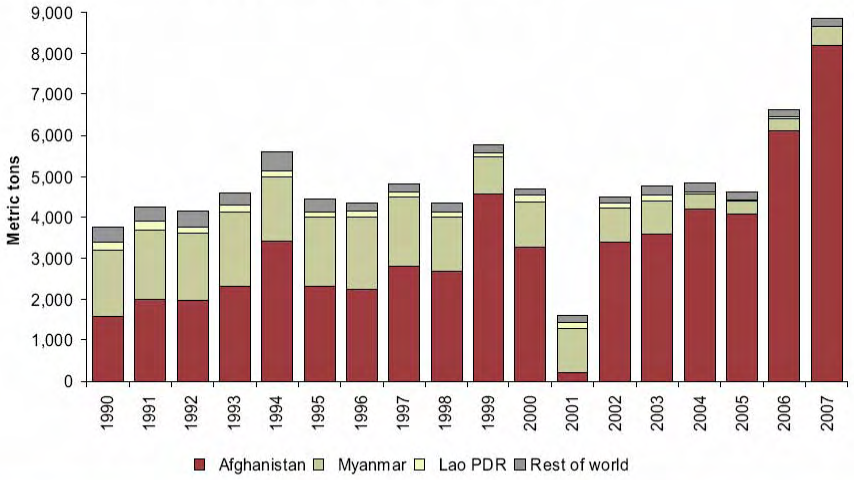

350
300
250
200
150
100
50
0
Price ($ / kg)
2001
2003
2002
2005
2004
2006
2007
1997
1998
1999
1996
1995
1994
2000
0
2000
4000
6000
8000
10000
Cultivation (tons)

Figure 4: Global potential opium production (metric tons), 1990-2007



Farmers

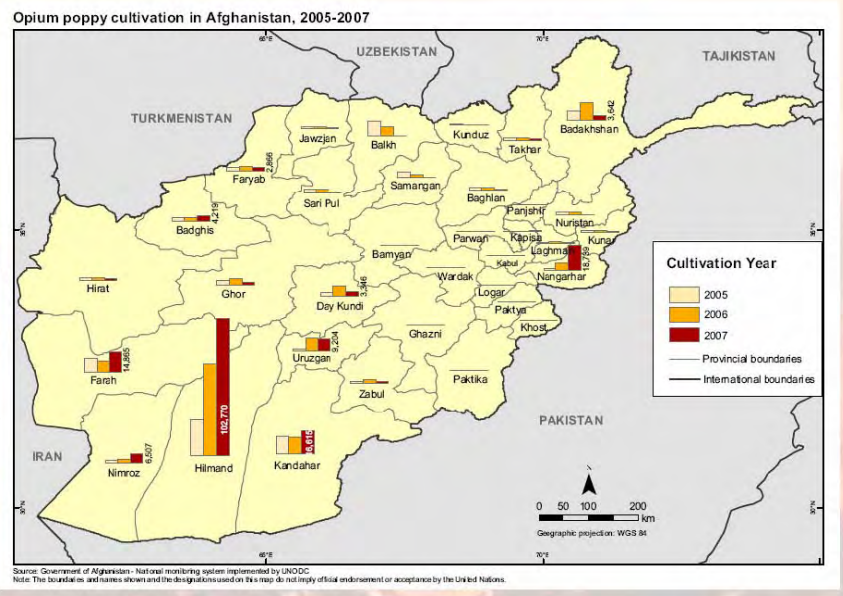
Increased opium income for Hilmand farmers

In 2007, the total opium income for farmers in Hilmand province amounted to US$ 528 million, which is more than half of total farmers opium-related income in Afghanistan in 2007. The Opium Winter Assessment Survey 2007 indicated that more than 80% of farming families in this province were involved in opium poppy cultivation, far more than in other provinces. According to the 2007 survey results, more than 35% of a farmer's annual cash income in Hilmand came from opium. These figures indicate the strong and growing dependence of the province's economy on opium.

Price & costs

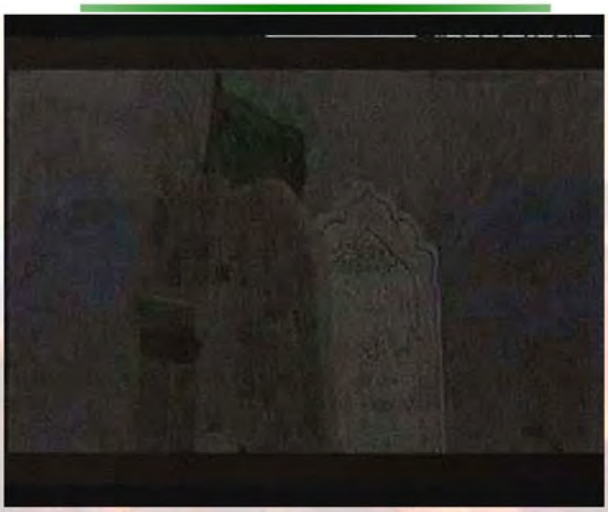
	2005	2006	2007
Sample of Land Cultivated	225 ha	225 ha	**225 ha**
Opium produced	8727.5 kg	8167.5 kg	**9225 kg**
Wet opium price	$120 per kg	$99 per kg	**$77 per kg**
Wet opium total (if sold)	**$1,047,300**	**$808,583**	**$710,325**
Number of man days to harvest	24,192	24,192	**24,192**
Cost of labour if all paid at prevailing rate	$145,152	$186,278	**$435,456**
Basic net profit	**$902,148**	**$622,305**	**$274,869**

Future cultivation



Afghan supply chain

Opium poppy lancers in Hilmand province



Questions?

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http://www.econ.jku.at/Schneider

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UNIVERSITY LINZ
Department of Economics
economics
Volkswirtschaftslehre

Money Laundering: Some Preliminary Empirical Findings

1. Introduction
2. Illegal (criminal) financial transactions
3. Necessity of Money Laundering Activities
4. Quantification/Estimation of the Volume of Money Laundering
5. Measures against Money Laundering
6. Summary and Conclusions

1. Introduction

(1) The term „Money Laundering" originates from the US describing the Mafia's attempt to "launder" illegal money via cash-intensive washing salons in the 30s, which where controlled by criminal organizations.

(2) The IMF estimates, that 2-5% of the world gross domestic product (GDP) stems from illicit (criminal) sources.

(3) The goal of this lecture is to undertake a first attempt, to shed some light about the size and development of money laundering and its techniques.

2. Illegal (criminal) financial transactions

(1) Apart from the "official" economy there exists an "Underground Economy", which characterizes an illegal economy including all sorts of criminal activities, which are in conflict with the legal system, e.g. organized crime or drug dealing.

(2) Opposite to these classical criminal activities, shadow economy activities mean the production of (in principle) legal goods and services with an value added for the official economy and where the illegality comes from avoiding taxes and social security payments and violating labour market regulations.

(3) Shadow economy and underground (criminal) economy are quite different activities, which can not be summed up to one underground economy because the latter usually produces no positive value added for an economy.

Table 2.2: Quantification of Money Laundering Volume – Part 1

Origin/Study	Year	Volume (worldwide)
Worldwide turnover of Organised Crime: Range: 500 billion USD – 2.1 trillion USD		
National Criminal Intelligence Service (NCIS; Washington D.C.; USA)	1998	1.3 trillion USD
	2001	1.9 trillion USD
	2003	2.1 trillion USD
UN-Estimates (New York; USA)	1994/98	700 billion to 1 trillion USD
International Monetary Fund and Interpol (Washington D.C; USA)	1996	500 billion USD
Friedrich Schneider (University of Linz)	2001	800 billion USD
	2002	960 billion USD
	2003	1.2 trillion USD
	2004	1.4 trillion USD
	2005	1.5 trillion USD
	2006	1.7 trillion USD

Source: own calculations and reference list.

Table 2.2: Quantification of Money Laundering Volume – Part 2

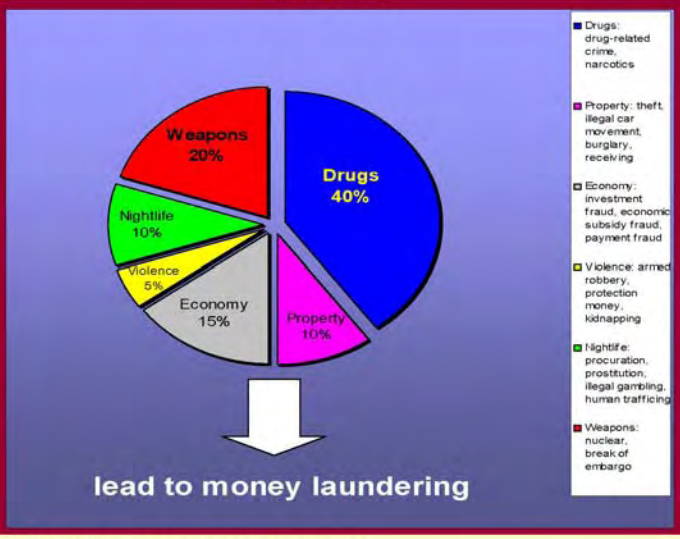
Worldwide money laundering turnover, as measured by drug total revenue: 400 billion – 2.85 trillion USD		
The Economist (London)	1997	400 billion USD
	2001	600 billion USD
Friedrich Schneider (University of Linz)	2001	700 billion USD
	2002	750 billion USD
	2003	810 billion USD
	2004	850 billion USD
	2005	870 billion USD
	2006	910 billion USD
Kerry	1997	420 billion -1 trillion USD
Michael Schuster	1994	500-800 billion USD
Walker	1998	2.85 trillion USD

→ *Estimates are afflicted with great uncertainties.*
→ *Problems due to an ambiguous classification and a small databases regarding direct methods.*
→ *Dubiously potentiated estimates concerning indirect methods.*

Figure 2.1: Organized Crime and their main areas in Central Europe

Source: Siska, 1999, p. 13 and own calculations.

Figure 2.2: Organized Crime – Main Fields (Central Europe, av. 2000-2003)



Source: Siska, 1999, p. 13 and own calculations.

3. Necessity of Money Laundering Activities

(1) According to some estimations, the total turnover of organized crime actually reaches figures between 1,200 billion and 2,1 trillion USD in 2003 and the worldwide volume of money laundering "from drug business" obtains 810 billion in 2003.

(2) Money laundering is necessary, because 2/3 of all illegal transactions are done by cash, as cash leaves no traces on information carriers like documents or bank sheets.

4. Quantification/Estimation of the Volume of Money Laundering
4.1. General Remarks

(1) Apart from a first major difficulty of diverging definitions of the term „money laundering“ on the national and the international level a second one arises, as particularly the transaction-intensive layering stage can lead exceedingly to potential double and multiple counting problems.

(2) Furthermore many estimates (or guestimates) quite often are made for specific areas (e.g. drug profits) or are based on figures that are wrongly quoted or misinterpreted or just invented without a scientific base!

4. Quantification/Estimation of the Volume of Money Laundering
4.1. General Remarks (cont.)

(3) We make a distinction between direct and indirect methods:

- *Direct methods* focus on recorded (“seized”/confiscated) illegal payments from the public authorities. However, to get an overall/total figure one has to estimate the much bigger (undetected/“Dunkelziffer”) volume. Methods, which are used are the discrepancy analysis of international balance of payment accounts, or of changes in cash stocks of national banks.
- *Indirect methods* try to identify money laundering activities with the help of causes and indicators. First, the various causes (e.g. the various criminal activities) and indicators (confiscated money, prosecuted persons) are identified, and second an econometric estimation is undertaken.

4. Quantification/Estimation of the Volume of Money Laundering

4.2. Econometric and DYMIMIC Procedures

(1) In the DYMIMIC estimation procedure money laundering is treated as a latent (i.e. unobservable) variable. This estimation procedure uses various causes for money laundering (i.e. various criminal activities) and indicators (confiscated money, prosecuted, persons, etc.) to get an estimation of the latent variable.

(2) One big difficulty of this method is, that one gets only relative estimated values of the size of money laundering and one has to use other estimations in order to transform/calibrate the relative values from the DYMIMIC estimation into absolute ones.

4. Quantification/Estimation of the Volume of Money Laundering

4.2. Econometric and DYMIMIC Procedures – Cont.

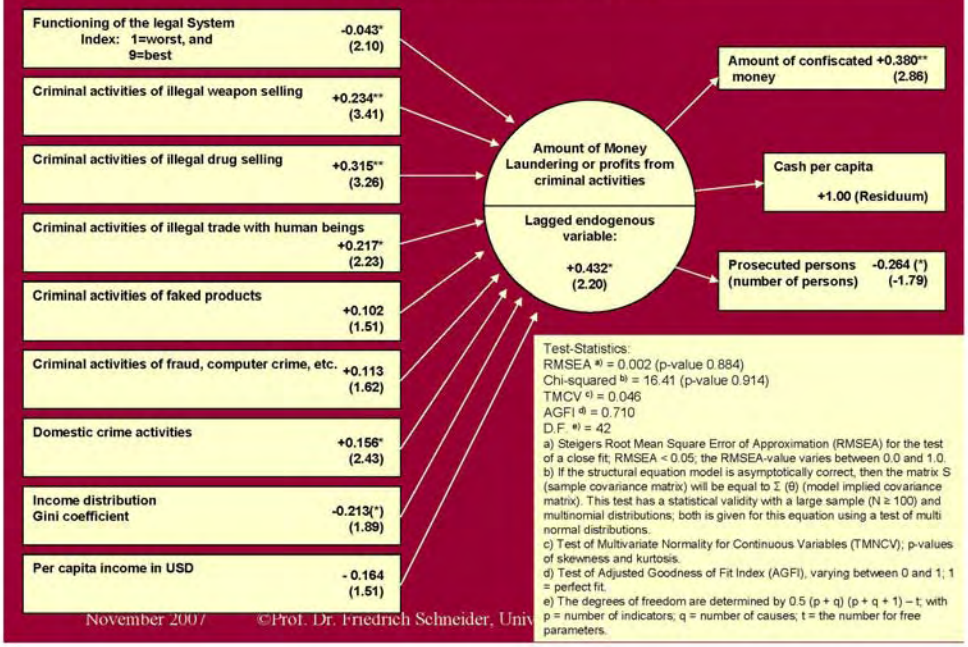
(1) A DYMIMIC estimation of the amount of money laundering or profits from criminal activities for 20 OECD countries over the years 1994/95, 1997/98, 2000/2001, 2002/2003 and 2003/2004 is done.

(2) Theoretically we expect that the more illegal (criminal) activities (e.g. dealing with drugs, illegal weapon selling, increase in domestic crimes, etc.) occur, the more money laundering activities will take place, ceteris paribus.

(3) The more inequal the income distribution and the lower official GDP per capita is, the higher money laundering activities will be, ceteris paribus.

(4) The better the legal system is functioning the less money will be laundered, ceteris paribus.

Figure 4.1: DYMIMIC estimation of the amount of money laundering for 20 highly developed OECD countries, 1994/95, 1997/98, 2000/2001 and 2002/2003



Test-Statistics:
RMSEA [a] = 0.002 (p-value 0.884)
Chi-squared [b] = 16.41 (p-value 0.914)
TMCV [c] = 0.046
AGFI [d] = 0.710
D.F. [e] = 42

a) Steigers Root Mean Square Error of Approximation (RMSEA) for the test of a close fit; RMSEA < 0.05; the RMSEA-value varies between 0.0 and 1.0.
b) If the structural equation model is asymptotically correct, then the matrix S (sample covariance matrix) will be equal to Σ (θ) (model implied covariance matrix). This test has a statistical validity with a large sample (N ≥ 100) and multinomial distributions; both is given for this equation using a test of multi normal distributions.
c) Test of Multivariate Normality for Continuous Variables (TMNCV); p-values of skewness and kurtosis.
d) Test of Adjusted Goodness of Fit Index (AGFI), varying between 0 and 1; 1 = perfect fit.
e) The degrees of freedom are determined by 0.5 (p + q) (p + q + 1) – t; with p = number of indicators; q = number of causes; t = the number for free parameters.

Table 4.1: DYMIMIC Calculations of the Volume of Money Laundering

Year	Volume of money laundering (billion USD for 20 OECD countries)	20 OECD countries
1995	503	Australia, Austria, Belgium, Canada, Denmark, Germany, Finland, France, Greece, Great Britain, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Switzerland, Spain and USA.
1996	554	
1997	602	
1998	661	
1999	702	
2000	761	
2001	804	
2002	849	
2003	905	
2004	969	
2005	1,027	
2006	1,106	

Source: Own calculations.

Figure 4.2: DYMIMIC Calculations of the Volume of Money Laundering

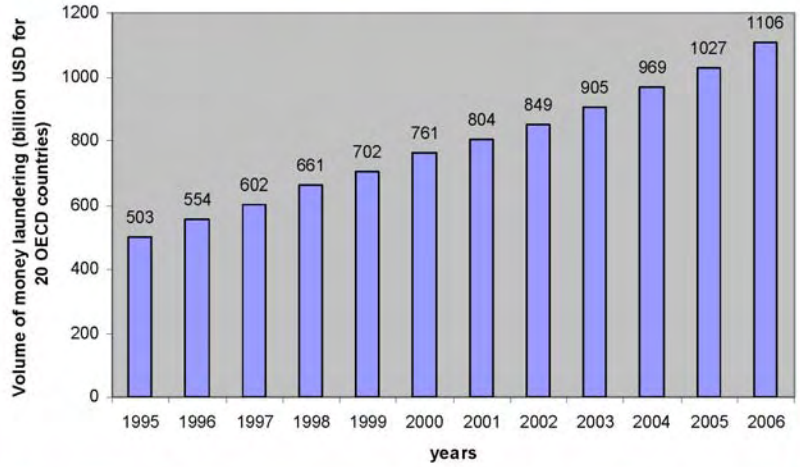
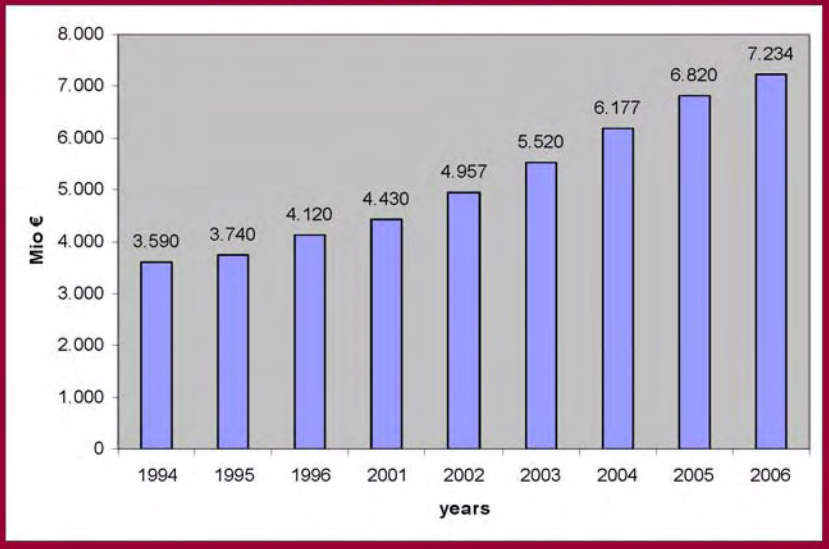


Table 4.3: Fight against money laundering in Austria and Germany

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

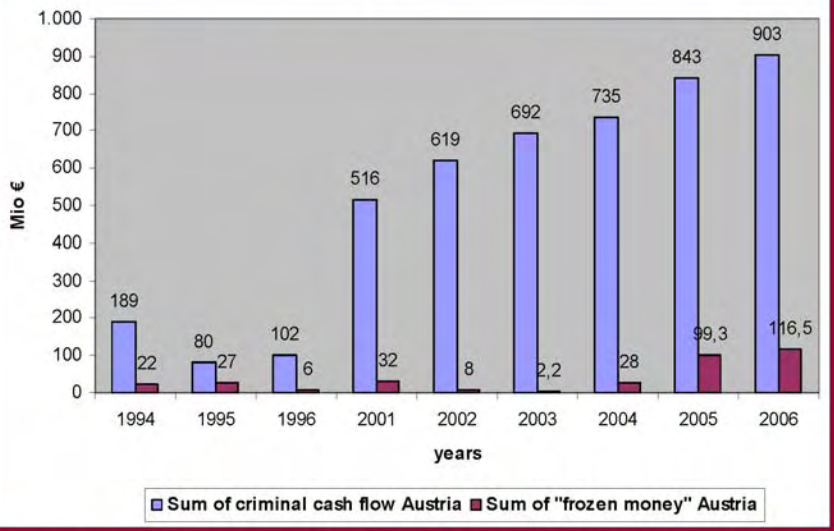
Source: Own calculations (indirect analysis on basis of estimates on shadow economy and class. criminal activities); and Siska, Josef, 1999; BMI, 2003 and 2005; FIU 2005 und 2006.

Figure 4.3: Fight against money laundering in Austria and Germany - Sum of criminal cash flow Germany



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

Figure 4.4: Fight against money laundering in Austria and Germany - Sum of criminal cash flow Austria and Sum of "frozen money" Austria



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

4. National estimations of the financial size of organized crime and money laundry

Table 4.3: Shadow economy and underground economy in Germany from 1996 to 2006

Year	Germany			
	Shadow economy		Underground economy (typical criminal activity)	
	in % of official GDP	in billion €	in % of official GDP	in billion €
1996	14.50	263	10.4	189
1997	15.00	280	11.6	217
1998	14.80	286	12.8	248
1999	15.51	308	14.1	280
2000	16.03	329	16.3	334
2001	16.00	336	16.9	355
2002	16.59	350	17.4	371
2003	17.40	370	18,0	399
2004	16,40	356	18,8	410
2005	15,40	346	19,5	425
2006	15,00	345	20,1	438

4. National estimations of the financial size of organized crime and money laundry

Table 4.4: Shadow economy and underground economy in Italy, France and Great Britain from 1996 to 2006

Year	Italy		Great Britain		France	
	Shadow economy 1)	Underground economy 1)	Shadow economy 1)	Underground economy 1)	Shadow economy 1)	Underground economy 1)
1996	27.0	18.2	13.1	9.4	14.9	8.9
1997	27.3	18.9	13.0	9.8	14.7	9.3
1998	27.8	19.3	13.0	10.2	14.9	9.8
1999	27.1	19.9	12.7	10.4	15.2	10.3
2000	27.2	20.6	12.7	10.6	15.2	10.9
2001	27.0	21.0	12.6	12.5	15.1	11.2
2002	27.0	22.5	12.5	10.9	15.0	11.21
2003	26.1	23.1	12.2	11.3	14.7	12.21
2004	25.2	23.5	12.3	12.1	14.3	13.1
2005	24.4	24.9	12.0	13.1	13.8	14.0
2006	23.2	25.4	11.1	13.7	12.4	14.8

1) in % of official GDP

4. Quantification/Estimation of the Volume of Money Laundering

4.3. The 10%-Rule of FATF

The FATF (Financial Action Task Force) uses the following rule of thumb:

(1) On basis of the estimated annual turnovers on retail trade level, the assumption is made that the confiscated amount is 10 per cent of all drugs floating around.

(2) Knowing that the operating cost quota (relating to sales turnover) is roughly 60 per cent, profits/turnovers of drug trafficking can be estimated: In the year 1997 the FATF "estimated" a total world drug-turnover of approx. 300 billion USD, 120 billion USD profits thereof and 85 billion USD were classified to be relevant for money laundering.

5. Measures against Money Laundering

5.1. The Financial Action Task Force (FATF)

(1) The Financial Action Task Force (FATF), an international organization, has the main task to fight against money laundering and terrorism financing, consisting of 33 member countries. The FATF tries to "hunt" the non-cooperative countries with the help of a "name and shame" policy by publishing a "black list".

(2) Moreover, the FATF is trying to combat money laundering internationally by means of typologies and 40 recommendations (international standards). Currently only Myanmar and Nigeria are still quoted on FATF's black list.

5. Measures against Money Laundering

5.2. Austria

(1) The main element of the existing money laundering precautions is formed by the so called "Know your Customer" principle; the FIU (Austrian Financial Intelligence Unit) has to be informed by all affected parties (banks, insurance companies, etc.) as soon as a suspect exceeds standardized limits in all financial business.

(2) By banning anonymous savings bank books, identifying customers and obliging to store numerous documents etc. obligated parties comply with the "Know Your Customer" principle.

5. Measures against Money Laundering

5.3. Germany

(1) In 2002 Germany established a Competence Centre named „Zentralstelle für verfahrensunabhängige Finanzermittlung" to fight money laundering.

(2) In addition, the control mechanism over financial transactions were extended combined with the establishment of a central database at the "Bundesaufsichtsamt für Kreditwesen" in order to visualize cash flow of terrorism and money laundering organizations.

(3) The authorization and the activity range of the current supervisory body (eg „Bundesaufsichtsamt für Wertpapierhandel" oder „Bundesaufsichtsamt für Versicherungswesen") was extended.

6. Summary and Conclusions

6.1. Summary

(1) First, a differentiation is made between classical shadow economy and classical underground (crime) activities, arguing that on the one side shadow economy activities provide an extra value added of (in principal legal) goods and services, and on the other side typical crime activities produce no positive value added for the official economy.

(2) Second, the necessity of money laundering is explained as since nearly all illegal (criminal) transactions are done by cash. Hence, this amount of cash must be laundered in order to have some "legal" profit.

6. Summary and Conclusions

6.1. Summary – Cont.

(3) With the help of a DYMIMIC estimation procedure, the amount of money laundering are estimated using as causal variables e.g. various types of criminal activities, and as indicators, e.g. confiscated money.

(4) The volume of laundered money or profits from criminal activities was for these 20 OECD countries in the year 1995 503 billions USD and increased in 2006 to 1,106 billions USD.

(5) The worldwide money laundering turnover was in 2001 800 billion USD and increased in 2006 to 1,700 billion USD.

6. Summary and Conclusions

6.2. Conclusions

Four preliminary conclusions:

(1) Money laundering is extremely difficult to tackle. It's defined almost differently in every country, the measures taken against it are different and vary from country to country.

(2) To get a figure of the extent and development of money laundering over time is even more difficult. This paper tries to undertake some own estimations with the help of a latent estimation procedure (DYMIMIC) and shows that money laundering has increased from 1995 503 billion USD to 1,700 billion USD in 2006 for 20 OECD countries.

6. Summary and Conclusions

6.2. Conclusions – Cont.

(3) To fight against money laundering is also extremely difficult, as we have no efficient and powerful international organizations, which can effectively fight against organized crime and money laundering.

(4) Hence, this paper should be seen as a first start/attempt in order to shed some light on the grey area of money laundering and to provide some better empirical bases or taking more efficient measures against money laundering.

Appendix 1: Multiple Indicators, Multiple Causes (MIMIC) approach

The MIMIC approach explicitly considers several causes, as well as the multiple effects of the informal economy.

The methodology makes use of the associations between the observeable causes and the observable effects of an unobserved variable, in this case the informal economy, to estimate the unobserved factor itself.

Formally, the MIMIC model consists two parts:

- **The *structural equation model* describes the „relationship" among the latent variable (informal economy = IE) and its causes.**
- **The *measurement model* represents the link between the latent variable IE and its indicators; i.e. the latent varialble (IE) is expressed in terms of observable variables.**

Appendix 1: Multiple Indicators, Multiple Causes (MIMIC) approach

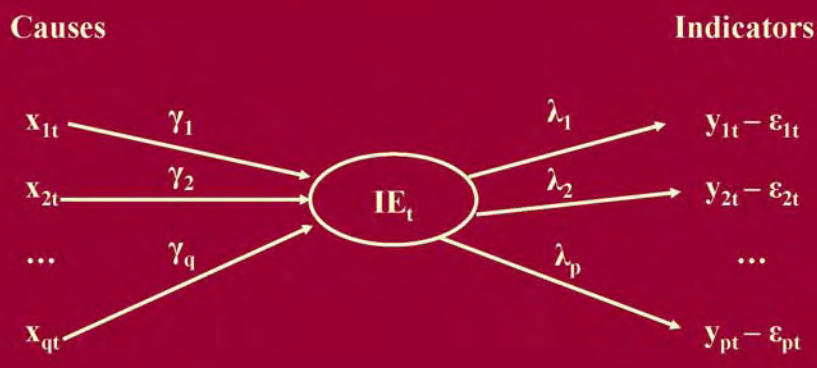
The model for one latent variable (IE) can be described as follows:

$IE = \gamma' x + v$ **(1) Structural equation model**

$\gamma = \lambda IE + \varepsilon$ **(2) Measurement model**

where IE is the unobservable scalar latent variable (the size of the informal economy), $\gamma' = (\gamma_1, \ldots, \gamma_p)$ **is a vector of indicators for IE,** $x' = (x_1, \ldots x_q)$ **is a vector of causes of IE,** λ **and** γ **are the (px1) and (qx1) vectors of the parameters and** ε **and** v **are the (px1) and scalar errors.**

Appendix 1: Figure 1: General structure of a MIMIC model



Appendix 1: Multiple Indicators, Multiple Causes (MIMIC) approach

Equation (1) **links the informal economy with ist indicators or symptoms,**

while *equation (2)* associates the informal economy with ist causes.

Assuming that these errors are normally distributed and mutually uncorrelated with $var(v) = \sigma^2_v$ and $cov(\varepsilon) = \Theta_\varepsilon$, the model can be solved for the reduced form as a function of observable variables by combining equations (1) and (2):

$$\gamma = \pi x + \mu \qquad (3)$$

where $\pi = \lambda \gamma'$, $\mu = \lambda v + \varepsilon$ and $cov(\mu) = \lambda \lambda' \sigma^2_v + \Theta_\varepsilon$.

Appendix 1: Multiple Indicators, Multiple Causes (MIMIC) approach

Because γ and x are observable data vectors, equation (3) can be estimated by maximum likelihood estimation using the restrictions implied in both the coefficient matrix π and the covariance matrix of the error μ.

Since the reduced form parameters of equation (3) remain unaltered when λ is multiplied by a scalar and γ and σ^2_v are divided by the same scalar, the estimation of (1) and (2) requires a normalization of the parameters in (1), and a convenient way to achieve this is to constrain one element of λ to some pre-assigned value (quite often 1).

Since the estimation of λ and γ is obtained by constraining one element of λ to some arbitrary value, it is useful to standardize the regression coefficients $\hat{\lambda}$ and $\hat{\gamma}$ as follows:

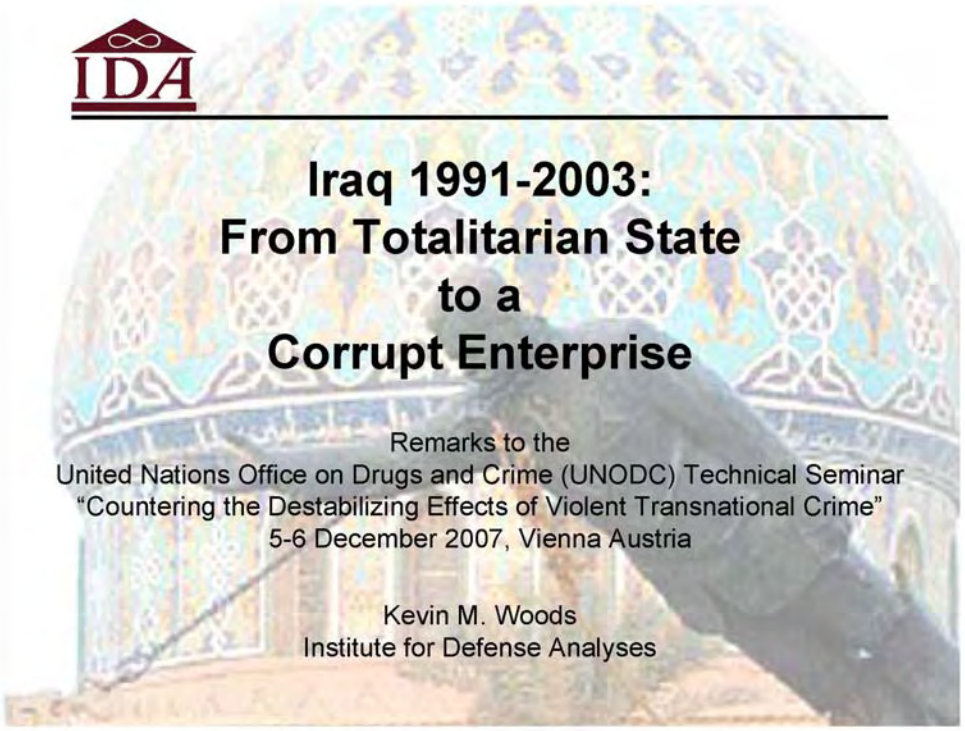
$\hat{\lambda}^s = \hat{\lambda} (\hat{\sigma}_{IE} / \hat{\sigma}_\gamma)$ $\quad$ $\hat{\gamma}^s = \hat{\gamma} (\hat{\sigma}_x / \hat{\sigma}_{IE})$

Appendix 1: Multiple Indicators, Multiple Causes (MIMIC) approach

The standardized coefficient measures the expected change in the standard-deviation units of the dependent variable due to a one standard-deviation change fo the given explanatory variable when the other variables are held constant.

Using the estimates of the γ^s vector and setting the error term v to its mean value of zero, the predicted ordinal values for the informal economy (IE) can be estimated by using equation (2).

Then, by using information regarding the specific value of informal activity for some country (if it is a cross country study) or for some point in time (if it is a time series study), obtained from some other source, the within-sample predictions for IE can be converted into absolute series.



Iraq 1991-2003: From Totalitarian State to a Corrupt Enterprise

Remarks to the
United Nations Office on Drugs and Crime (UNODC) Technical Seminar
"Countering the Destabilizing Effects of Violent Transnational Crime"
5-6 December 2007, Vienna Austria

Kevin M. Woods
Institute for Defense Analyses

Introduction and Caveats

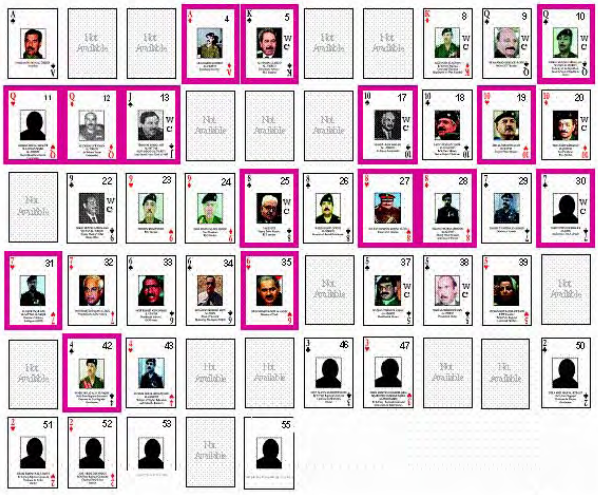
- All references to Iraq or the Iraqi government are limited to the period 1991- 2003 and the former regime of Saddam Hussein.
- This is not a detailed academic study of Iraq's criminal, social, economic, or cultural dynamics. The case study data is focused on the security dynamics between 1991-2003. Root causes, historical precedent, and related factors are not discussed.
- The opinions in this presentation are those of the presenter and do not represent the positions of the project sponsors, the US Government, or the Institute for Defense Analyses.

Agenda

- Sources of the Iraqi Perspective
- Introduction and Caveats
- Background
- Impact of the Black-Market
- Neo-tribal Policies in Iraq 1996-2003
- Growth of Para-Militaries
- Implications

Sources of the Iraqi Perspective

- Oral history interviews of Senior members of Saddam Hussein's regime.
- Detailed review of captured documents. Screened more than 700,000 Iraqi document folders and over 1,000 media files.



Background

- Iraq in the 1990s was a fragile state
  - Still recovering from the Iran-Iraq War
  - Tremendous infrastructure damage resulting from 1991 Gulf War
  - Large-scale rebellions in north and south (March-May 1991)
  - UN Security Council Resolution imposed "comprehensive sanctions" on Iraq in 1990. Limited reprieve in 1997 with UN "Oil-for-Food Programme"
- Iraq's regime could not separate its fiscal and economic policies from a war footing
- Ba'ath Party "social contract" collapsing

Impact of the Black-Market

- The black-market became the only market under sanctions
- Middle class disappeared
  - Official annual inflation running at 2,000%
  - Per capita income fell from $2300 (1991) to $ 500 (1996)
- The legacy of the Kuwait occupation
- The "quicksand" of Ba'ath control
- Youth bubble

Neo-tribal Policies in Iraq

- Prior to 1991 "official" Ba'ath policy did not recognize tribal authority
- After 1991 Saddam instituted dramatic shift in tribal relations
  - Security implications
  - Economic implications
  - Political implications

Growth of Para-Militaries

- Iraq used a traditional revolutionary or totalitarian model of security
- Role of the militias
- The Fedayeen Saddam
  - National security purpose
  - Fanatical discipline
  - Criminal enterprise

Implications

- Circumstances in Iraq 1991-2003 forced:
  - Legitimization of black-market
  - Diversification of political control
  - Creation of a state "street gang"
- State criminal operations merged (from the bottom up and top down) with traditional criminal enterprises
- Issues for Iraq and the region
  - Fedayeen Saddam training camps (1995-2003)
  - Regional networks may have been disrupted by not eliminated
  - Criminal – Insurgent links

Combatting Threat Finance

Coul lent

Vienna International Centre
4 December 2007

Commonalities Shared by Transnational Criminal Groups

- Objective: Generation of profit
- Goals:
  - Wealth and power, and/or
  - Finance cause
- Criminality of activities
- Government pursuit
- Few retirement options
  - Prison
  - Death

Fluid, Not Exact, Science

- Rules are set by needs and negotiation – not science
  - Limit risk/exposure to loss
  - Guarantee revenues at earliest possible point
  - Collateralize service providers
    - Human v. property
    - Losses acceptable with valid explanation, but subject to review
  - Payment in product increases profits and incentive to succeed and minimizes potential losses
  - Trust no one

Attacking Criminal Proceeds

- Money:
  - Goal/Objective

"The strong take from the weak, but the smart take from the strong."

(Pete Carril, former Princeton University men's basketball coach)

Scope of Problem

- National Drug Intelligence Center estimates:
  - Wholesale drug proceeds leaving U.S. to all international destinations
    - $13.6 - $47.7 Billion/Year (median $30 BN)
  - Wholesale drug proceeds leaving U.S. to Mexico
    - $8.3 – 24.2 Billion/Year (median $16.25 BN)
  - DEA: @15,000 seizures/$48,000: average to reach $16.25 and $30 BN
    - Amt. per seizure @15,000: $1.08 MM - $2 MM
    - # seizures needed @ $48,000: 338.5 M - 625 M

Why We Must Be Smart

- 2003 drug revenues per 2005 U.N. World Drug Report:
  - Total: $322 billion
  - North America: $142 billion
  - Europe: $106 billion
- Insufficient resources to address entire problem
- Exploitation of weak regimes
- Ownership issues

Terrorist Financing

No. Por $ 6300000

ENERO 8 de 2001

Recibí (mos) de ARGOLLA

La suma de cuarenta y tres millones

moneda corriente

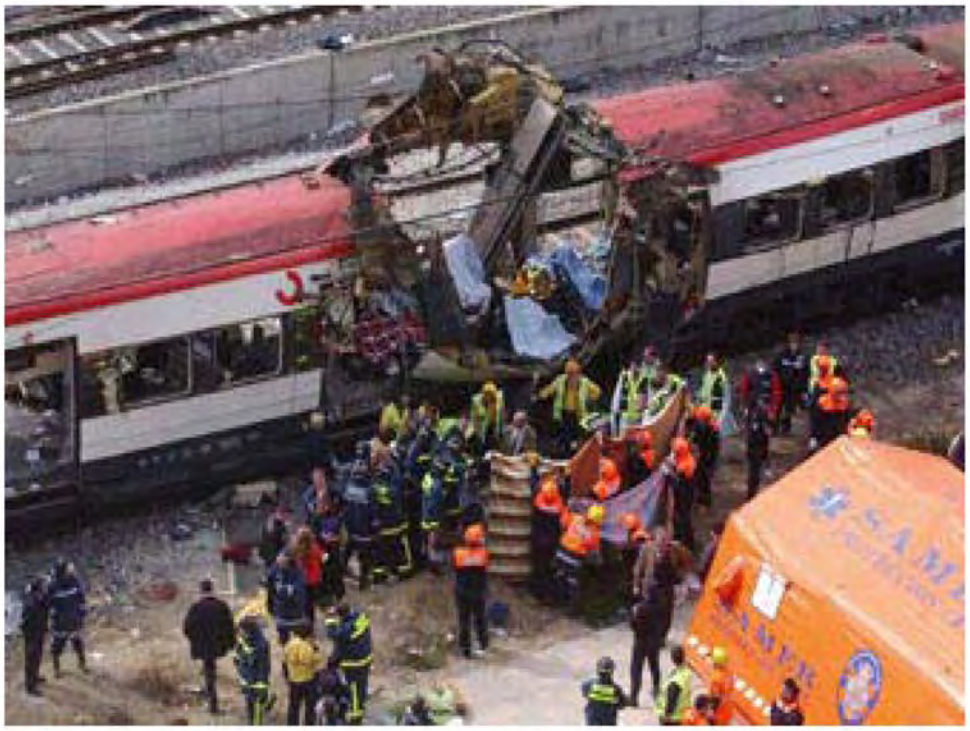
Para 70 kilos FARC E. P. GUILLERMO

Atto (s) S.S. Guillermo

TRANSLATION:
FARC 1ST Front "Guillermo"
70 kilograms (Coca Base)
$28,832.95 U.S. Currency
January 8, 2001

Attacking Criminal Proceeds

- Money:
  - Goal/Objective
  - Means to an end



Attacking Criminal Proceeds

- Money:
  - Goal/Objective
  - Means to an end
- Challenges:
  - How to generate it

VISA
Maestro

Marlboro
CAMEL
Time

حزب الله
كتائب الشهيد عز الدين القسام

Attacking Criminal Proceeds

- Money:
  - Goal/Objective
  - Means to an end
- Challenges:
  - How to generate it
  - How to move it

Attacking Criminal Proceeds

- Money:
  - Goal/Objective
  - Means to an end
- Challenges:
  - How to generate it
  - How to move it
  - How to conceal it

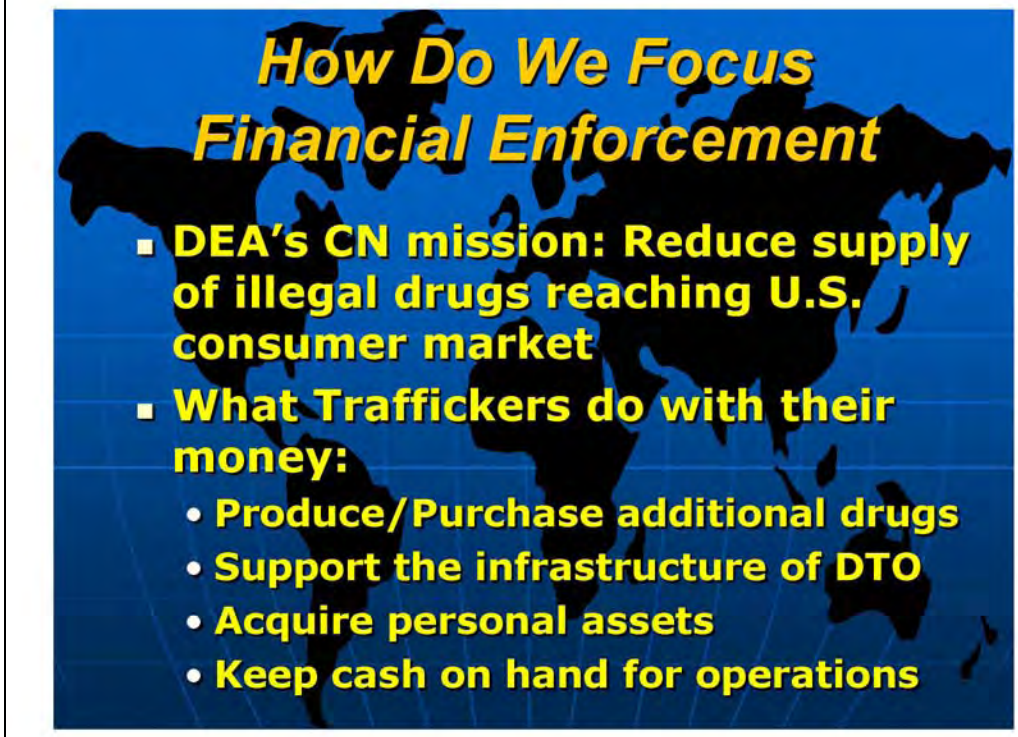
Attacking Criminal Proceeds

- Money:
  - Goal/Objective
  - Means to an end
- Challenges:
  - How to generate it
  - How to move it
  - How to conceal it
  - How to keep it from corrupting the corrupted

Attacking Criminal Proceeds

- Confiscation
  - Post criminal activity
  - Target driven
  - Identification of assets
  - Historical financial investigation
  - Seizure and forfeiture authorities
  - Profits
  - Low hanging fruit
- Prevention
  - Identification of operational money flow
  - Identification of ownership stages
  - Identification of vital service providers
  - Proactive Interdiction
  - Seizure of operational capital
  - Identification of command and control

DEA Financial Enforcement
Mission driven
Focus on money flow to identify command and control


How Do We Focus Financial Enforcement
DEA's CN mission: Reduce supply of illegal drugs reaching U.S. consumer market
What Traffickers do with their money:
Produce/Purchase additional drugs
Support the infrastructure of DTO
Acquire personal assets
Keep cash on hand for operations

DEA Financial Enforcement

- Mission driven
  - Focus on money flow to identify command and control
- Identification and prioritization of threats
  - Identify methodologies
  - Identify vulnerabilities and chokepoints within methodologies
- Development of strategies to address threats
- Development of initiatives to implement strategies
- Use all tools available
- Stress multi-lateral investigations

Mission Driven ?????

- Extorted victims of FTOs
- Black Market Peso Exchange
  - Prosecutions against buyers of FX
    - Importers
    - Exporters
    - Flight capital
- Sound policy needs to drive good investigations

Black Market Peso Exchange
U.S. Drug Cell
Colombian DTO
U.S. M/L Cell
Colombian Peso Broker
Banking Product
Colombian Importer

Money Pick-up Transactions
At this point, whose money is it?

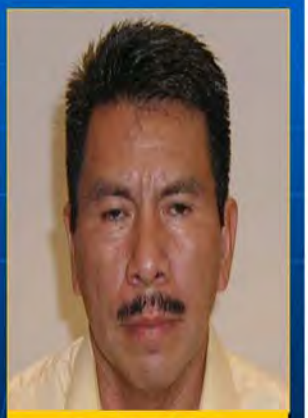
Common Needs of
Transnational Criminal Groups
Corruption

Corruption

Guatemala Police Corruption Case

SAIA Commander
Adan Castillo-Lopez

Senior Port Official
Rubilio Orlando Palacios-Lopez



Executive Officer
Jorge Aguilar-Garcia

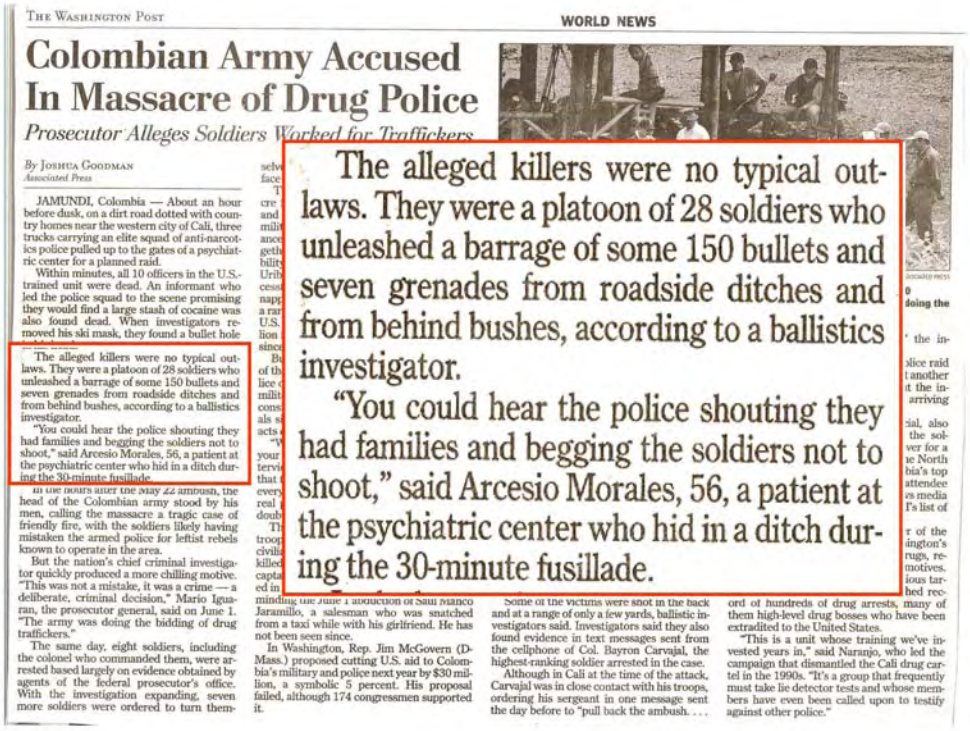
Title 21 U.S.C. 959

"End of course surprise, Here is your Diploma"

As it appeared in a Guatemalan newspaper

Colombian Investigation

May 2006- Tip on a stash of 440 pounds of cocaine in a remote location was passed to CNP Unit.



THE WASHINGTON POST

WORLD NEWS

Colombian Army Accused In Massacre of Drug Police

Prosecutor Alleges Soldiers Worked for Traffickers

By Joshua Goodman
Associated Press

JAMUNDI, Colombia — About an hour before dusk, on a dirt road dotted with country homes near the western city of Cali, three trucks carrying an elite squad of anti-narcotics police pulled up to the gates of a psychiatric center for a planned raid.

Within minutes, all 10 officers in the U.S.-trained unit were dead. An informant who led the police squad to the scene promising they would find a large stash of cocaine was also found dead. When investigators removed his ski mask, they found a bullet hole

The alleged killers were no typical outlaws. They were a platoon of 28 soldiers who unleashed a barrage of some 150 bullets and seven grenades from roadside ditches and from behind bushes, according to a ballistics investigator.

"You could hear the police shouting they had families and begging the soldiers not to shoot," said Arcesio Morales, 56, a patient at the psychiatric center who hid in a ditch during the 30-minute fusillade.

In the hours after the May 22 ambush, the head of the Colombian army stood by his men, calling the massacre a tragic case of friendly fire, with the soldiers likely having mistaken the armed police for leftist rebels known to operate in the area.

But the nation's chief criminal investigator quickly produced a more chilling motive. "This was not a mistake, it was a crime — a deliberate, criminal decision," Mario Iguaran, the prosecutor general, said on June 1. "The army was doing the bidding of drug traffickers."

The same day, eight soldiers, including the colonel who commanded them, were arrested based largely on evidence obtained by agents of the federal prosecutor's office. With the investigation expanding, seven more soldiers were ordered to turn themselves in.

The alleged killers were no typical outlaws. They were a platoon of 28 soldiers who unleashed a barrage of some 150 bullets and seven grenades from roadside ditches and from behind bushes, according to a ballistics investigator.

"You could hear the police shouting they had families and begging the soldiers not to shoot," said Arcesio Morales, 56, a patient at the psychiatric center who hid in a ditch during the 30-minute fusillade.

Some of the victims were shot in the back and at a range of only a few yards, ballistic investigators said. Investigators said they also found evidence in text messages sent from the cellphone of Col. Bayron Carvajal, the highest-ranking soldier arrested in the case.

Although in Cali at the time of the attack, Carvajal was in close contact with his troops, ordering his sergeant in one message sent the day before to "pull back the ambush. . . .

ord of hundreds of drug arrests, many of them high-level drug bosses who have been extradited to the United States.

"This is a unit whose training we've invested years in," said Naranjo, who led the campaign that dismantled the Cali drug cartel in the 1990s. "It's a group that frequently must take lie detector tests and whose members have even been called upon to testify against other police."

You can stop CORRUPTION

9 December 2006

International Anti-Corruption Day

With Corruption Everyone Pays

Nobody needs to be lectured on the evil of corruption. Societies that have massive corruption suffer misery in a thousand ways. The assumption that "free" markets and non-intervention as sole remedies against corruption is simply wrong. Each country produces is own type of corruption and no system is corruption-free. Corruption affects every country. Every year, over $1 trillion is paid in bribes with devastating consequences, particularly in developing countries.

We at the United Nations *Office on Drugs and Crime* (UNODC) believe that something *can* be done. Governments, the private sector, NGOs, the media, religious organizations and, most importantly, the average citizen, all have an important part to play. Corruption affects every country. Every year

Available Material

- Brochures
- Posters
- Logos
- Radiospots / cuñas radiales

More

- Anti-Corruption Day basketball clinic in Cape Verde
- Message of UNODC Executive Director Antonio Maria Costa for International Anti-Corruption Day
- First Conference of the States Parties to the UN Convention against Corruption 10-14 December 2006

Common Needs of Transnational Criminal Groups

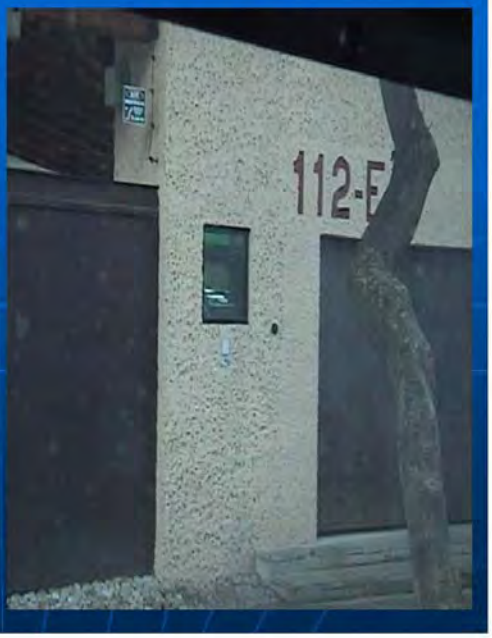
- Corruption
- Security
- Communications
- Concealment of operations
- Financial management
- Vital service providers

DEA Financial Enforcement Program

- Examples of identified financial management threats
  - Foreign Exchange Houses
  - Financial facilitators

Average Price Range of 1 Kilogram (2.2 lbs) of Colombian Cocaine

CASA DE CAMBIO RIBADEO



CASA DE CAMBIO RIBADEO OWNERS

RICARDO MAURICIO BERNAL PALACIOS

FRANCISCO JOSE ANTON PEREZ

AMILO ANDRES ORTIZ CHEVERRI

INVESTIGATIVE ACTIVITY

- May, 2004 – CS In Mexico City Reports:
  - Casa de Cambio "Ribadeo"
  - Union Bank of California
  - $169 million from 6-03 to 9-04
- Sept, 2004 – CS in Miami Reports:
  - Dollars to Pesos in 3 to 5 days
  - BMPE scheme using of computer hardware

INVESTIGATIVE ACTIVITY

- DEA Bogotá SIU begins intercepting 2 lines
- Oct, 2004 – €800,000 seized at Madrid airport from Bernal organization – Spanish authorities begin investigation
- March, 2005 – Miami FD U/C "picks-up" €400,000 in Madrid

INVESTIGATIVE ACTIVITY

- March 6, 2005 – Spanish authorities seize €5.4 million from aircraft in Barcelona
- March 22, 2005 – Spanish authorities seize 2,000 kilograms of cocaine and arrest 8
- March 23, 2005 – Spanish authorities locate money stash house and seize €7.2 million. Also seize bank account with €3 million
- Spanish authorities believe €70 million sent to Mexico in previous 11 months

Operation Southern Cross
Transportation of Foreign Exchange

Over €170,000,000 transported to Los Angeles beginning 11/2002

ALFA S.A.
Franklin LADINO

AMASBAN S.A.
The VELITS

TURISMO COSTA BRAVA
The MAZZAS

Operation Southern Cross

- Targeted exchange houses and couriers bringing Euros from Turismo Costa Brava (currency exchange house) in Chile to Los Angeles
- More than $1 million in Euros per week
- All currency movement declared to authorities
- Picked up by armored car in Miami or Los Angeles
- 2004-2005: TCB declared $80 million Euros purchased; next Casa claimed just $2.5 million

Operation Southern Cross

- Chilean Investigative Police (PICH) and DEA Chile, Peru, Colombia, New York, Los Angeles, Miami
- Principal arrested 3/31/07 with $1.9 million in Euros at LAX
- Chile: 7 Arrests, 4 Casas de Cambio and 2 residences valued at $3.5 million seized
- $1.9 Million seized from JP Morgan Chase bank account in Michigan
- *Transnational strategy for transnational crimes—cooperation is the key*

What Brought These Men Down?

Pablo Emilio Escobar-Gaviria

Jose Gonzalo Rodriquez-Gacha

Their Financial Facilitators

The financial linchpins of the drug organizations

- Mauricio Vives Carrillo's records identified over $100 million of Rodriquez-Gacha's assets
- Attacks on Escobar's attorneys and accountants by Los Pepes left him without funds to hide from Colombian and U.S. authorities

CALI, COLOMBIA
Jan. 12 - Feb. 3, 2007

Dirección de
Investigación Criminal
DIJIN
Fotografías
Antes
JUAN CARLOS RAMIREZ
ABADIA
alias CHUPETA
Después
Hace dos años

Dirección de
Investigación Criminal
DIJIN
Estructura
WILBER ALIRIO VARELA
alias JABÓN
JUAN CARLOS RAMIREZ
ABADIA
alias CHUPETA
ALIAS JAVIER
MONTAÑEZ o MACACO
SOCIOS Y
COLABORADORES
CONFORMACION DE GRUPO
ARMADO ILEGAL PARA SEGURIDAD
DEL NEGOCIO DEL NARCOTRAFICO
LAUREANO RENTERIA
CASTILLO
Segundo al Mando
ALDEMAR ROJAS
MOSQUERA
Asesor Finanzas
JHON JAIRO RAMIREZ
LENNIS
Asesor de Finanzas
MAURICIO ARTURO
ESPITIA ORTIZ
Arquitecto-GYM
DIEGO PEREZ
HENAO
Alias RASTROJO

Dirección de Investigación Criminal
DIJIN

Objetivo No. 1

Cra 53 No. 5 B-53
Barrio Nuevo Tequendama

CAPTURADOS

JORGE IVAN OSORIO MONSALVE

ALEXANDRA MASMELA BRAND

Ubicación de la 1ª Caleta
En la alacena de la cocina

US $13´506.661de Dólares, 1´923.010 Euros y $25´000.000 de pesos en efectivo.

Dirección de Investigación Criminal
DIJIN

Objetivo No. 3

CL 40 N No 3G – 15 Barrio Vipasa

MARIA RUBIELA LOZANO BELTRAN

ESPERANZA MEJIA LOPEZ

JUAN CARLOS ECHEVERRIA CORREA

WILLIAM HERNAN MEJIA LOPEZ

CAPTURADOS

ANGELICA FERNANDA BOLAÑOS AGUDELO

ELVIRA BOLAÑOS BELTRAN

LIDA NELLY LOZANO BELTRAN

OCTAVIO MONSALVE FRANCO

CARLOS ENRIQUE EATTON GARCIA

Ubicación de la 2ª Caleta bajo el piso del closet de la habitación principal

US $18´900.000 Dólares

Dirección de Investigación Criminal
DIJIN

Objetivo No. 4

CAPTURADOS

CL 38 N No. 2ª- 03 Barrio Prado del Norte

ERIKA CATALINA GOMEZ PEREZ

LUIS ALBERTO SANTIZABAL HENAO

LUZ HELENA SANTIZABAL HEBAO

Caleta No. 4 ubicada debajo de la escalera que conduce al segundo piso

309 Lingotes de Oro, 178 Monedas Canadienses de Oro de 24 Kilates

Dirección de Investigación Criminal
DIJIN

Objetivo No. 5

CAPTURADOS

CL 5 N No 2AN – 17 Barrio La Merced

ALVARO JOSE CABAL OCAMPO

ROBINSON VASQUEZ ORREGO

ALBERTO LOZANO BELTRAN

GLORIA PATRICIA GOMEZ MARTINEZ

Caleta No. 3 ubicada en una falsa Pared de la cocina

US $19´´789.380 Dólares

Juan Carlos Ramirez-Abadia, A/K/A Chupeta Assets Identified

- $80 million in cash and gold seized
- Approximately $700 million in property identified and seized in Colombia
- $50 million in property seized in Brazil
- Ramirez-Abadia identified and captured in Brazil

Drug Money Laundering Through Hawala Operator (HO)

- HO accepts financial responsibility for all parties to drug transaction
- HO pays deposit (usually 50%) to SoS on behalf of purchasers
- HO arranges for and pays for transportation of the drugs to the purchaser
- HO meets with HOs in destination and transit countries to arrange for handling of payment for drugs

Drug Money Laundering Through Hawala Operator (HO)

- HO associates arrange for placement of funds into banking systems through contacts recruited within the banks
- Funds transferred to bank haven country in amounts under threshold reporting requirements using multiple accounts at different banks in nominee names
- Funds, less fee, are delivered to trafficker in currency, to trafficker controlled accounts or for payment of trade goods

Variables Affecting Transnational Criminal Groups

- Area of operation
- Law enforcement presence and sophistication
- Lifestyle desired
- Legislative/regulatory regimes
- Foreign exchange capabilities
- Access to vulnerable jurisdictions

Solutions

- Policy and investigations that support mission
- Efficient and effective use of resources
- Intelligence sharing
  - IDEC
- Collaborative efforts
  - Operation Red Wine
- Address corruption

Solutions

- Get in front of financial technology
  - Prepaid/Stored value cards
  - Mobile wallets
- Promote transparency
  - Aruba example
- Look for system solutions
  - BMPE
  - €500 note
- Set goals

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Chief, DEA Office of Financial Operations
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Fax: 202-307-4032
E-Mail:
Donald.C.Semesky@usdoj.gov

Institute for Defense Analyses
4850 Mark Center Drive • Alexandria, Virginia 22311-1882

United Nations Office On Drugs and Crime (UNODC) &
U.S. State Department, Bureau of International Narcotics and Law Enforcement

Countering the Destabilizing Effects of Violent Transnational Crime
December 5-6, 2007

Highlights from Counter-Drug Studies – Analytical Perspectives

Arthur Fries
afries@ida.org
703-845-2364
703-845-2274 fax

This briefing was assembled and presented under an Institute for Defense Analyses (IDA) task sponsored by the State Department (DOS). The research summarized herein was conducted at IDA under various tasks sponsored by the Office of the Secretary of Defense (OSD) and the Office of National Drug Control Policy (ONDCP). Key IDA researchers that warrant special acknowledgment include Robert Anthony, Barry Crane, Andrew Cseko, Rex Rivolo, and Samir Soneji. Essential data sources include the Drug Enforcement Administration (DEA), Quest Diagnostics, Inc., and ONDCP. Mike Cala (ONDCP) kindly furnished (limited) review comments and specific slides.

The contents of this briefing and any expressed views are solely my responsibility. No official endorsement by DEA, DOS, IDA, OSD, ONDCP, Quest Diagnostics, or UNODC is intended or should be inferred.

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Objectives

- **Present highlights of counter-drug study analyses**
  - Conducted at the Institute for Defense Analyses
  - Beginning in 1993
- **Focus on analytical methods & issues with wide applicability**
  - Counter-crime domains
  - Counter-terrorism domains

Outline

- **Background**
- **Deterrence Theory**
  - Database
  - Results
  - Implications
- **Counter-drug Indicators**
  - Databases
  - Analytical objectives
  - *STRIDE*
    - » Market characterizations
    - » Time series depictions
    - » Correlations
    - » Sensitivity analyses
  - *Workforce Drug Testing Data*
    - » Time series depictions
    - » Choropleth maps
    - » Correlations

BACKGROUND

How To Evaluate the Effectiveness of Counter-Drug Operations?

- **Count Operation Steps Successfully Completed**
- **Interviews**
  - Interdictors
  - Criminals ✓
- **Measure Before & After**
  - Cultivation
  - Farmland Prices
  - Interdictions
  - Seizures
  - U.S. price ✓
  - U.S. purity ✓
  - Users ✓

How To Evaluate the Effectiveness of Counter-Drug Operations?

- **Count Operation Steps Successfully Completed** X
- **Interviews**
  - Interdictors
  - Criminals ✓ { *Rockwell International Special Investigations*
- **Measure Before & After**
  - Cultivation
  - Farmland Prices
  - Interdictions { *STRIDE*
  - Seizures
  - U.S. price ✓
  - U.S. purity ✓
  - Users ✓ { *Workforce Drug Testing Data*

DETERRENCE THEORY

Rockwell

- **Interview data (1989) from a Coast Guard study**
- ***Opinions* of incarcerated smugglers**
- **Interviewers**
  - Investigative expertise
  - Bilingual
  - Law enforcement & drug interdiction experience
- **Smugglers**
  - 1 to 10 loads smuggled
  - 20 to 50 years old
  - All levels of education
  - All types of drugs
  - US / Mexican / Colombian origin

Rockwell Content

"I would not smuggle drugs into the U.S. if my chances of getting caught (caught and convicted, or caught, convicted, and imprisoned) were . . ."

	Imprisoned		Convicted		Caught	
Probability of Interdiction	Self	Associate	Self	Associate	Self	Associate
1 in 10	83	43	72	32	63	21
1 in 5	11	27	16	25	17	29
2 in 5	5	13	9	26	15	25
4 in 5	2	3	4	5	3	3
Certain*	3	6	3	4	6	14
Respondents	104	92	104	92	104	92
No Answer	5	0	5	0	5	0

*** Note that the last response category combines 1) *not willing* to smuggle when faced with certain capture and 2) willing *even if certain to be captured.***

Risk Perception - Willingness Function

$Threshold = P_{\min}$

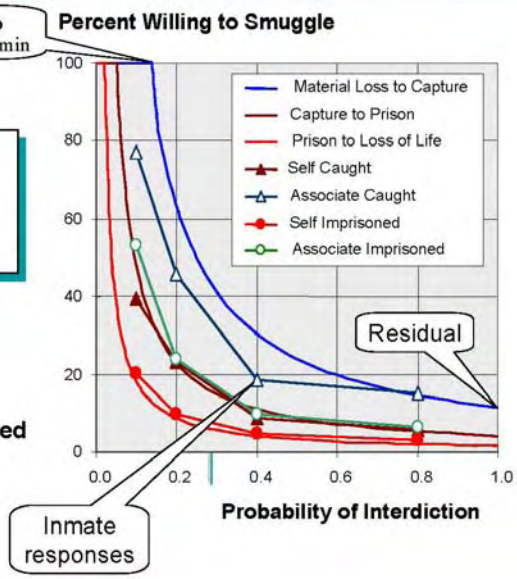
The fitted willingness function:

$$W(P_I) = \left(\frac{P_I}{P_{\min}}\right)^{-1.03\pm0.07}$$

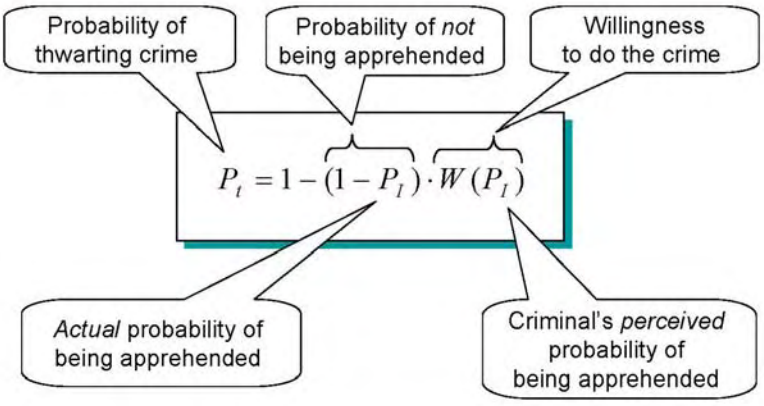
Chi Square = 0.49

Threshold – Deterrence begins

Residual – Fraction never deterred

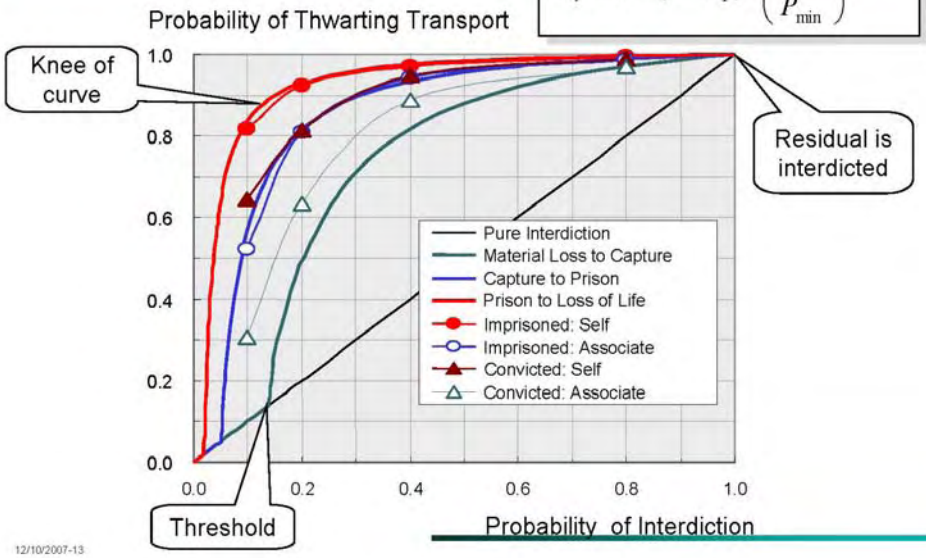


Conceptual Model of Deterrence

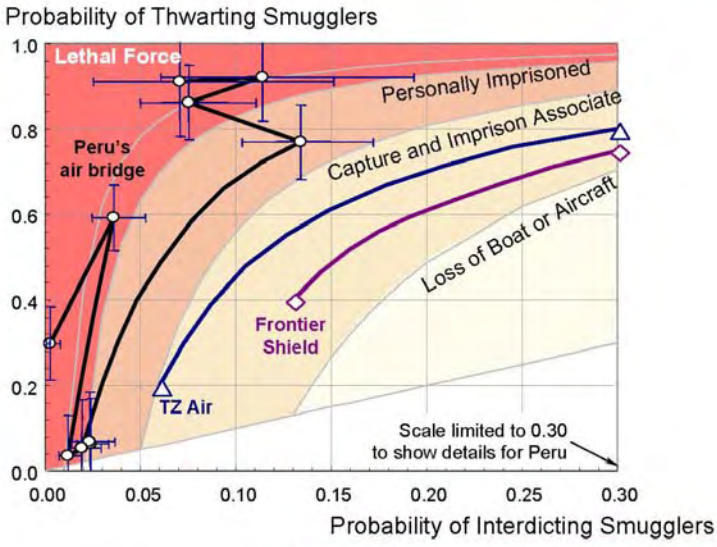


Complete Deterrence Model

$$P_t = 1 - (1 - P_I) \cdot \left(\frac{P_I}{P_{\min}} \right)^{-1.03}$$



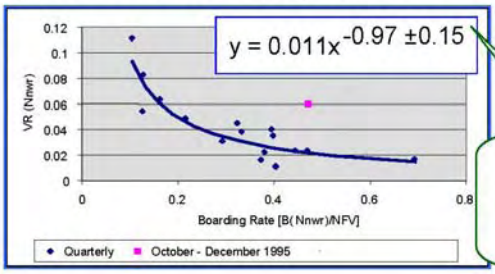
Deterrence Model Validation



Willingness Function Validation

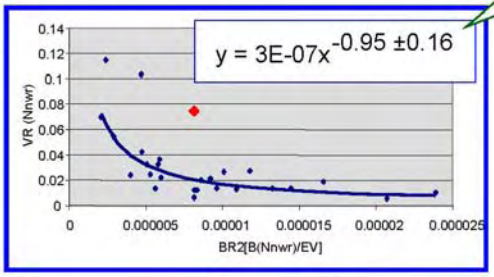
Willingness = Violation Rate (VR); Interdiction = Boarding Rate (BR)

New England



Exponents are indistinguishable from -1.0.

South Atlantic and Caribbean



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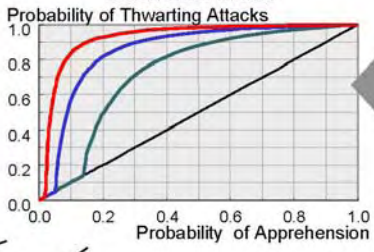
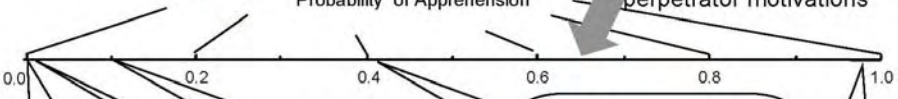
Deterring a Wide Range of Perpetrators

Deterrence Model



High confidence in general form (counter-drug, counter-crime, counter-terrorism)

Threshold depends on perpetrator motivations



Nation State:
Deterrable -
Threshold < 0.1%
Sophisticated threat, complex/coordinated actions to detect

Hirelings / smugglers:
Deterrable -
Threshold ≈ 10%

Terrorist organization:
Deterrable -
Threshold < 1%
Small team operation

Dupes:
Partially Deterrable -
Threshold ≈ 40%
Sensitize, identify, alert

Death wish / fanatics:
Undeterrable -
No threshold
Irrational individuals subject to capture

12/10/2007-16

Resource Planning

- **Assets**
  - Types
    - » Armed helicopters
  - Numbers
    - » Counter-drug
    - » USCG Deepwater study
  - Layered defenses
- **Required System Performance Capabilities**
  - Counter-drug

Operational Implications

- $P_I < P_{min}$
  - Risks ignored by perpetrators
  - Increasing apprehensions with increasing effort signifies failure to deter
  - Interdictors could surge to search for a deterrence threshold
- $P_I \approx P_{min}$
  - Perpetrators may exhibit variable behavior
    - » Pulsing attempts
    - » Exploring other means
  - Interdictor surge operations signal to perpetrators that risks have increased to unacceptable levels
- $P_I > P_{min}$
  - Prompted by an initial surge of law-enforcement activity
  - Sharp decline in would-be perpetrators
    - » May take 2-5 months to set in
  - *Fraction of would-be perpetrators actually interdicted flattens out*
    - » Number of apprehensions or hostile casualties may be a misleading MOE
    - » Negative implications of a significant increase in the *number* of interdictions
      - *Recruitment* or other expansion of the pool of would-be perpetrators
      - Pending collapse of deterrence

COUNTER-DRUG INDICATORS

DATABASES

STRIDE

- **System to Retrieve Information from Drug Evidence**
  - Database beginning in early 1980's
  - U.S. Drug Enforcement Administration (DEA)
- **Input Sources**
  - DEA
  - Metropolitan Police of the District of Columbia (MPDC) X
  - Other Federal Police
- **Transactions**
  - Purchases (now about 5,000 annually) ✓✓
  - Seizures ✓
  - Free samples

STRIDE Content

- **Drugs**
  - Cocaine ✓
    - » Powder
    - » Crack
  - Heroin
  - Marijuana
  - Methamphetamine
  - Ecstasy
  - Others
- **Data Records**
  - Date
  - Location
  - Amount
  - Price
  - Purity

Workforce Drug Testing Data

- **Quest Diagnostics, Inc.**
- **8.5 Million Tests Annually**
  - More with recent Lab*One* acquisition
  - Pre-employment & Random ✓ & Others
  - Federally Mandated Safety-Sensitive & General Workforce ✓
- **Monthly Updates**
- **"Drug Testing Index"**
  - http://www.questdiagnostics.com/employersolutions/dti_archives.html

Workforce Drug Testing Data Content

Date	Week	Zip	Testing Type	Work-force	Drug Group	Cutoff	# Samples	# Positives
9/1/2006	37	777	PRE-EMPLOY	FMSS	Amphetamines	1000.00	67	1
9/1/2006	37	777	PRE-EMPLOY	FMSS	Cocaine Metabolite	300.00	67	0
9/1/2006	37	777	PRE-EMPLOY	FMSS	Marijuana Metabolite	50.00	67	1
9/1/2006	37	777	PRE-EMPLOY	FMSS	Opiates	2000.00	67	0
9/1/2006	37	777	PRE-EMPLOY	FMSS	Phencylidine	25.00	67	0
9/1/2006	37	777	PRE-EMPLOY	GW	Amphetamines	300.00	5	0
9/1/2006	37	777	PRE-EMPLOY	GW	Amphetamines	1000.00	703	2
9/1/2006	37	777	PRE-EMPLOY	GW	Cocaine Metabolite	300.00	717	0
9/1/2006	37	777	PRE-EMPLOY	GW	Marijuana Metabolite	20.00	13	0
9/1/2006	37	777	PRE-EMPLOY	GW	Marijuana Metabolite	50.00	682	19
9/1/2006	37	777	PRE-EMPLOY	GW	Marijuana Metabolite	100.00	13	0
9/1/2006	37	777	PRE-EMPLOY	GW	Opiates	300.00	75	0
9/1/2006	37	777	PRE-EMPLOY	GW	Opiates	2000.00	642	0
9/1/2006	37	777	PRE-EMPLOY	GW	Phencylidine	25.00	704	0
9/1/2006	37	777	RANDOM	FMSS	Amphetamines	1000.00	80	0
9/1/2006	37	777	RANDOM	FMSS	Cocaine Metabolite	300.00	80	0
9/1/2006	37	777	RANDOM	FMSS	Marijuana Metabolite	50.00	80	2
9/1/2006	37	777	RANDOM	FMSS	Opiates	2000.00	80	0
9/1/2006	37	777	RANDOM	FMSS	Phencylidine	25.00	80	0
9/1/2006	37	777	RANDOM	GW	Amphetamines	300.00	1	0
9/1/2006	37	777	RANDOM	GW	Amphetamines	1000.00	53	0
9/1/2006	37	777	RANDOM	GW	Cocaine Metabolite	300.00	54	2
9/1/2006	37	777	RANDOM	GW	Marijuana Metabolite	20.00	1	0
9/1/2006	37	777	RANDOM	GW	Marijuana Metabolite	50.00	43	1
9/1/2006	37	777	RANDOM	GW	Marijuana Metabolite	100.00	10	2
9/1/2006	37	777	RANDOM	GW	Opiates	300.00	14	1
9/1/2006	37	777	RANDOM	GW	Opiates	2000.00	40	0
9/1/2006	37	777	RANDOM	GW	Phencylidine	25.00	54	0

ANALYTICAL OBJECTIVES

Potential Uses for *STRIDE* & *GW* Data

- ***STRIDE* Alone**
  - Time series of price & purity ✓
  - Investigate effects of supply reduction & law enforcement activities
  - Estimate demand functions
  - Support estimation of drug consumption levels
  - Characterize how drug markets work ✓
- ***GW* Alone**
  - Time series & choropleth maps of positivity rates ✓
    - » Down to state & city levels
  - Investigate effects of supply reduction & law enforcement activities
    - » Down to state & city levels
- ***STRIDE & GW* Together**
  - Mutually corroboration of trends & features ✓
  - Characterization of market conditions
    - » Demand-driven
    - » Supply-driven

Technical Challenges In Using "Noisy Data"

- **Not Random Or Designed Samples**
  - *STRIDE* buys/seizures & *Quest* testing are happenstance
- **May Not Be Representative Of Actual Markets**
  - Difficult to infer "average U.S." metrics
  - *STRIDE*
    - » Need actual/estimated frequencies for type & purchase volume
    - » Need geographical interpolations
  - *Workforce Drug Testing Data*
    - » Need account for non-working population segments
    - » Need geographical interpolations
- **Highly Variable Data**
  - Location
  - Time
- **Use 'Appropriate' Methodological Tools**
  - Portray true trends & features
  - Avoid artificially creating apparent trends & features

Analysis Approaches

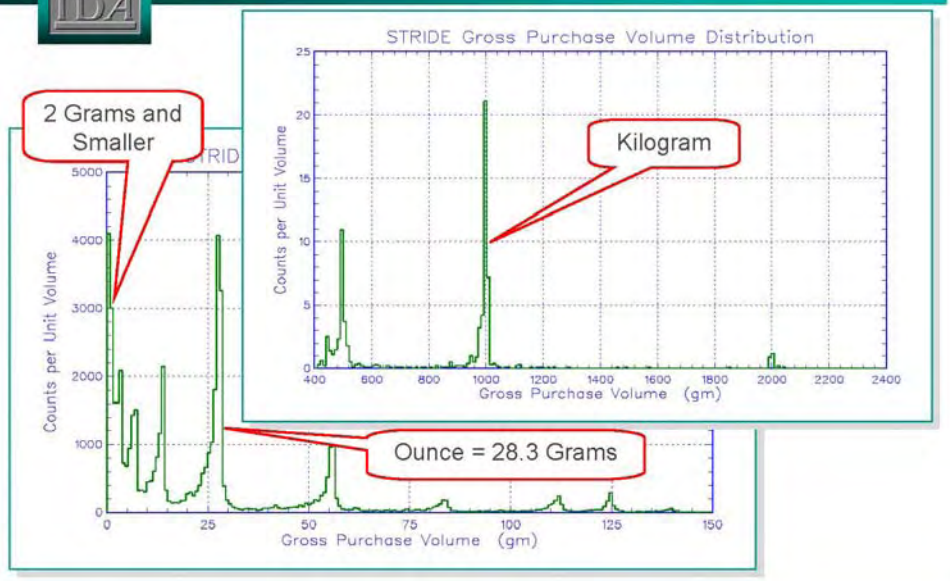
- **Accurate & Precise Estimates of "U.S. Averages"?** X
  - Impracticable/Impossible
  - Unnecessary
- **Indicators of Substantial Market Changes?** ✓
  - Inform policy makers
  - Guide tactical/strategic initiatives
- **Coherent Signals In The Midst Of Massive Noise!** ✓
  - Simple, robust methodologies
  - Consistency checks across data subsets
  - Independent corroboration
    - » Related data sets
    - » Physical processes underlying data

STRIDE MARKET CHARACTERIZATIONS

STRIDE Data Depictions

- **Quantities**
  - Price
  - Purity
  - Normalized Price
    - » Price/Purity
    - » 0 Purities?
- **Data Aggregation**
  - Across entire U.S.
  - Median for each set of 100 "coincident" transactions ✓ ✓
    - » Time-coincident for time series
    - » Quantity-coincident for price-volume plots
  - Smoothed depictions
  - Monthly median ✓
  - NOTE: Data bin sizes should not be too large or too small

Stratified Trafficking Hierarchy



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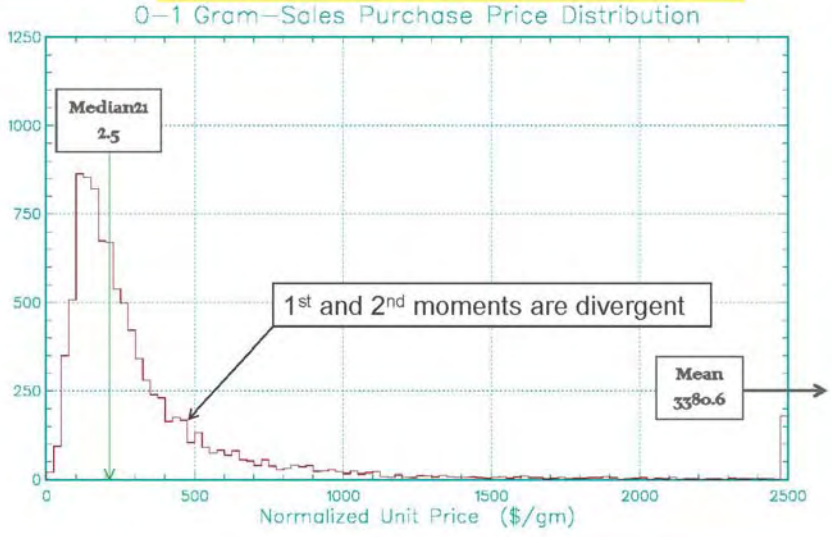
Power-Law Tails and the Significance of Price

*** Mean Prices are Problematic ***



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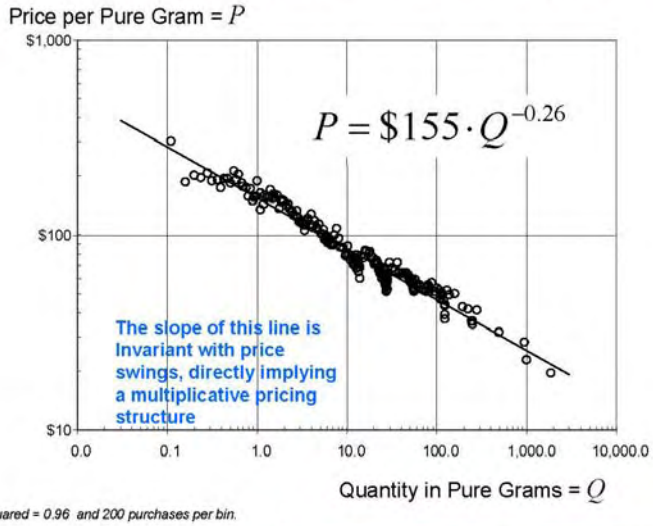
Price-Volume Relationship for Cocaine

Purchase Price-Volume Relationship for 1989 - 2003

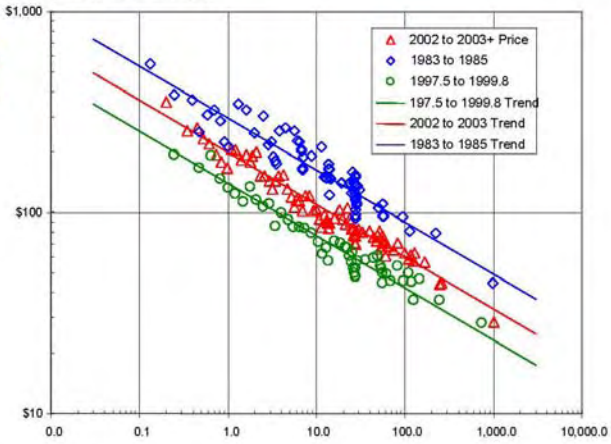


Adjusted R-squared = 0.96 and 200 purchases per bin.

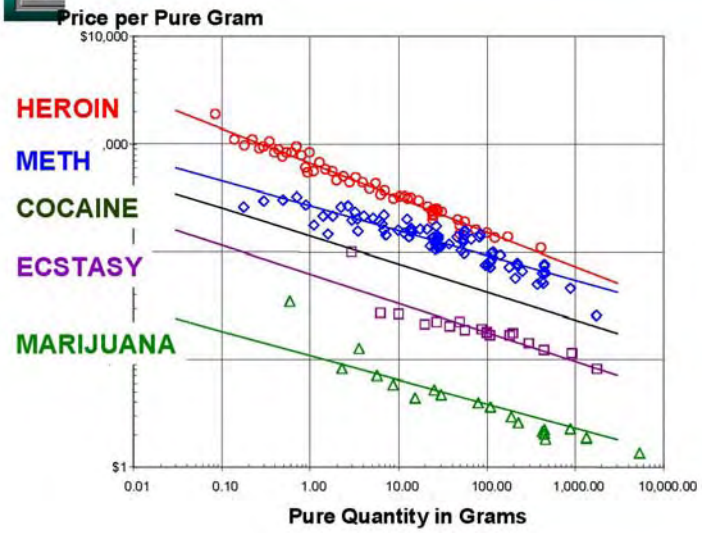
Price-Volume Movements for Cocaine

Price per Pure Gram

1983-1985
2002-2003
1997-1999



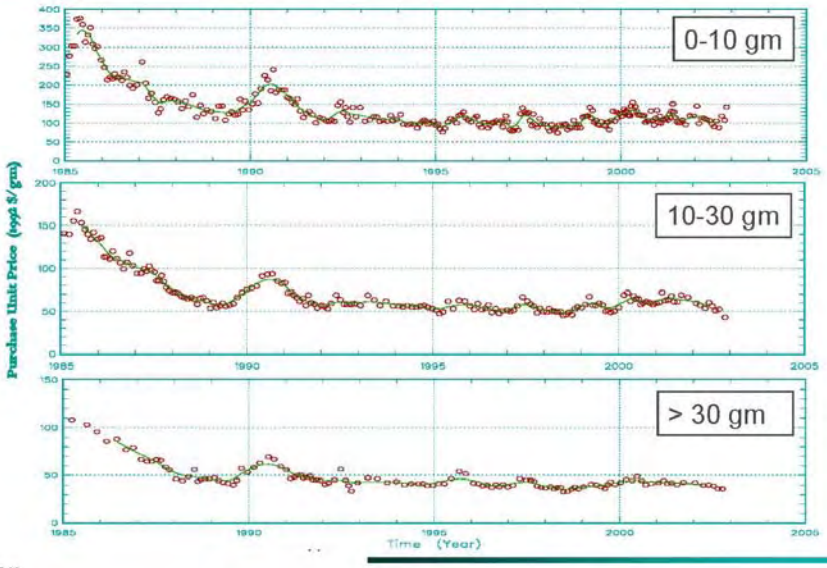
Generic Narcotics Distribution System?



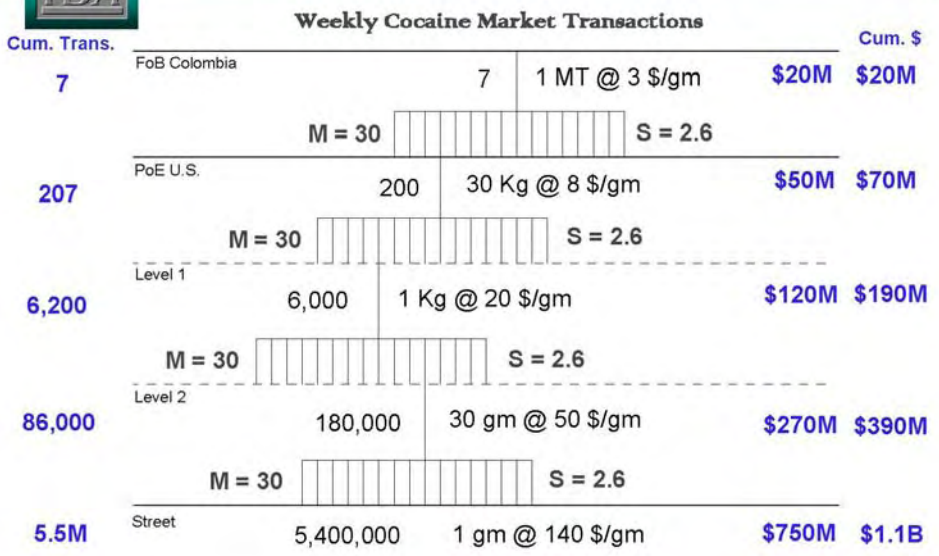
Mark Up

HEROIN	3.0
METH	2.2
COCAINE	2.4
ECSTASY	2.5
MARIJUANA	2.2

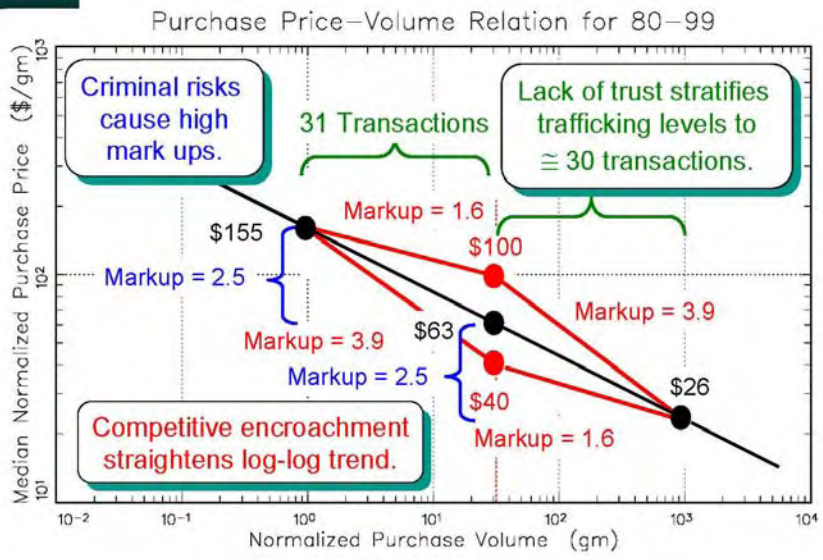
Multiplicative Pricing Data



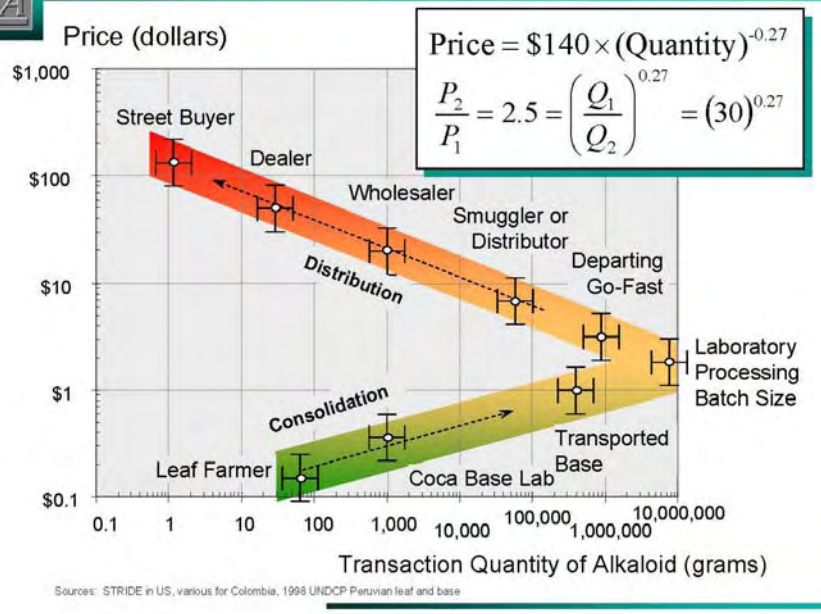
Self-Similar, Hierarchical (Fractal) Structure



Lack of Trust, Competition, & Risk



Farmgate to User: Extending the Trend



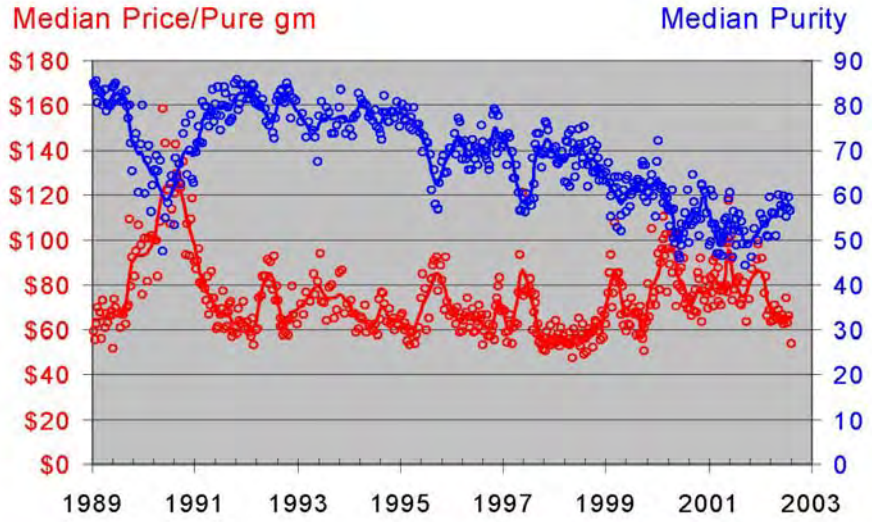
$$\text{Price} = \$140 \times (\text{Quantity})^{-0.27}$$

$$\frac{P_2}{P_1} = 2.5 = \left(\frac{Q_1}{Q_2}\right)^{0.27} = (30)^{0.27}$$

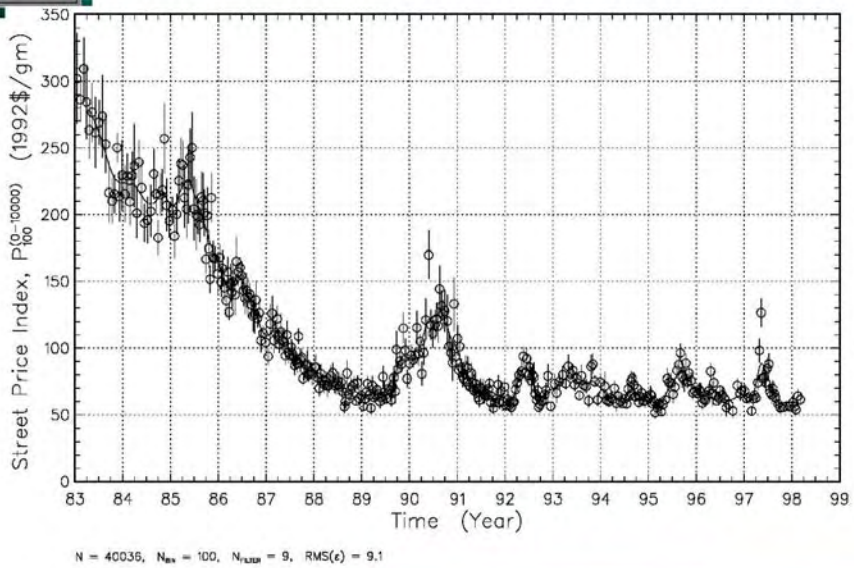
Sources: STRIDE in US, various for Colombia, 1998 UNDCP Peruvian leaf and base

STRIDE TIME SERIES

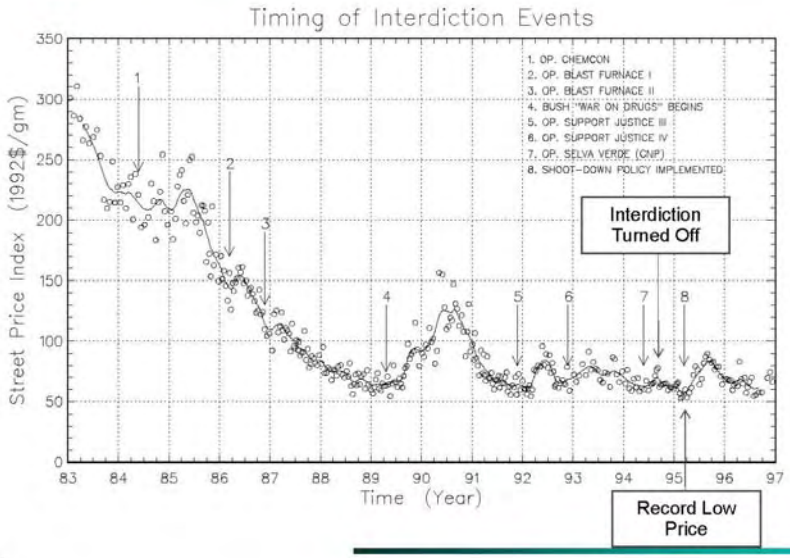
STRIDE Price & Purity Indices



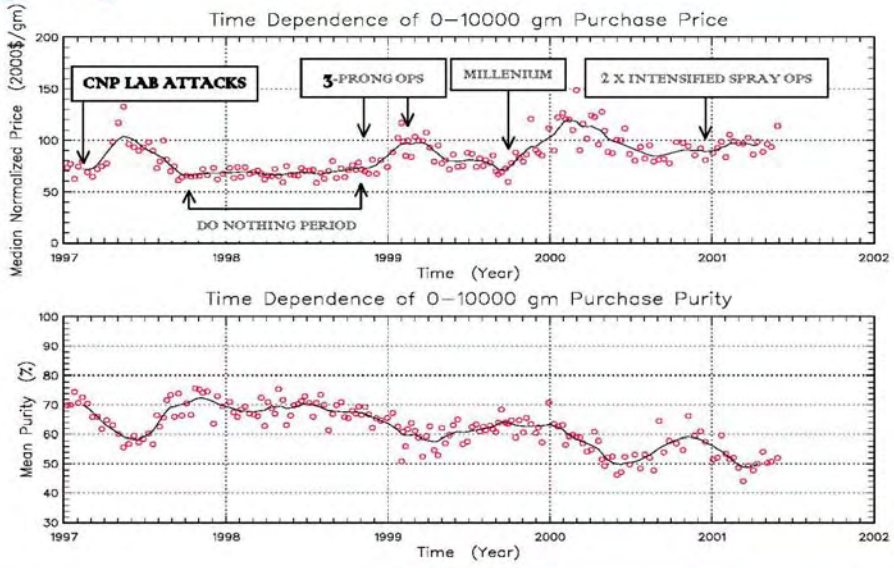
Statistical Significance Via Bootstrapping



Cause And Effect



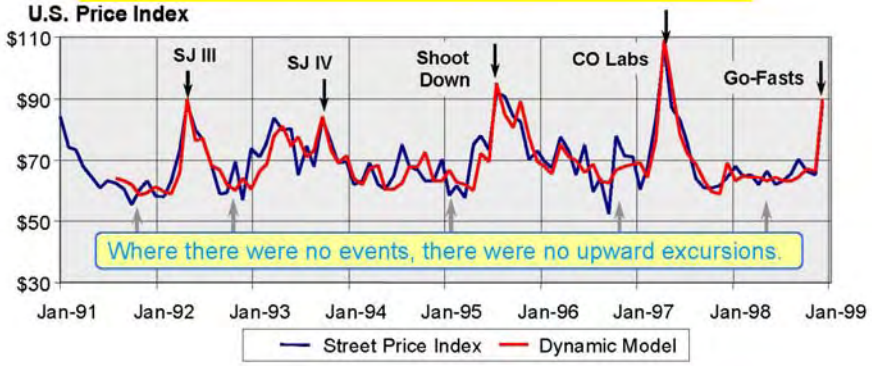
Cause And Effect – Updated



Full Dynamic Time Series Model – Fit

- **Forecasts all major features**

- **Standard Box-Jenkins intervention modeling**
  - **High-, medium- and low-intensity interdiction events**
  - **Exponential response and recovery times per interdiction class**



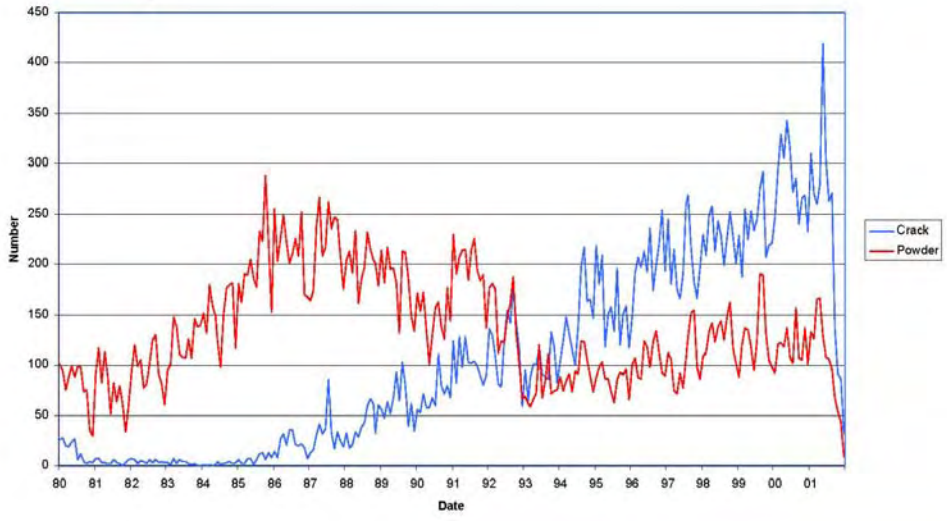
Full Dynamic Time Series Model – Conclusions

- **Parsimonious fit to index time series**
  - Matches all significant peaks
  - Matches period of stability
  - "Floor" of $55-$65
  - Stationary and well-behaved residuals
- **Logical ordering of estimated index response time lags**
  - 5 months for Peru shoot-down events
  - 4 months for Colombia laboratory attack events
  - 2 months for Caribbean go-fast boat interdiction events
- **Logical ordering of index impact coefficients for Peruvian air interdictions**
  - 0 = Low-intensity operations (1 event)
    < Medium-intensity operations (2-3 events)
    < High-intensity operations (≥4 events)
  - Lethal medium-intensity = 5 x Non-lethal medium intensity
- **Logical ordering of index recovery times for lethal & non-lethal Peruvian air interdictions**
  - 4.5 months vs. 2 months for high intensity operations
  - 2 months vs. "0" months for medium-intensity operations

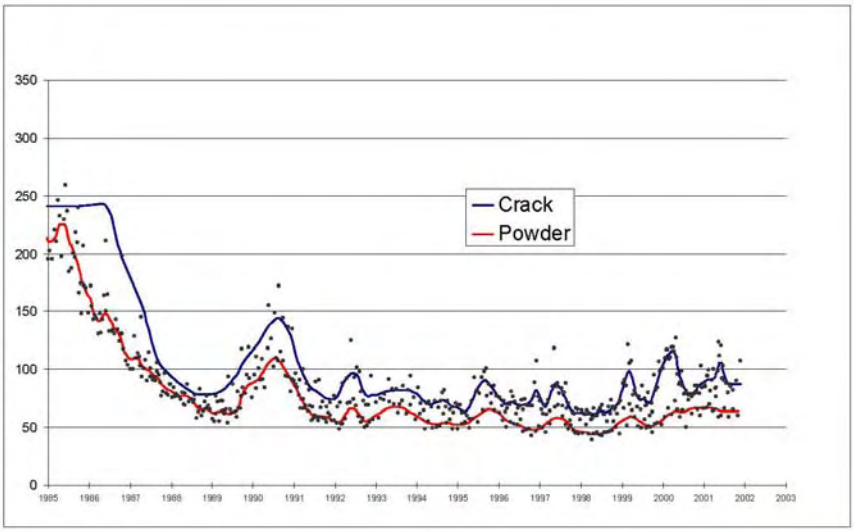
Empirical Corroboration – Across *STRIDE* Subsets

- **By Cocaine Type**
  - Powder
  - Crack
- **Across Geographical Regions**
  - Caribbean
  - East
  - Southwest
  - Midwest
  - Mountain
  - Pacific
- **By Purchase Volume**
  - < 1 gm
  - 1 - 10 gm
  - 10 - 30 gm
  - > 30 gm

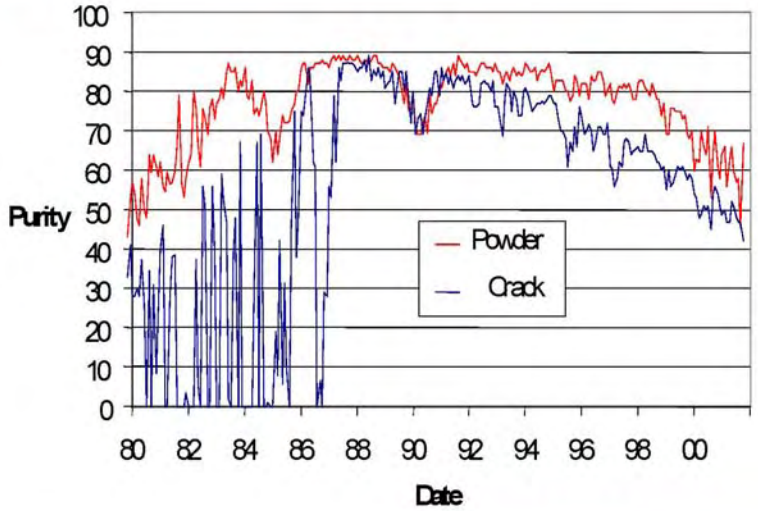
Number Of Monthly Purchases



Normalized Price



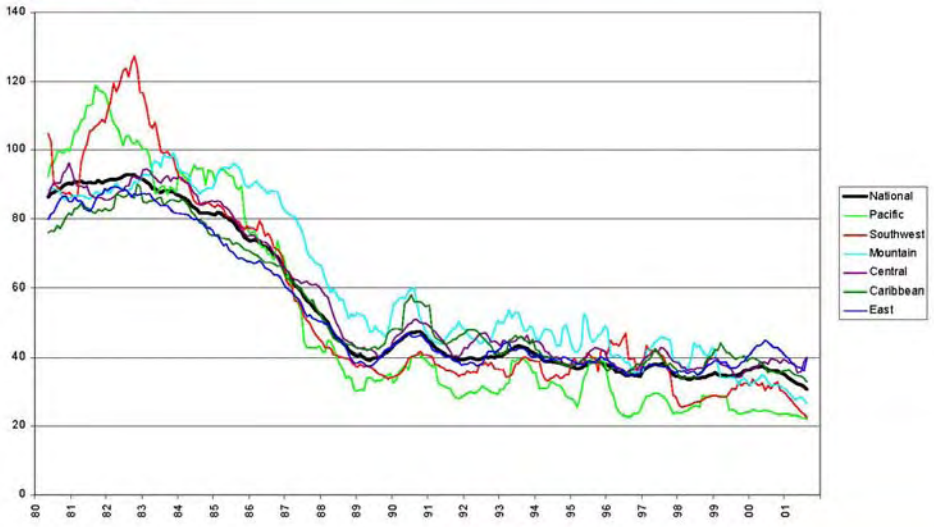
Purity



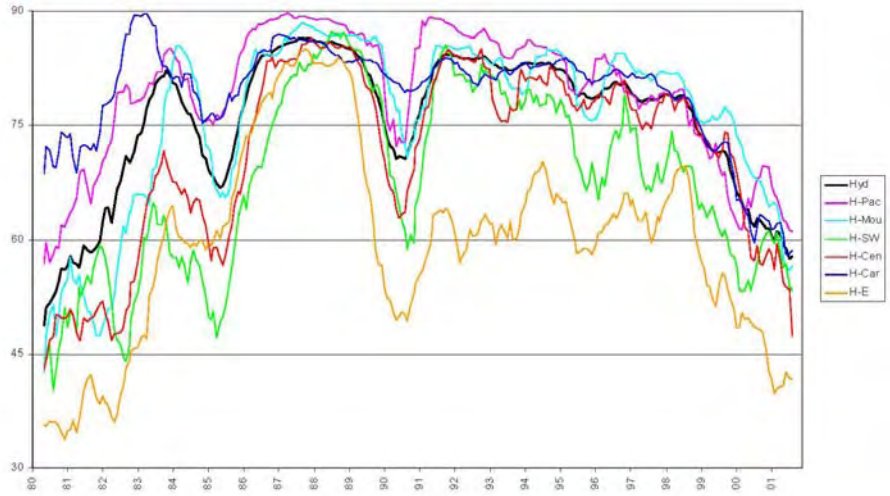
6 Geographical Regions

1. Pacific
2. Southwest
3. Mountain
4. Central
5. Caribbean
6. East

Cocaine (Non-Normalized) Price By Region



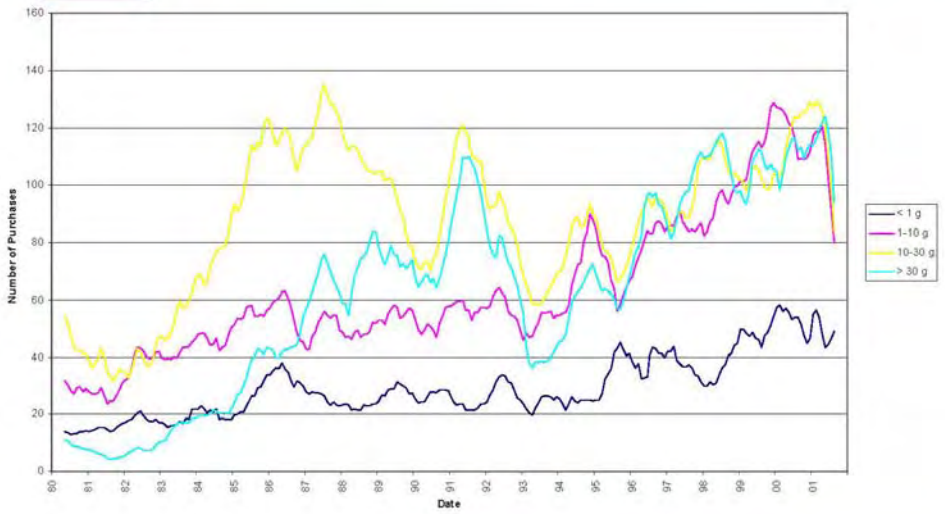
Purities Of Powder Cocaine By Region



4 Purchase Volume Intervals

1. < 1 gm
2. 1 – 10 gm
3. 10 –30 gm
4. > 30 gm

Number Of Monthly Purchases



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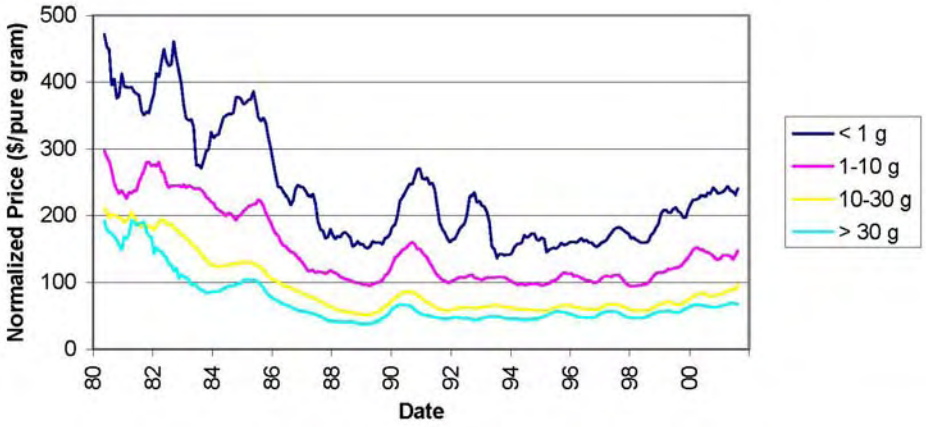
Normalized Price Per Volume



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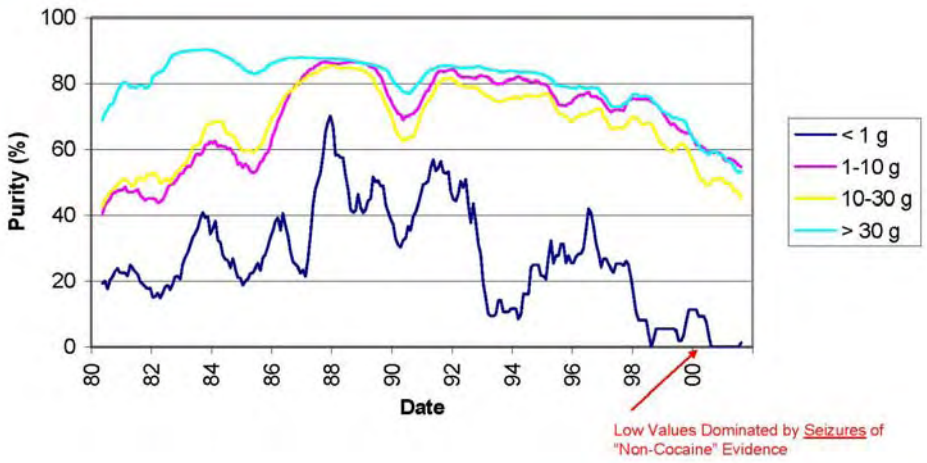
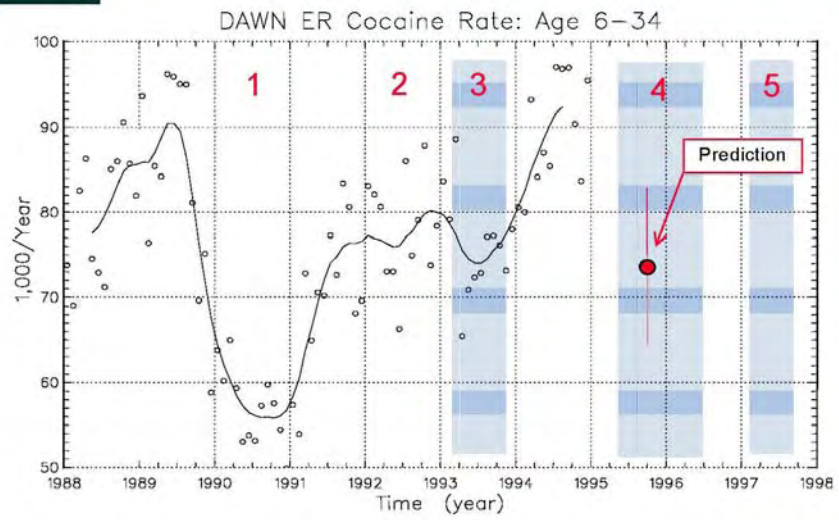
Purity By Volume



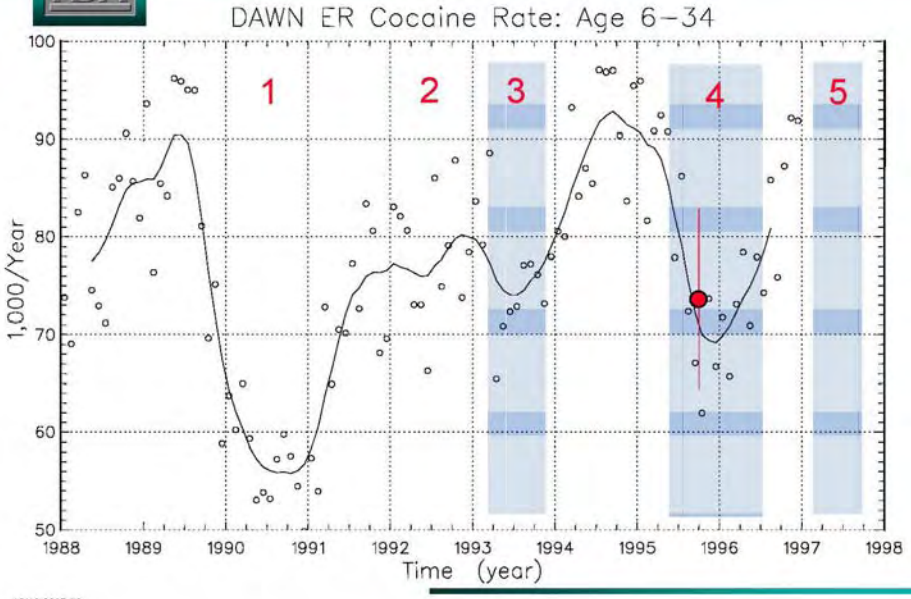
Empirical Corroboration – Indirect Usage Indicators

- ***Drug Abuse Warning Network* (*DAWN*)**
  - Number emergency room admittances linked to cocaine at participating hospitals
- ***Drug Usage Forecasting* (*DUF*), now *ADAM***
  - Positive test rate from semi-random drug testing on several hundreds of arrestees in select major cities
- ***Treatment Episode Data Set* (*TEDS*)**
  - Number cocaine treatments delivered by participating treatment centers
- ***SmithKline Beecham Clinical Laboratories* (*SBCL*) → *Quest* (1999)**
  - Positive test rate for cocaine, encompassing 250,000 - 800,000 monthly tests covering broad spectrum of American workplace
- **U.S. Navy positive test rates**
- **DOJ total arrestees for cocaine & opium possession**

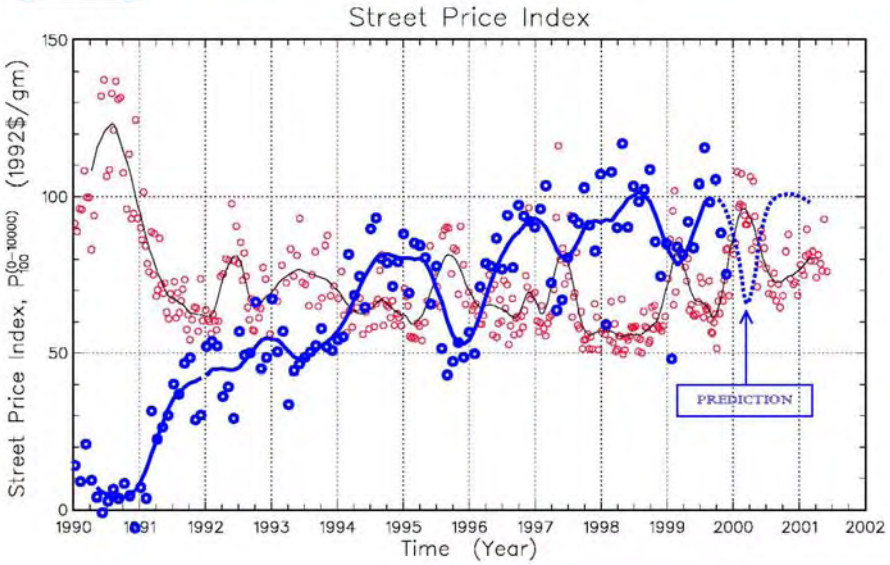
DAWN



Accuracy Of Prediction

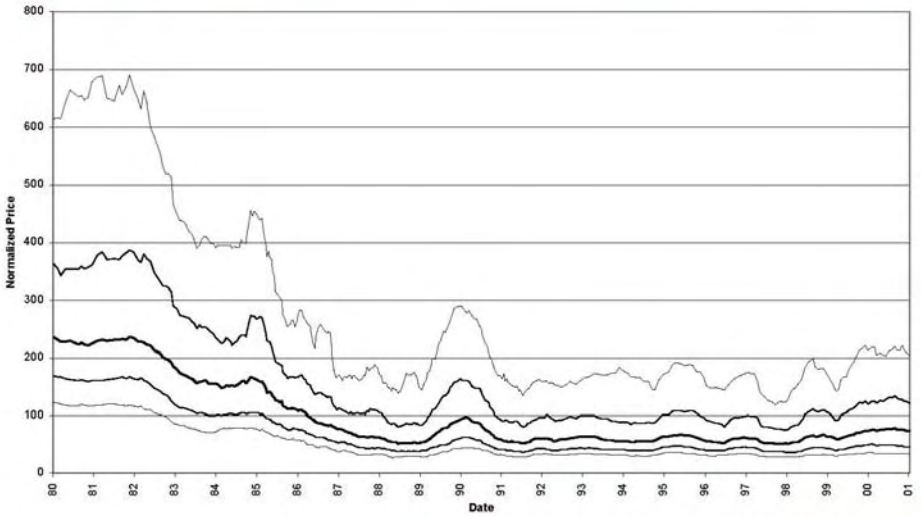


DAWN Update vs. Price Index

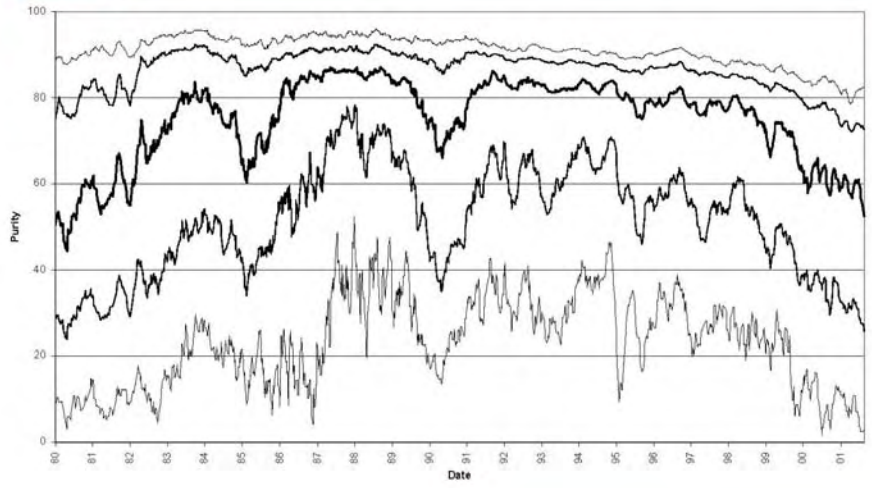


SBCL/Quest vs. Price Index

Normalized Price Percentiles For Powder Cocaine



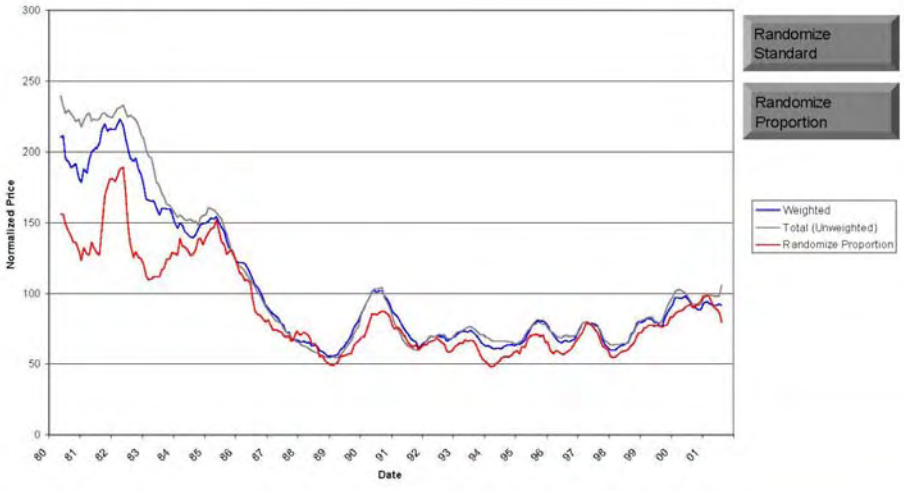
Purity Percentiles For Powder Cocaine



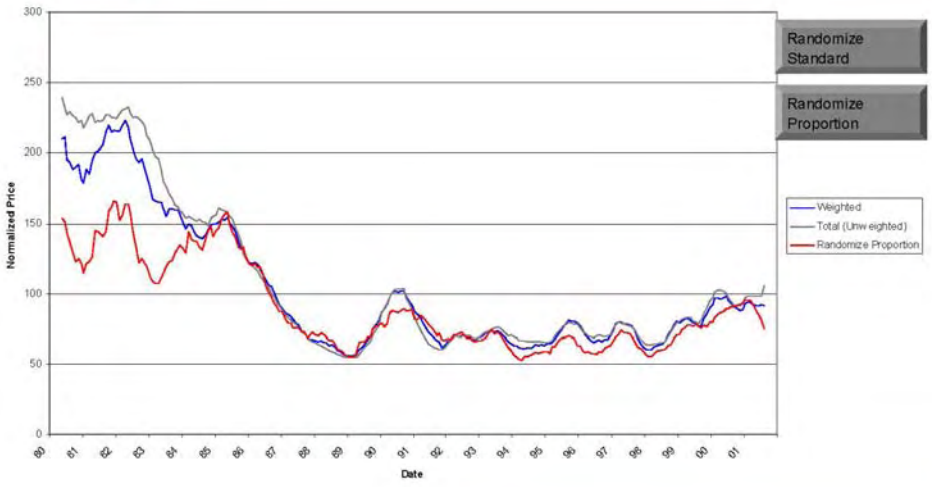
Sensitivity Analyses – Required Precision?

- **ONE SIMPLIFIED EXAMPLE**
- **Consumption Levels**
  - Per individual state/DC
  - Random Weights (0 < W < 1)
- **Price Data**
  - Random multiplication factor (0.5 < F < 1.5)
- **How Much Can Price Index Vary?**
  - Insensitive to precise consumption level estimates
  - Insensitive to precise price/purity data

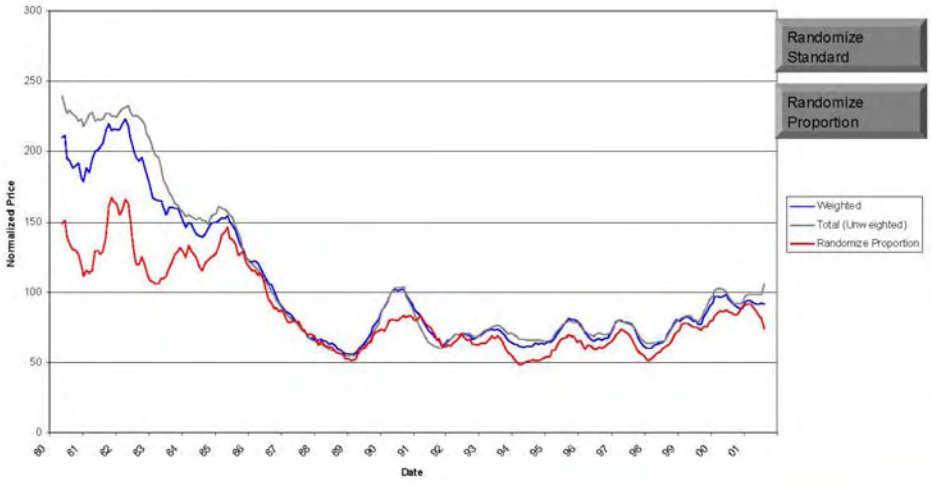
Random Consumption Weights



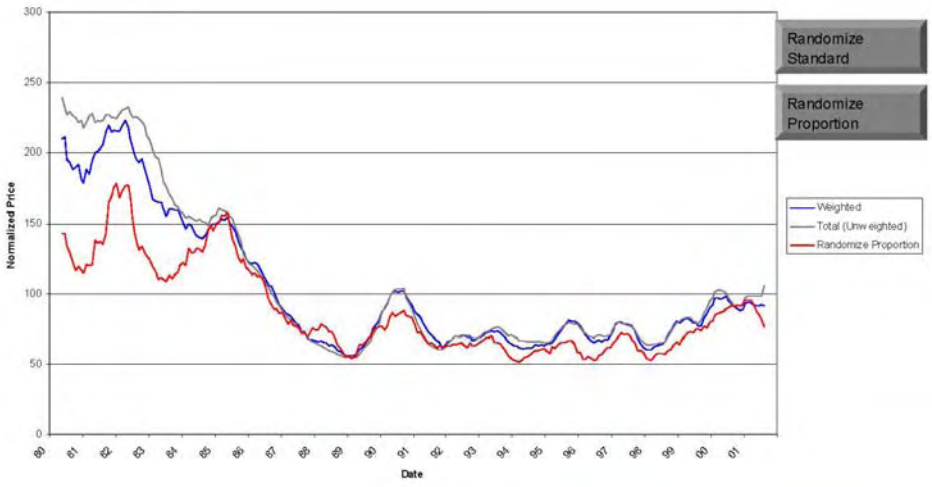
Random Consumption Weights



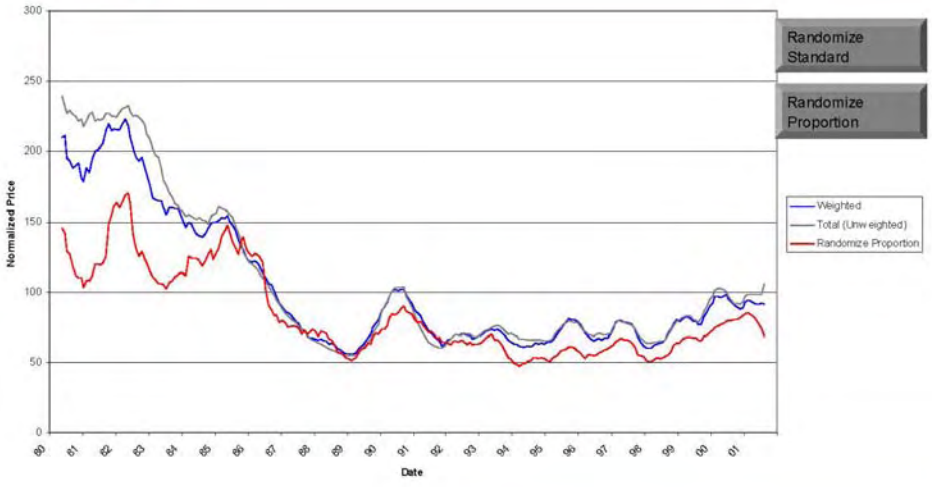
Random Consumption Weights



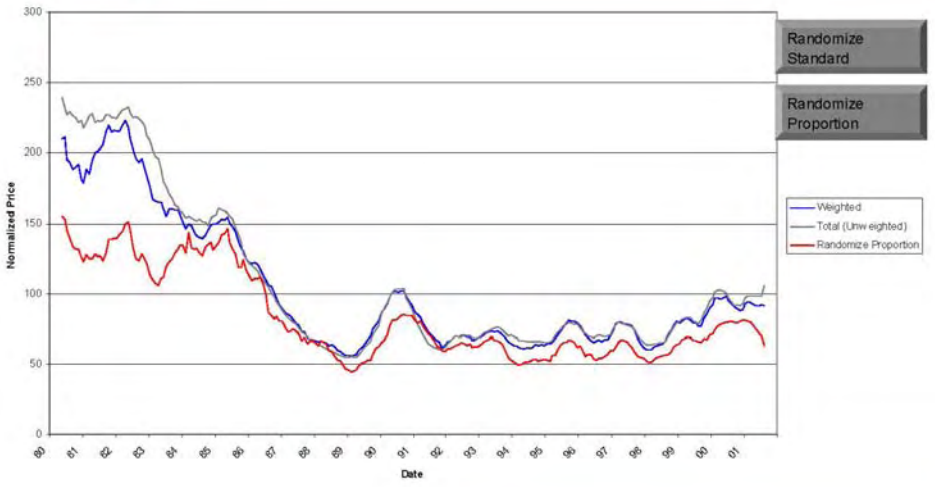
Random Consumption Weights



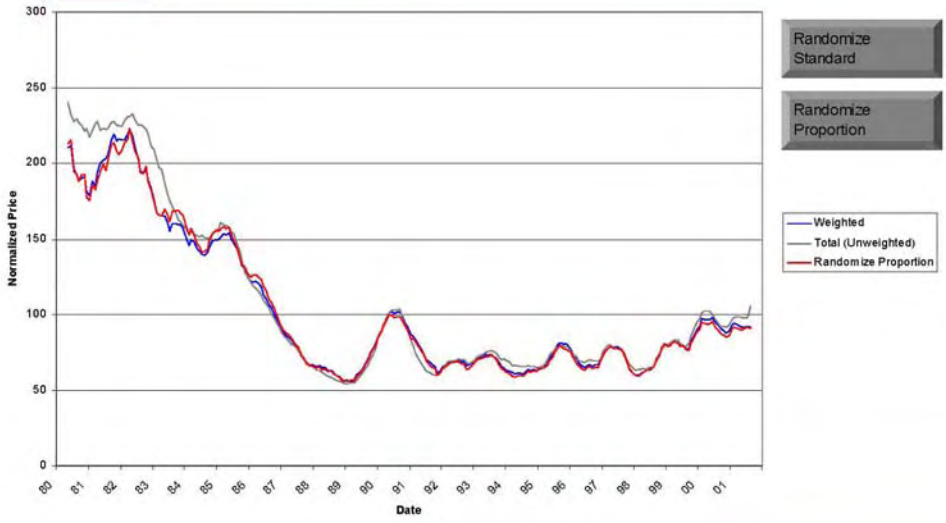
Random Consumption Weights



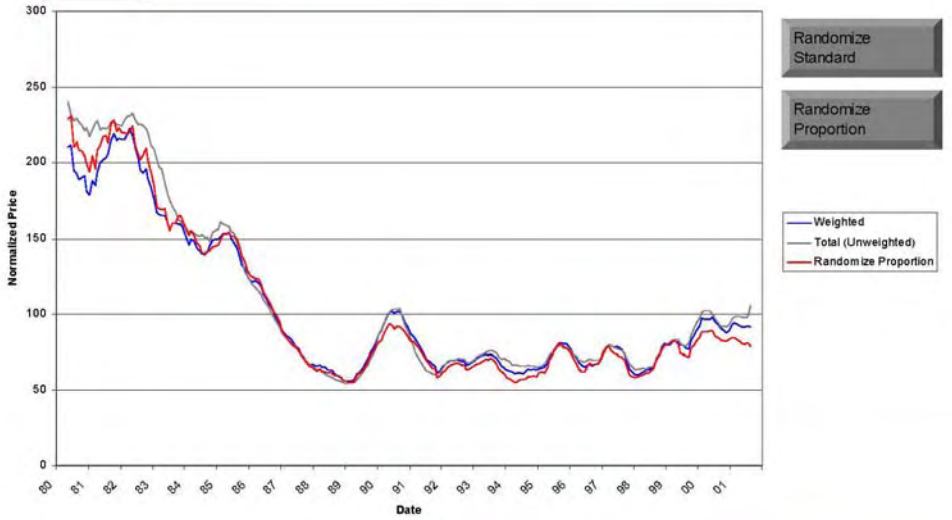
Random Consumption Weights



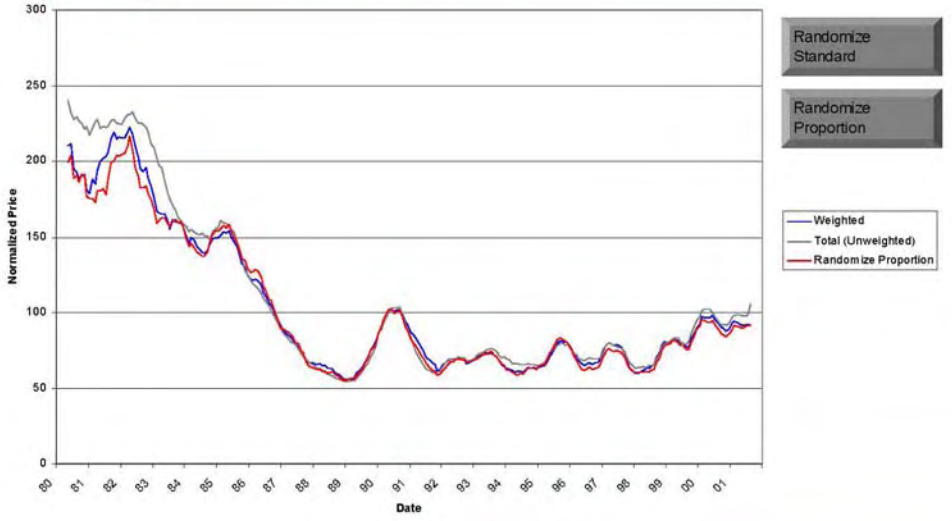
'Proportional" Random Consumption Weights



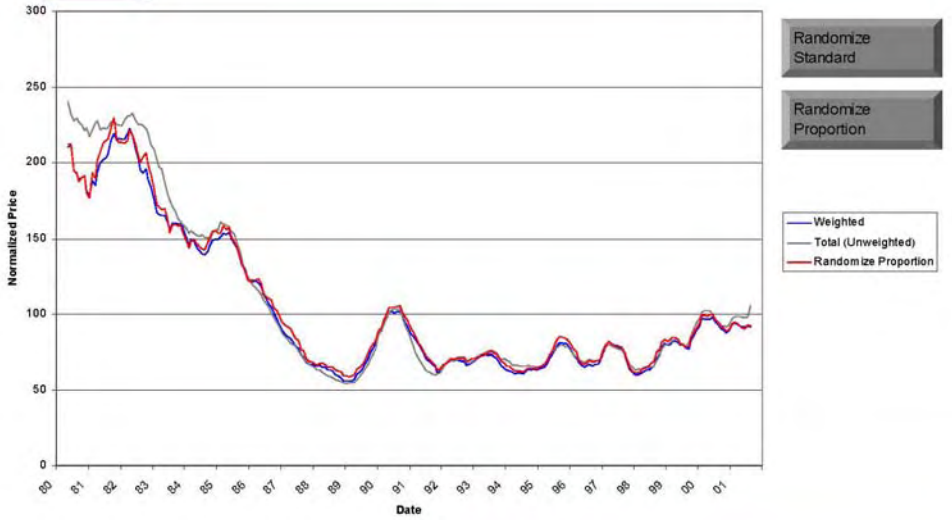
‘Proportional” Random Consumption Weights



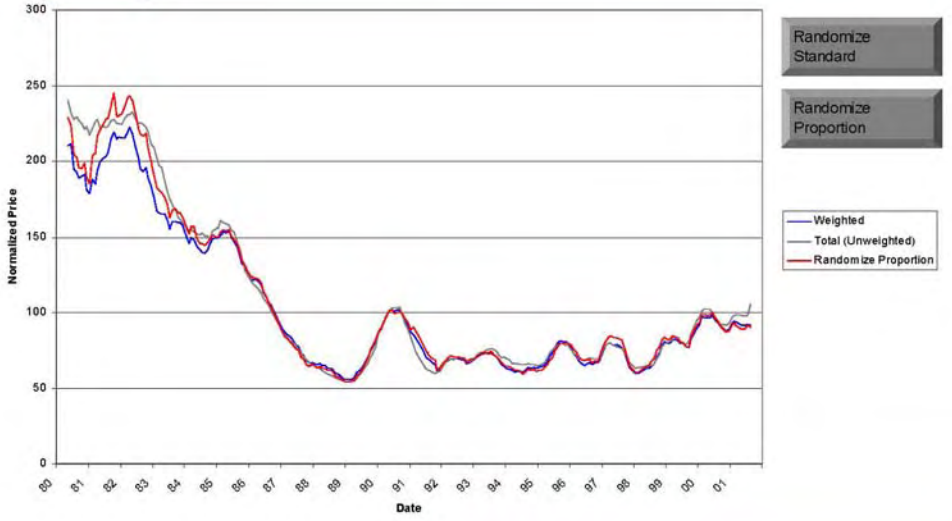
‘Proportional” Random Consumption Weights



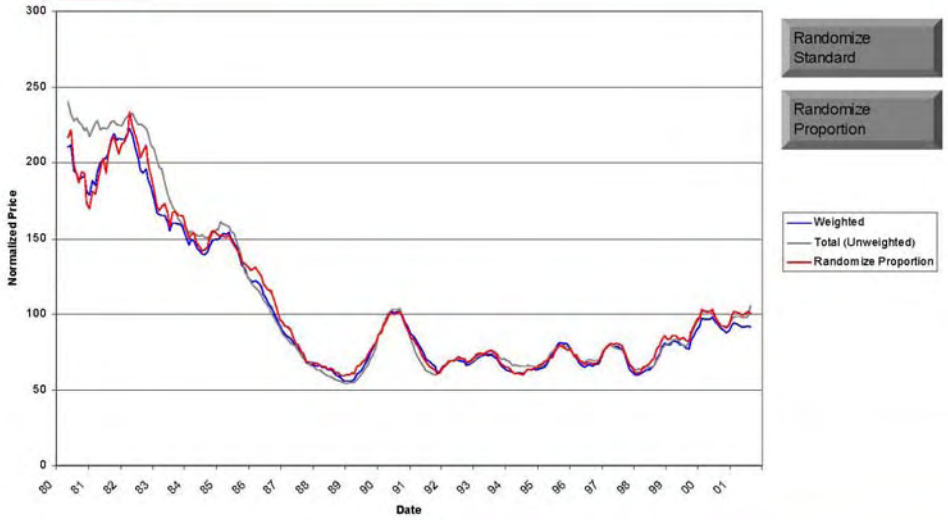
‘Proportional” Random Consumption Weights



‘Proportional” Random Consumption Weights

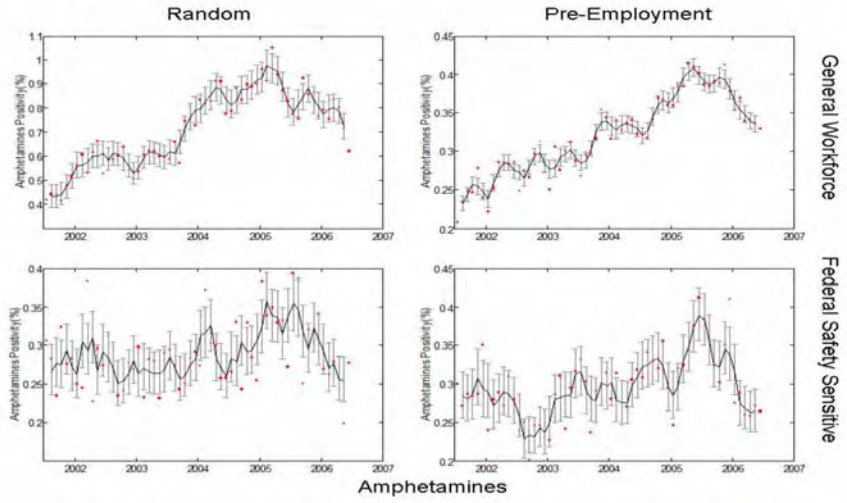


'Proportional" Random Consumption Weights



GW TIME SERIES & MAPS

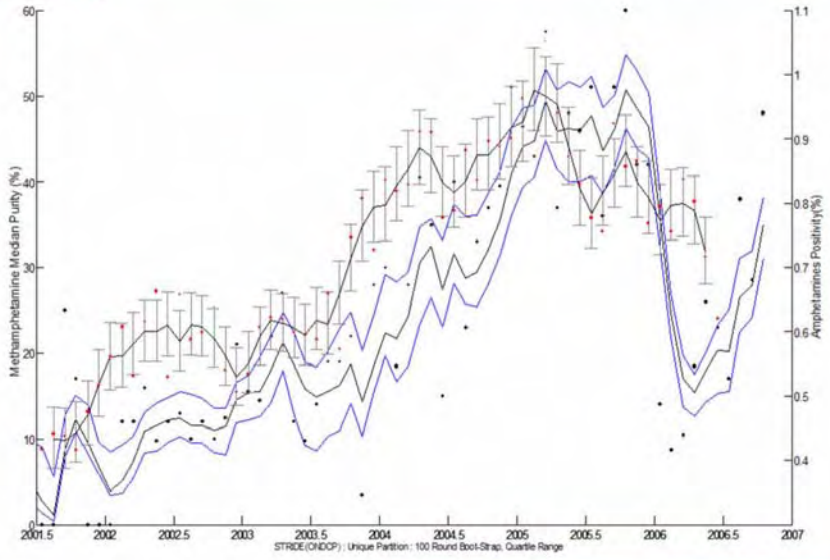
Amphetamines Positivity Rates – *Quest*



12/10/2007-79

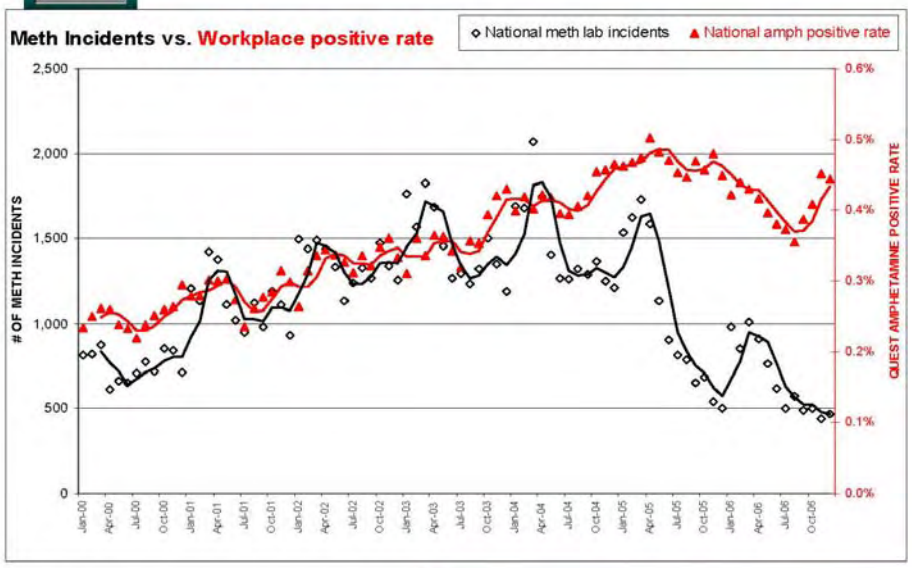
Quest Amphetamine – *STRIDE* Methamphetamine

(Retail Level, 0 – 10 gm)

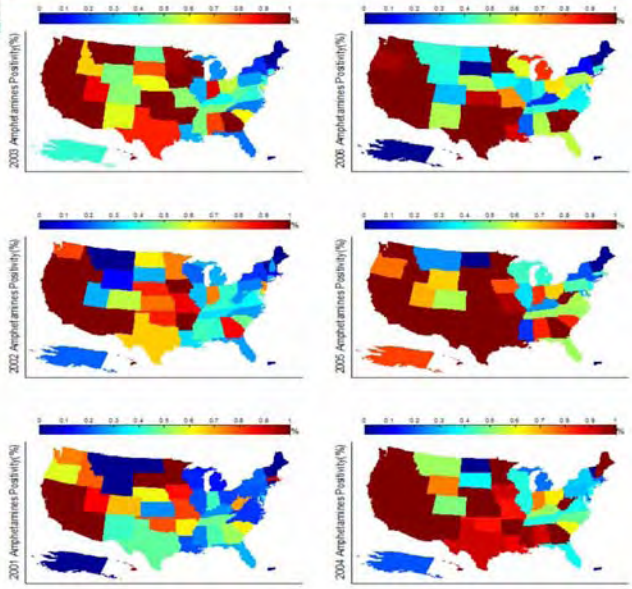


12/10/2007-80

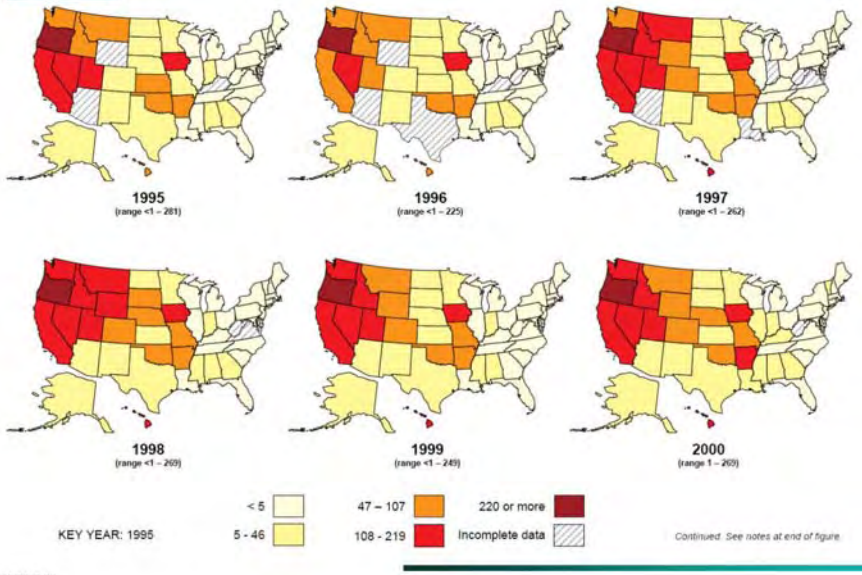
Law Enforcement – Quest



GW Amphetamines Positivity Rates – By State Over Time



Treatment Episode Data Set (TEDS) –
Methamphetamines/Amphetamines (per 100,000 over 12 years old)



Continued. See notes at end of figure.

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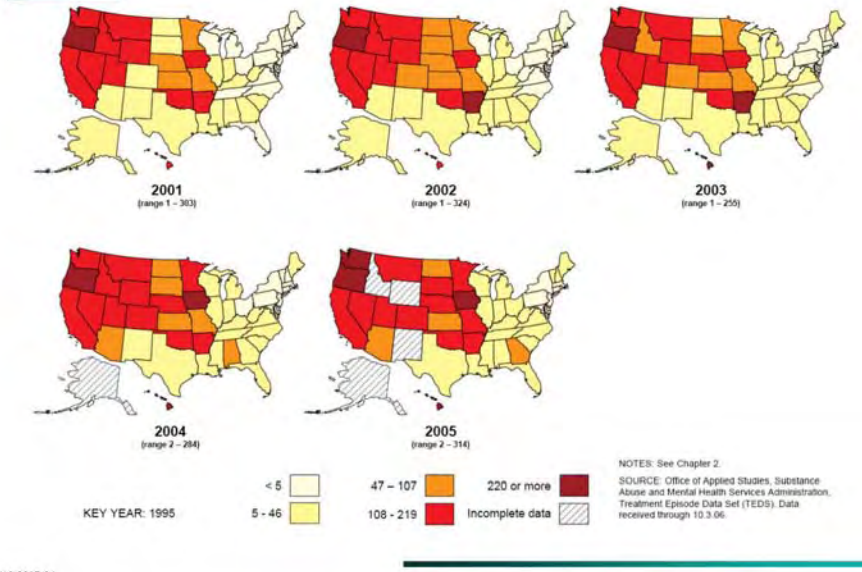
TEDS (continued)



NOTES: See Chapter 2.

SOURCE: Office of Applied Studies, Substance Abuse and Mental Health Services Administration, Treatment Episode Data Set (TEDS). Data received through 10.3.06.

12/10/2007-84

Quest-Quest Correlations – Between Databases

	Ampheta-mines	Cocaine	Marijuana	Opiates	PCP
GW Random to GW Pre-employ	0.85	0.13	0.73	0.18	0.33
GW Random to FMSS Random	0.30	-0.09	0.56	0.05	-0.14
GW Random to FMSS Pre-employ	0.40	0.10	0.61	-0.00	0.32
GW Pre-employ to FMSS Random	0.34	0.09	0.83	0.58	-0.13
GW Pre-employ to FMSS Pre-employ	0.55	0.23	0.90	0.74	0.46
FMSS Random to FMSS Pre-employ	0.39	0.16	0.83	0.59	-0.10

Note: Correlation coefficients (cc) are shaded as follows: cc < -0.10, -0.10 ≤ cc ≤ 0.10, and cc > 0.10.

Quest-Quest Correlations – Between Regions

			NE-MW	NE-S	NE-W	MW-S	W-S	MW-W
Amphetamines	GW	Pre-Employ	0.84	0.84	0.39	0.85	0.58	0.43
		Random	0.28	0.47	-0.04	0.63	0.22	-0.13
	FMSS	Pre-Employ	0.20	0.21	0.03	0.33	0.26	0.13
		Random	0.30	0.26	-0.12	0.33	0.08	-0.11
Cocaine	GW	Pre-Employ	0.49	0.26	0.38	0.01	-0.02	0.53
		Random	0.00	0.02	0.25	0.01	0.39	-0.08
	FMSS	Pre-Employ	-0.02	0.30	-0.07	0.17	0.32	0.01
		Random	0.03	0.02	0.20	0.33	0.07	-0.04
Marijuana	GW	Pre-Employ	0.84	0.79	0.76	0.89	0.83	0.85
		Random	0.42	0.42	0.29	0.38	0.45	0.27
	FMSS	Pre-Employ	0.75	0.64	0.66	0.80	0.66	0.65
		Random	0.59	0.68	0.61	0.71	0.71	0.70
Opiates	GW	Pre-Employ	0.15	0.54	0.35	0.12	0.53	0.14
		Random	0.02	-0.18	-0.12	0.19	-0.00	0.18
	FMSS	Pre-Employ	0.21	0.46	0.42	0.16	0.28	0.08
		Random	0.36	-0.04	0.36	0.31	0.04	0.28
PCP	GW	Pre-Employ	0.39	0.51	0.47	0.42	0.45	0.64
		Random	0.26	0.02	0.01	0.03	0.20	0.16
	FMSS	Pre-Employ	0.12	0.12	0.26	-0.04	-0.03	0.12
		Random	-0.04	-0.02	-0.24	0.12	-0.04	0.03

Note: Correlation coefficients (cc) are shaded as follows: cc < -0.10, -0.10 ≤ cc ≤ 0.10, and cc > 0.10.

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Shadow Economies and Corruption all over the World: What do we know?

1 Introduction: Statements about the Shadow Economy and Corruption

2 Some Theoretical Considerations about the Shadow Economy and about Corruption

3 The Size of the Shadow Economies: Econometric Estimates and Results for 145 Countries

4 The Dynamic Effects of the Shadow Economy on the Official Economy (4.1) and on Corruption (4.2)

5 Summary and Conclusions

6 Appendix: Methods to Estimate the Size of the Shadow Economy

1 Introduction: Statements about the Shadow Economy and Corruption

(i) Size and development of the shadow economies as well of corruption are „hot" scientific and political topics around the world.

(ii) Numerous political statements, that the shadow economy as well as corruption cause severe damages of the „official" economy.

(iii) „Unfair" (Ruineous) competition between the enterpreneurs in the shadow economy and the official one.

(iv) Mostly only one common policy measure: increase effective punishment to get rid of the shadow economy and of corruption.

2.1. The Definition of the Shadow Economy

(i) The *shadow economy* includes all *legal* production and provision of goods and services that are deliberately concealed from public authorities for the following four reasons:

(1) To avoid payment of income, value added or other taxes,

(2) To avoid payment of *social security contributions*,

(3) To avoid having to meet certain legal standards such as minimum wages, maximum hours, safety standards, etc., and

(4) To avoid complying with certain administrative procedures, such as completing statistical questionnaires or other administrative forms.

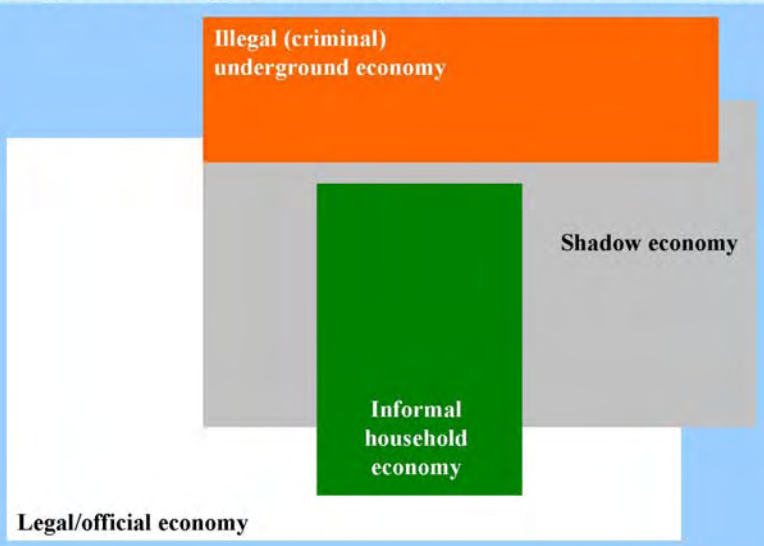
2.1. The Definition of the Underground and Informal Household Economy

(ii) Underground (classical crime) **activities are all *illegal actions* that fit the characteristics of classical crime activities like burgarly, robbery, drug dealing, etc.**

(iii) Informal household economy **consists of household enterprises that are not registered officially under various specific forms of national legislation.**

(iv) These two sectors ((ii) classical crime and (iii) household production) *are not* included in the shadow economy activities.

Figure 2.1: Legal, Shadow, Illegal and Informal Economy



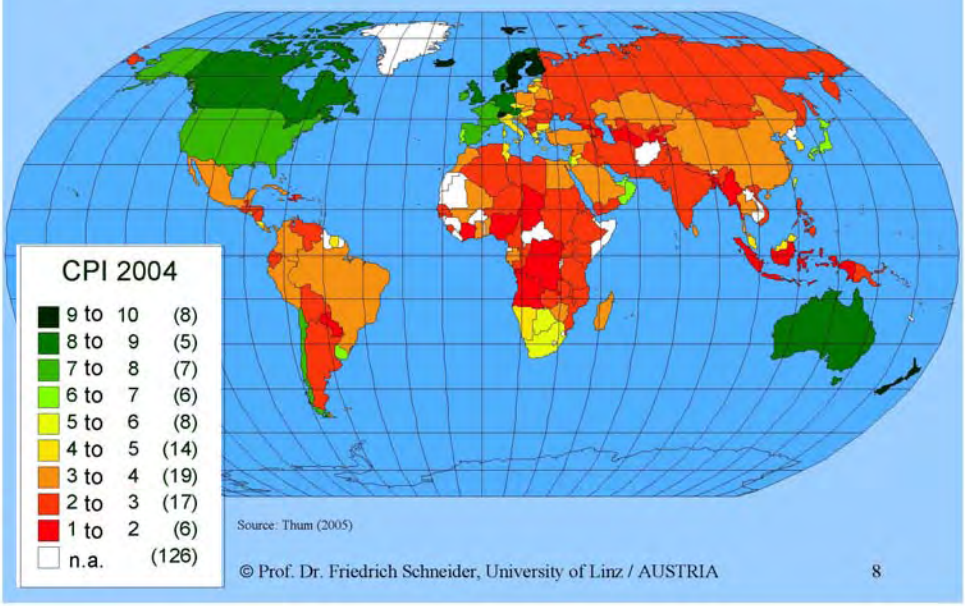
2.2. Definition of Corruption

Corruption is commonly defined as the misuse of public power for private benefit.

The term „*private benefit*“ relates to receiving money or valuable assets.

„*Public power*“ is exercised by bureaucrats, appointed to their office, and by politicians.

Figure 2.2: The Extent of Corruption (Transparency Corruption Index), 2004



Source: Thum (2005)

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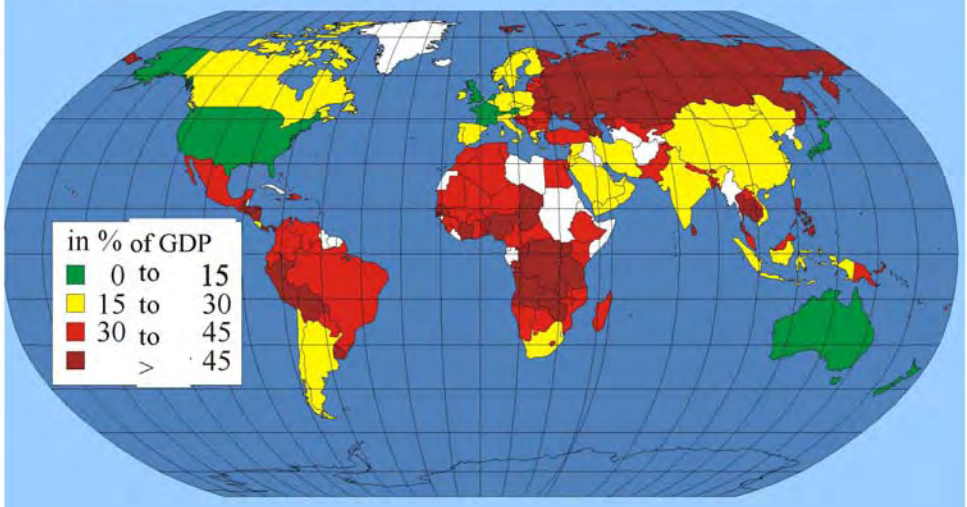
Figure 2.3: Size of Shadow Economy (in of GDP) worldwide 2003/04

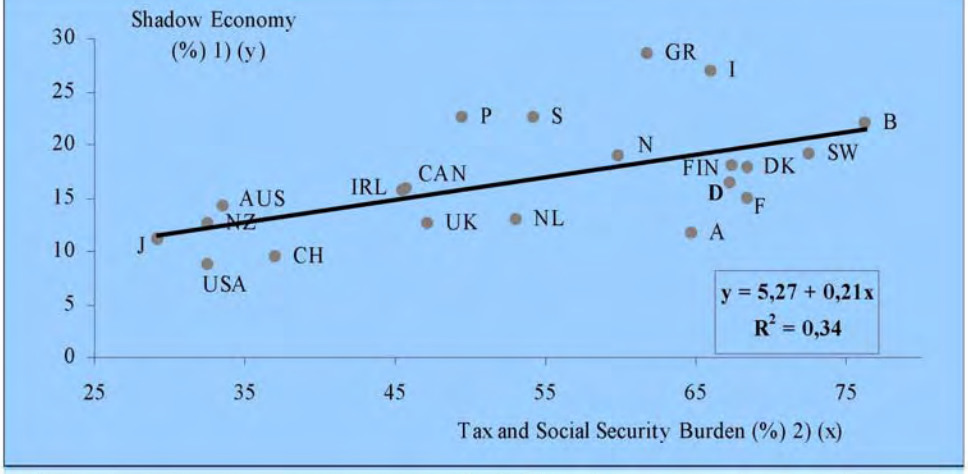


Source: Thum (2005) and Schneider (2005)

2.3. The Main Causes of Determining the Shadow Economy

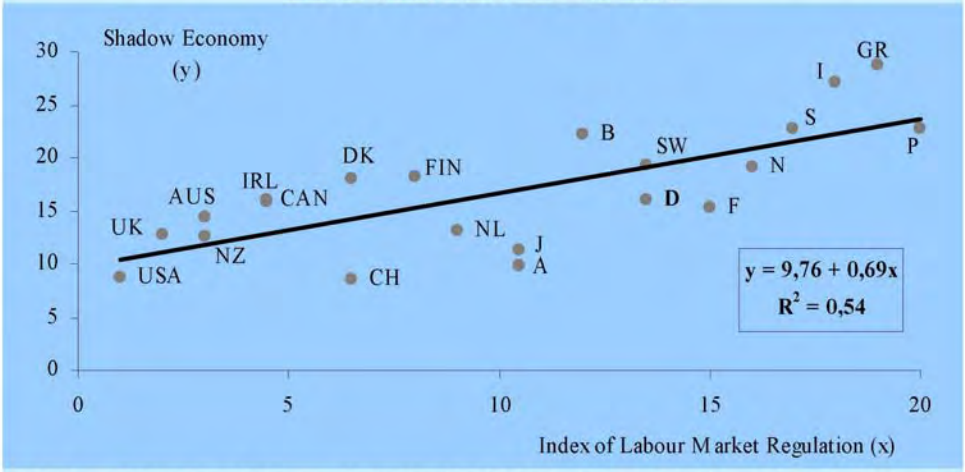
1. Tax and Social Security Contribution Burdens
2. Intensity of Regulations
3. Public Sector Services and Quality of State Institutions

Figure 2.3: Tax and Social Security Burden and the Size of the Shadow Economy in OECD-Countries (in percent of official GDP), Year 2002 1)



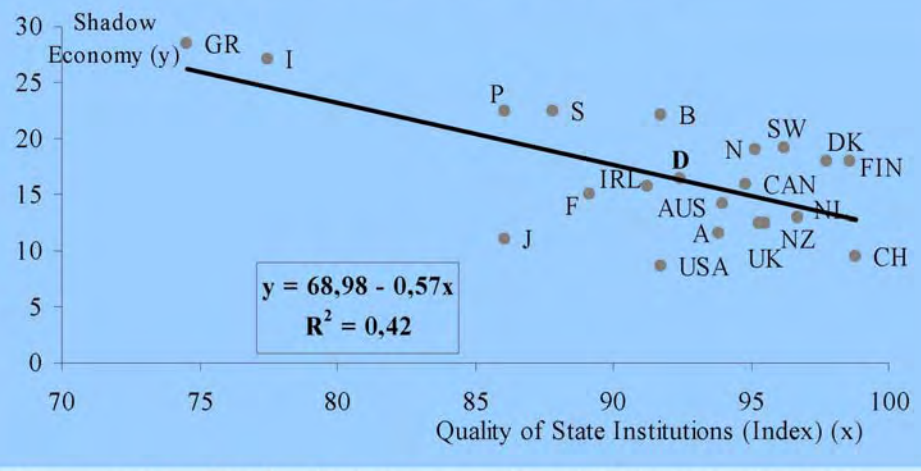
1) Size of the shadow economy, calculated with the DYMIMIC and currency demand method. 2) Total tax and social security burden of single average wage income earner (including social security payments from the employer) + value added tax. Source: OECD, Paris, 2003; Schneider, 2003. and Enste (2003) with own calculations.

Figure 2.4: Labour Market Regulation and the Size of the Shadow Economy: Rank of the Labour Market Regulations 1) and Size of the Economy in percent of official GDP, Years 1999 and 2000



1) Labour Market Regulations on the basis of OECD calculations. The higher the rank number, the more is the labour market regulated.
Source: OECD, Paris, 1999, 2003.

Figure 2.5: Quality of State Institutions and the Size of the Shadow Economy – Index Measuring the Quality of State Institutions 1) and Shadow Economy in percent of official GDP, Year 2002 2)



1) Governance-Index of the Worldbank; 0=lowest quality and 100=hightest quality of state institutions. Source: Worldbank, 2003; Schneider, 2003 and Enste (2003). 2) Size of the shadow economy, calculated with the help of the DYMIMC and currency demand method.

2.3. The Main Causes of the Increase of the Shadow Economy

Table 2.1: What are the Main Causes of the Increase of the Shadow Economy?

Factors Influencing the Shadow Economy		
The most important driving forces are:	**Influence on the Shadow Economy (in%)**	
	(i)	(ii)
(1) Increase of the Tax and Social Security Contribution Burdens	35-38%	45-52%
(2) Intensity of State Regulations	8-10%	10-15%
(3) Social Transfers	5-7%	5-8%
(4) Specific Labor Market Regulations	5-7%	5-8%
(5) Public Sector Services	5-7%	5-8%
(6) Tax Morale	22-25%	-
Overall influence	**76-94%**	**70-90%**

(i) Average values of empirical results of 28 studies. (ii) Average value of „only" 15 studies.

3.1 The DYMIMIC estimations of the shadow economy for 110 countries

3.1.1 Developing Countries

3.1.2 Transition Countries

3.1.3 OECD Countries

Table 3.1.1: DYMIMIC Estimations of the size of the shadow economy of 96 developing countries in Middle and South America, Africa, Asia and South West Pacific Islands over 1999/00 to 2004/05

Cause Variables	Estimated Coefficients
Share of direct taxation (in % of GDP)	$\lambda 1 = 0.14^{(*)}$ (1.70)
Share of indirect taxation and customs duties (in % of GDP)	$\lambda 2 = 0.234^{**}$ (3.01)
Burden of state regulation (Index, Heritage Foundation: score 1 most economic freedom, 5 least economic freedom)	$\lambda 3 = 0.274^{**}$ (2.61)
Unemployment quota (%)	$\lambda 4 = 0.317^{**}$ (4.12)
GDP per capita (in US-$)	$\lambda 5 = -0.143^{*}$ (-2.21)
Lagged endogenous variable	$\lambda 6 = 0.241^{(*)}$ (1.31)
Indicator Variables	
Employment quota (in % of population 18-64)	$\lambda 7 = -0.603^{*}$ (-2.86)
Annual rate of GDP	$\lambda 8 = -1$ (Residuum)
Change of local currency per capita	$\lambda 9 = 0.371^{**}$ (4.07)
Test-statistics	$RMSE^{1)} = 0.0010^{(*)}$ (p-value = 0.903) Chi-square$^{2)}$ = 8.50 (p-value = 0.913) $TMNCV^{3)} = 0.056$ $AGFI^{4)} = 0.721$ N = 480 $D.F.^{5)} = 41$

Notes:
t-statistics are given in parentheses (*); *; ** means the t-statistics is statistically significant at the 90%, 95%, or 99% confidence level.
1) Steigers Root Mean Square Error of Approximation (RMSEA) for test of close fit; RMSEA < 0.05; the RMSEA-value varies between 0.0 and 1.0.
2) If the structural equation model is asymptotically correct, then the matrix S (sample covariance matrix) will be equal to $\Sigma(\theta)$ (model implied covariance matrix). This test has a statistical validity with a large sample ($N \geq 100$) and multinomial distributions; both is given for a all three equations in tables 3.1-3.3 using a test of multi normal distributions.
3) Test of Multivariate Normality for Continuous Variables (TMNCV); p-values of skewness and kurtosis.
4) Test of Adjusted Goodness of Fit Index (AGFI), varying between 0 and 1; 1 = perfect fit.
5) The degrees of freedom are determined by $0.5\,(p + q)\,(p + q + 1) - t$; with p = number of indicators; q = number of causes; t = the number for free parameters.

Table 3.1.2: DYMIMIC Estimation of the Shadow Economy of 25 Central and East European and Former Soviet Union Countries and 3 Communist Countries, Years 1999/00 to 2004/05

Cause Variables	Estimated Coefficients
Share of direct taxation + share of social security payments (in % of GDP)	λ1 = 0.387** (3.03)
Share of indirect taxation + customs duties (in % of GDP)	λ2 = 0.294* (2.62)
Burden of state regulation (Index, Heritage Foundation: score 1 most economic freedom, 5 least economic freedom)	λ3 = 0.202* (2.56)
Unemployment quota (%)	λ4 = 0.345** (3.21)
GDP per capita (in US-$)	λ5 = -0.194** (-2.88)
Lagged endogenous variable	λ6 = 0.214(*) (1.80)
Indicator Variables	
Employment quota (as % of total population 18-64)	λ7 = -0.612** (-3.57)
Annual rate of GDP	λ8 = -1.00 (Residuum)
Change of local currency per capita	λ9 = 0.406** (3.20)
Test-statistics	RMSE[1] = 0.0010[(*)] (p-value = 0.889) Chi-square [2] = 342.66 (p-value = 0.701) TMCV[3] = 0.084 AGFI[4] = 0.682 N = 140 D.F.[5] = 34

Notes:
t-statistics are given in parentheses (*); *; ** means the t-statistics is statistically significant at the 90%, 95%, or 99% confidence level.
1) Steigers Root Mean Square Error of Approximation (RMSEA) for test of close fit; RMSEA < 0.05; the RMSEA-value varies between 0.0 and 1.0.
2) If the structural equation model is asymptotically correct, then the matrix S (sample covariance matrix) will be equal to Σ (θ) (model implied covariance matrix). This test has a statistical validity with a large sample (N ≥ 100) and multinomial distributions; both is given for a all three equations in tables 3.1.1-3.1.3 using a test of multi normal distributions.
3) Test of Multivariate Normality for Continuous Variables (TMNCV); p-values of skewness and kurtosis.
4) Test of Adjusted Goodness of Fit Index (AGFI), varying between 0 and 1; 1 = perfect fit.
5) The degrees of freedom are determined by 0.5 (p + q) (p + q + 1) – t; with p = number of indicators; q = number of causes; t = the number for free parameters.

Sep

Table 3.1.3: DYMIMIC Estimation of the Shadow Economy of 21 highly developed OECD Countries, years 1990/91 to 2004/05– PART 1

Cause Variables	Estimated Coefficients
Share of direct taxation (in % of GDP)	λ1 = 0.384** (3.06)
Share of indirect taxation (in % of GDP)	λ2 = 0.196(*) (1.84)
Share of social security contribution (in % of GDP)	λ3 = 0.506** (3.86)
Burden of state regulation (index of labour market regulation, Heritage Foundation, score 1 least regular, score 5 most regular)	λ4 = 0.213(*) (1.96)
Quality of state institutions (rule of law, World Bank, score -3 worst and +3 best case)	λ5 = -0.307** (-2.61)
Tax morale (WUS and EUS, Index, Scale tax cheating always justified =1, never justified =10)	λ6 = -0.582** (-3.66)
Unemployment quota (%)	λ7 = 0.324** (2.61)
GDP per capita (in US-$)	λ8 = -0.106** (-3.04)
Lagged endogenous variable	λ9= -0.165[(*)] (-1.66)

September 2

Table 3.1.3: DYMIMIC Estimation of the Shadow Economy of 21 highly developed OECD Countries, years 1990/91 to 2004/05 – PART 2

Indicator Variables	Estimated Coefficients
Employment quota (in % of population 18-64)	λ10= -0.626** (-2.72)
Average working time (per week)	λ11 = -1.00 (Residuum)
Annual rate of GDP (adjusted for the mean of all 22 OECD countries)	λ12 = -0.274** (-3.03)
Change of local currency per capita	λ13 = 0.312** (3.74)
Test-statistics	RMSE[1] = 0.0016* (p-value = 0.903) Chi-square[2] = 26.43 (p-value = 0.906) TMCV[3] = 0.049 AGFI[4] = 0.763 N = 168 D.F.[5] = 67

Notes:
t-statistics are given in parentheses (*); *; ** means the t-statistics is statistically significant at the 90%, 95%, or 99% confidence level.
1) Steigers Root Mean Square Error of Approximation (RMSEA) for test of close fit; RMSEA < 0.05; the RMSEA-value varies between 0.0 and 1.0.
2) If the structural equation model is asymptotically correct, then the matrix S (sample covariance matrix) will be equal to Σ (θ) (model implied covariance matrix). This test has a statistical validity with a large sample (N ≥ 100) and multinomial distributions; both is given for a all three equations in tables 3.1.1-3.1.3 using a test of multi normal distributions.
3) Test of Multivariate Normality for Continuous Variables (TMNCV); p-values of skewness and kurtosis.
4) Test of Adjusted Goodness of Fit Index (AGFI), varying between 0 and 1; 1 = perfect fit.
5) The degrees of freedom are determined by 0.5 (p + q) (p + q + 1) – t; with p = number of indicators; q = number of causes; t = the number for free parameters.

3.2 The Size of the Shadow Economies all over the World - Findings for 145 Countries

3.2.1 Developing Countries (Africa, Asia, South and Middle America)

3.2.2 Transition Countries (European and Former Sowjet Union Nations)

3.2.3 Highly Developed OECD Countries

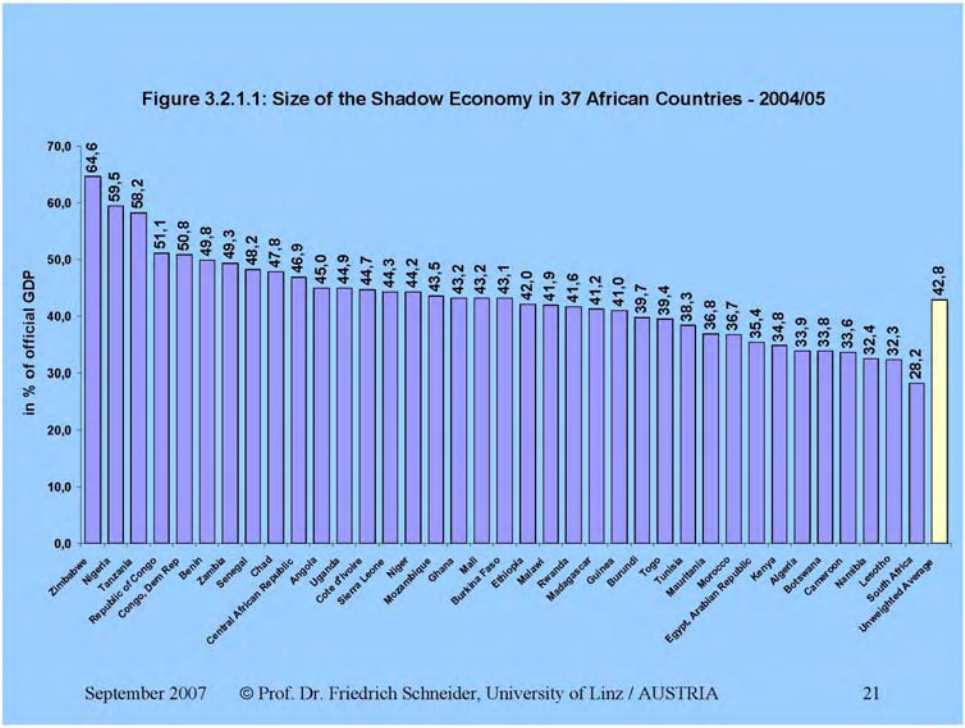


Figure 3.2.1.1: Size of the Shadow Economy in 37 African Countries - 2004/05
in % of official GDP
70,0
60,0
50,0
40,0
30,0
20,0
10,0
0,0
64,6
59,5
58,2
51,1
50,8
49,8
49,3
48,2
47,8
46,9
45,0
44,9
44,7
44,3
44,2
43,5
43,2
43,2
43,1
42,0
41,9
41,6
41,2
41,0
39,7
39,4
38,3
36,8
36,7
35,4
34,8
33,9
33,8
33,6
32,4
32,3
28,2
42,8
Zimbabwe
Nigeria
Tanzania
Republic of Congo
Congo, Dem Rep
Benin
Zambia
Senegal
Chad
Central African Republic
Angola
Uganda
Cote d'Ivoire
Sierra Leone
Niger
Mozambique
Ghana
Mali
Burkina Faso
Ethiopia
Malawi
Rwanda
Madagascar
Guinea
Burundi
Togo
Tunisia
Mauritania
Morocco
Egypt, Arabian Republic
Kenya
Algeria
Botswana
Cameroon
Namibia
Lesotho
South Africa
Unweighted Average
September 2007
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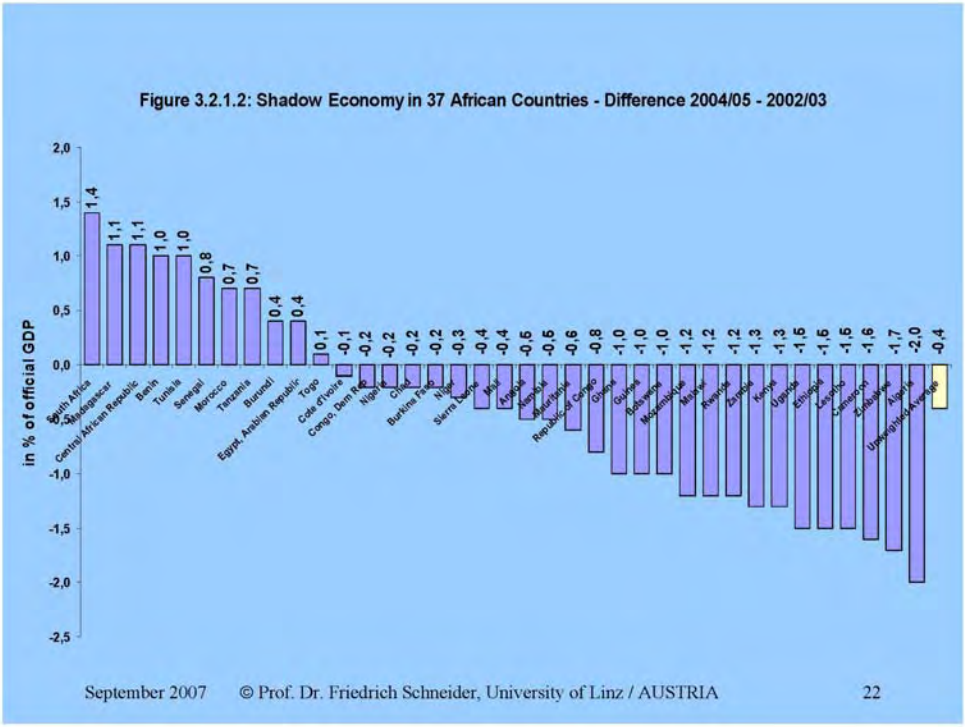
Figure 3.2.1.2: Shadow Economy in 37 African Countries - Difference 2004/05 - 2002/03
in % of official GDP
2,0
1,5
1,0
0,5
0,0
-0,5
-1,0
-1,5
-2,0
-2,5
1,4
1,1
1,1
1,0
1,0
0,8
0,7
0,7
0,4
0,4
0,1
-0,1
-0,2
-0,2
-0,2
-0,2
-0,3
-0,4
-0,4
-0,6
-0,6
-0,6
-0,8
-1,0
-1,0
-1,0
-1,2
-1,2
-1,2
-1,3
-1,3
-1,5
-1,6
-1,6
-1,6
-1,7
-2,0
-0,4
South Africa
Madagascar
Central African Republic
Benin
Tunisia
Senegal
Morocco
Tanzania
Burundi
Egypt, Arabian Republic
Togo
Cote d'Ivoire
Congo, Dem Rep
Nigeria
Chad
Burkina Faso
Niger
Sierra Leone
Mali
Uganda
Angola
Mauritania
Republic of Congo
Guinea
Ghana
Botswana
Mozambique
Malawi
Kenya
Rwanda
Zambia
Kenya
Uganda
Ethiopia
Lesotho
Cameroon
Zimbabwe
Algeria
Unweighted Average
September 2007
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Figure 3.2.2.1: Size of the Shadow Economy in 28 Asian Countries - 2004/05

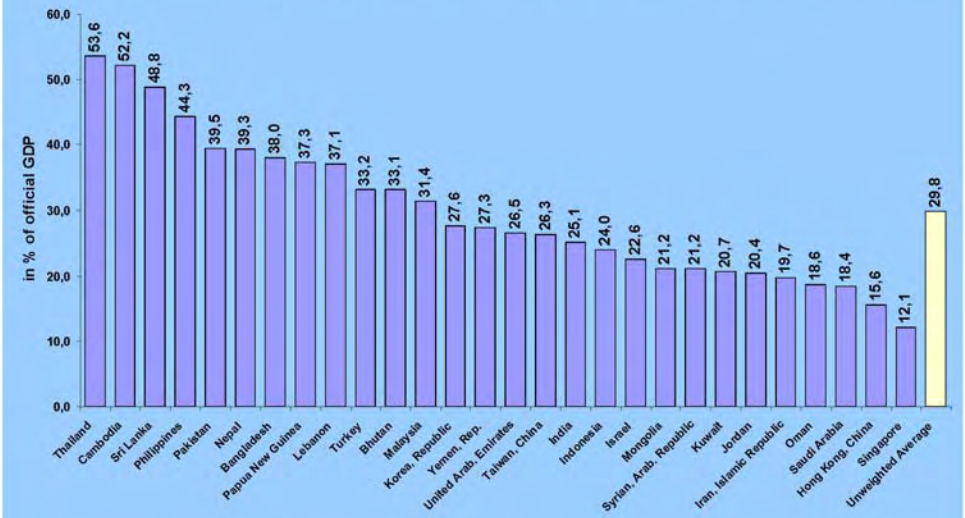


Figure 3.2.2.2: Shadow Economy in 28 Asian Countries - Difference 2004/05 - 2002/03

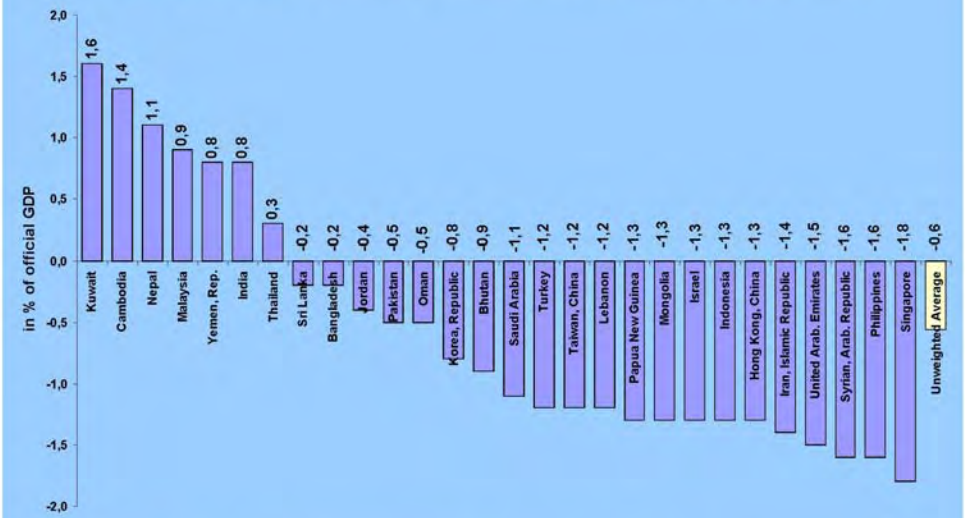


Figure 3.2.3.1: Size of the Shadow Economy in 21 Central and South American Countries - 2004/05

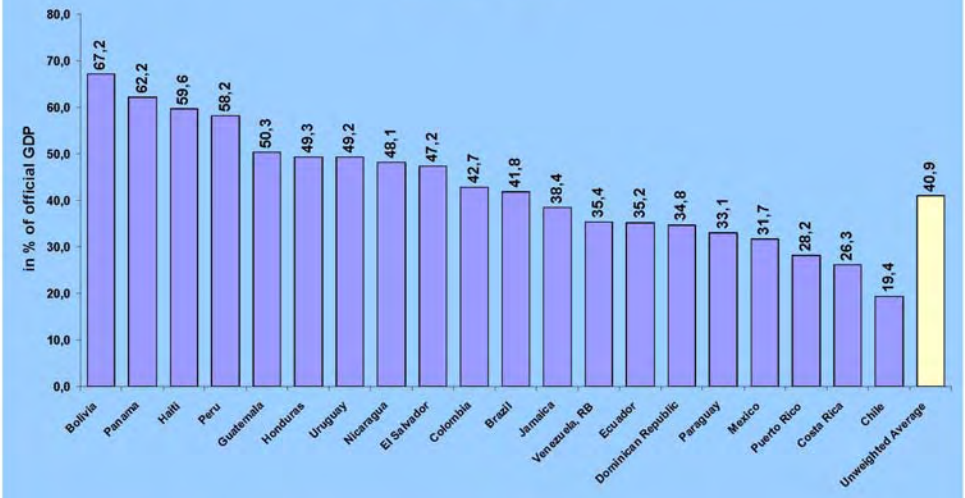


Figure 3.2.3.2: Shadow Economy in 21 Central and South American Countries - Difference 2004/05 - 2002/03

Figure 3.2.4.1: Size of the Shadow Economy in 26 East and Central European and Former Soviet Union Countries - 2004/05

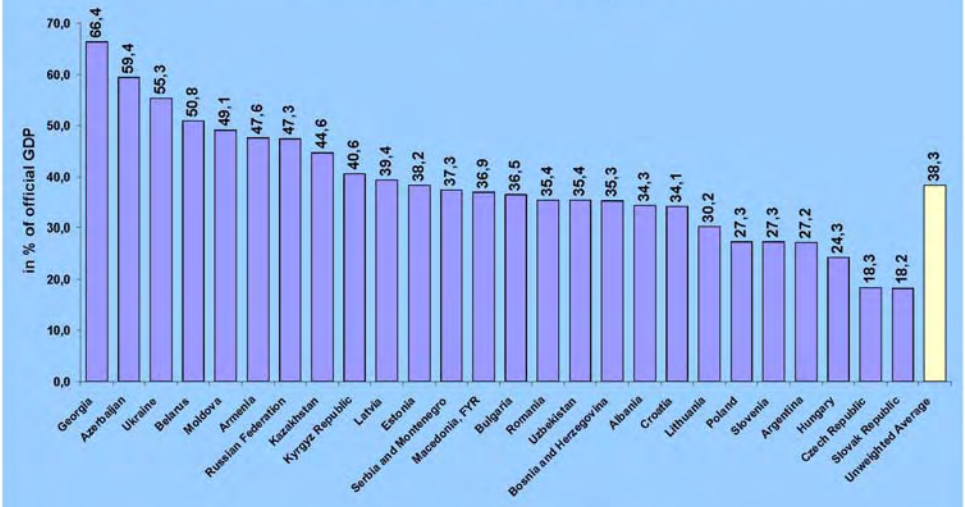
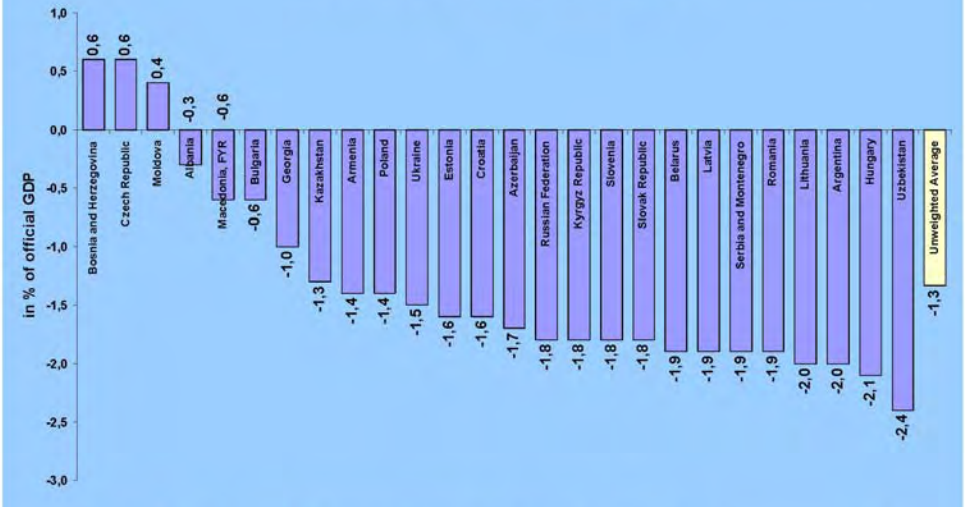


Figure 3.2.4.2: Shadow Economy in 26 East and Central European and Former Soviet Union Countries - Difference 2004/05 - 2002/03



3.2. The Size of the Shadow Economies all over the World – Findings for 145 Countries

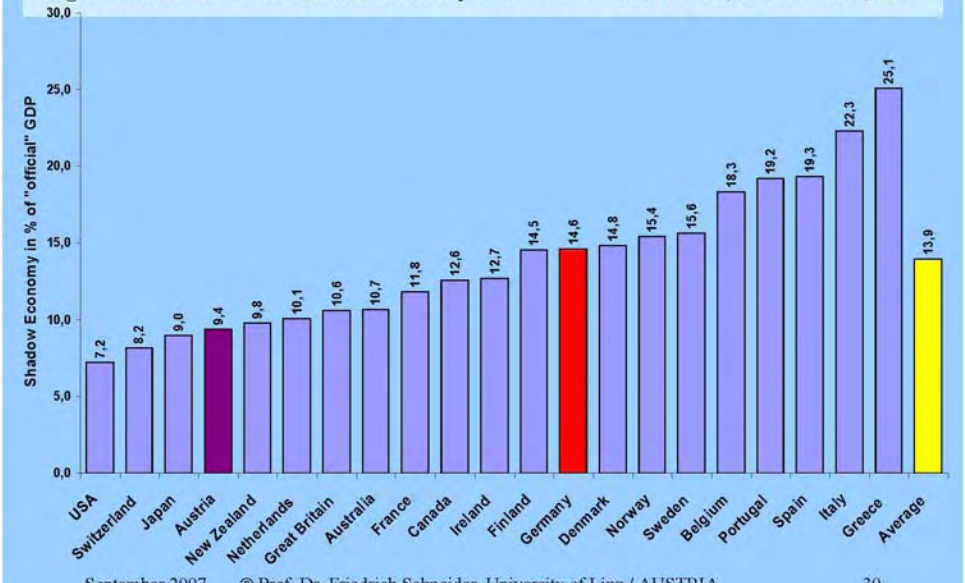
Table 3.2.1: The Size of the Shadow Economy of 21 OECD Countries over time

	1989/90	1990/93	1994/95	1997/98	1999/2000	2001/2002	2002/2003	2004	2005	2006	2007 1)
Australia	10.1	13.0	13.5	14.0	14,3	14,1	13,5	13,2	12,6	11,4	11,7
Austria	6.9	7.1	8.6	9.0	9,8	10,6	10,9	11,0	10,3	9,7	9,4
Belgium	19.3	20.8	21.5	22.5	22,2	22	21,0	20,7	20,1	19,2	18,3
Canada	12.8	13.5	14.8	16.2	16	15,8	15,2	15,1	14,3	13,2	12,6
Denmark	10.8	15.0	17.8	18.3	18	17,9	17,3	17,1	16,5	15,4	14,8
Finland	13.4	16.1	18.2	18.9	18,1	18	17,4	17,2	16,6	15,3	14,5
France	9.0	13.8	14.5	14.9	15,2	15	14,5	14,3	13,8	12,4	11,8
Germany	11.8	12.5	13.5	14.9	16	16,3	16,8	16,2	15,6	15,0	14,7
Great Britain	9.6	11.2	12.5	13.0	12,7	12,5	12,2	12,3	12,0	11,1	10,6
Greece	22.6	24.9	28.6	29.0	28,7	28,5	28,2	28,1	27,6	26,2	25,1
Ireland	11.0	14.2	15.4	16.2	15,9	15,7	15,3	15,2	14,8	13,4	12,7
Italy	22.8	24.0	26.0	27.3	27,1	27	25,7	25,2	24,4	23,2	22,3
Japan	8.8	9.5	10.6	11.1	11,2	11,1	10,8	10,7	10,3	9,4	9,0
Netherlands	11.9	12.7	13.7	13.5	13,1	13	12,6	12,5	12,0	10,9	10,1
New Zealand	9.2	9.0	11.3	11.9	12,8	12,6	12,3	12,2	11,7	10,4	9,8
Norway	14.8	16.7	18.2	19.6	19,1	19	18,4	18,2	17,6	16,1	15,4
Portugal	15.9	17.2	22.1	23.1	22,7	22,5	21,9	21,7	21,2	20,1	19,2
Spain	16.1	17.3	22.4	23.1	22,7	22,5	22,0	21,9	21,3	20,2	19,3
Sweden	15.8	17.0	19.5	19.9	19,2	19,1	18,3	18,1	17,5	16,2	15,6
Switzerland	6.7	6.9	7.8	8.1	8,6	9,4	9,4	9,4	9,0	8,5	8,2
USA	6.7	8.2	8.8	8.9	8,7	8,7	8,4	8,4	8,2	7,5	7,2
Average	13.2	14.3	15.7	16.7	16,8	16,7	16,3	16,1	15,6	14,5	13,9

Sources: Currency demand and DYMIMIC approach, own calculations. 1) Preliminary values.

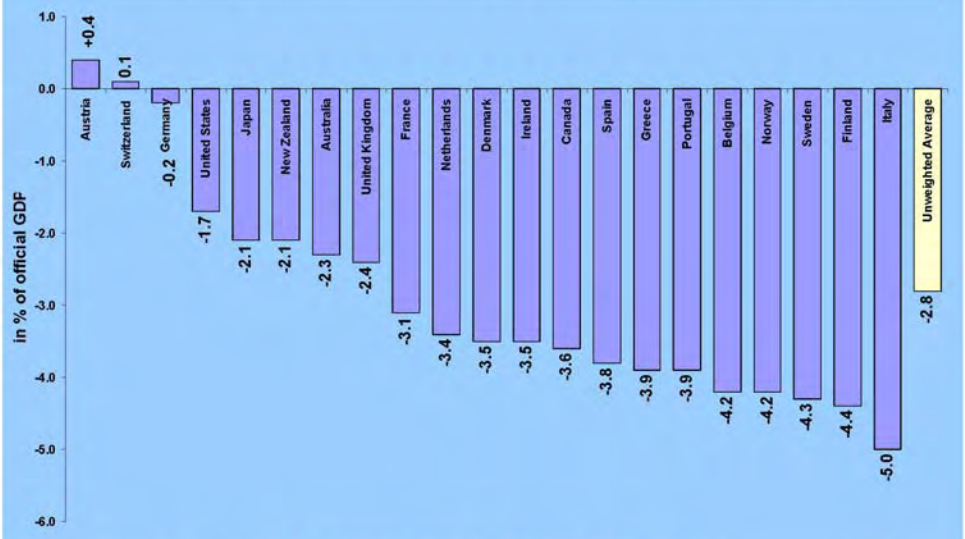
3.2. The Size of the Shadow Economies all over the World – Findings for 145 Countries

Figure 3.2.7.1: Size of the Shadow Economy in *21 OECD COUNTRIES*, in % of GDP, 2007



3.2. The Size of the Shadow Economies all over the World – Findings for 145 Countries

Figure 3.2.7.2: Shadow Economy in 21 OECD Countries - Difference 1997/98 - 2007



4.1 The Dynamic Effects of the Shadow Economy on Official Economy

Hypothesis 1

Adam and Ginsburgh (1985), Schneider (2002) and Bhattacharaya (2000) focus on the interactions of the shadow economy with "official" economy in highly developed countries. They find a *positive relationship* between the growth of the shadow economy and the "official" one.

Hypothesis 2

Loayza (1996) argues that a *substantial reduction* of the shadow economy in developing countries leads to a significant increase in tax revenues and therefore to a greater quantity and quality of public goods and services, which ultimately can stimulate economic growth. Hence he postulates a *negative relationship*.

Conclusion → Hypothesis 3: (1) Considering both lines of theoretical argumentation, the effects of an increase of the shadow economy on "official" economic growth may be different with respect to the developing stage of a country.

(2) *On the one side* in *highly developed countries* individuals/entrepreneurs are overburdened by tax and state regulation so that a *rising shadow economy increases the official* one because additional value added is created and additional income (earned in the shadow economy) is spent in the official economy.

(3) *On the other side* in *developing countries* a rising shadow economy leads to a considerable erosion of the tax base with the consequence of a lower provision of public infrastructure and basic public services (e.g. an inefficient juridical system) and with the final consequence of *lower official growth.*

Empirical Results

4.1.1 109 Developing and Developed Countries

"Official" economic growth = a1 (shadow economy industrialized countries) +
a2 (shadow economy developing countries) +
a3 (openness) +
a4 (inflation rate industrialized countries) +
a5 (inflation rate developed countries) +
a6 (government consumption) +
a7 (lagged GDP per capita growth rate) +
a8 (total population) +
a9 (capital accumulation rate) +
a10 (constant) + ε_{it}

with the expected signs = a1 > 0, a2 < 0, a3 > 0, a4 < 0, a5 < 0, a6 < 0, a7 > 0, a8 > 0, a9 > 0

Table 4.1: Results of the Panel Regression; Time period 1990-2000, 104 developing, transition and industrialized countries	
Dependent Variable	***Annual GDP per capita Growth Rate***
Independent Variables:	***Estimated Coefficients:***
Shadow Economy Industrialized (Transition and OECD) Countries	0.077** (2.63)
Shadow Economy Developing Countries	-0.052** (2.37)
Openness	0.012** (2.14)
Inflation Rate Other Countries	0.023 (1.32)
Inflation Rate Transition Countries	-0.021** (4.10)
Government Consumption	-0.181** (3.23)
Lagged Annual GDP per Capita Growth R.	0.154** (3.06)
Total Population	0.000036** (2.07)
Capital Accumulation Rate	0.019* (1.88)
Constant	0.062** (4.13)
~~Number of Countries~~	~~104~~
Overall R-Squared	0.347
Within R-Squared	0.266
Between R-Squared	0.417
Wald-CHI²	94.63 (0.000)
*Absolute value of z-statistics in parentheses * significant at 10%; ** significant at 5%. Random effects GLS-regression; yearly data. Hausmann Test over random versus fixed effects: CHI²=10.89, Prob=0.2834*	

4.1 The Dynamic Effects of the Shadow Economy on Official Economy

4.1.2 21 OECD countries

"Official" growth (annual GDP per capita) = a1 (trendvariable) +
a2 (shadow economy) +
a3 (openness) +
a4 (capital accumulation rate) +
a5 (annual FDY growth rate) +
a6 (ann. labor force growth r.) +
a7 (constant) ε_{it}

For the signs we expect **a1 > < 0, a2 > 0, a3 > 0, a4 > 0, a5 > 0, a6 > 0.**

Table 4.2: Growth equation for 21 OECD Countries 1990-2000; results of a Panel regression	
Dependent Variables	***Annual GDP per capita Growth Rate***
Explanatory Variables:	***Estimated coefficients***
Trend Variable	-0.003** (3.36)
Shadow Economy	0.078** (2.05)
Openness	0.016** (2.47)
Capital Accumulation Rate	0.127** (3.47)
Annual FDI Growth Rate	0.004** (2.49)
Annual Labour Force Growth Rate	0.951** (2.44)
Constant	6.206** (3.36)
Number of Countries	21
Overall R-Squared	0.370
Within R-Squared	0.213
Between R-Squared	0.716
Wald-Chi²	51.10 (0.000)

Absolute value of z-statistics in parentheses
** significant at 10%;*
*** significant at 5%;*
Random effects GLS-regression; yearly data. Hausmann Test over random versus fixed effects: CHI²(b)=7.46 (0.314)

4.1 The Dynamic Effects of the Shadow Economy on Official Economy

4.1.3 21 Transition and Developing Countries

"Official" growth (ann. GDP per capita) = a1 (shadow ec. transition countr.)
a2 (shadow economy developing countries)
a3 (foreign direct investment lagged)
a4 (inflation rate other countries)
a5 (inflation rate transition countries)
a6 (government consumption)
a7 (lagged annual GDP per capita)
a8 (growth rate)
a9 (population rate)
a10 (capital accumulation rate)
a11 (constant)

For the signs we expect: **a1 > 0, a2 < 0, a3 > 0, a4 < 0, a5 < 0, a6 < 0, a7 > 0, a8 > 0, a9 > 0, a10 > 0.**

Table 4.3: Results of the Panel Regression; Time period 1990-2000, 75 Transition and Developing Countries	
Dependent Variable	***Annual GDP per capita Growth Rate***
Independent Variables:	***Estimated Coefficients:***
Shadow Economy Transition Countries	0.099** (3.80)
Shadow Economy Developing Countries	-0.045** (-2.36)
FDI lagged	0.00049 (0.05)
Inflation Rate Other Countries	0.0263 (1.28)
Inflation Rate Transition Countries	-0.021** (-3.69)
Government Consumption	-0.184** (3.25)
Lagged Annual GDP per Capita Growth Rate	0.154** (3.06)
Total Population	0.000036* (1.80)
Capital Accumulation Rate	0.015 (1.42)
Constant	0.067** (5.00)
Number of Countries	75
Overall R-Squared	0.3211
Within R-Squared	0.263
Between R-Squared	0.443
Wald-CHI²	73.89 (0.000)
*Absolute value of z-statistics in parentheses * significant at 10%; ** significant at 5%. Random effects GLS-regression; yearly data. Hausmann Test over random versus fixed effects: CHI²(9)=9.46 (0.253)*	

4.2 Relationship between Shadow Economy and Corruption

Hypotheses about the Interaction between Corruption and the Shadow Economy

Theoretically, corruption and the shadow economy can be either complements or substitutes:

(1) The model of Dreher et. al (2004) and Rose-Ackermann (1997) show that *corruption* and *shadow economy* are *substitutes* in the sense that the existence of the shadow economy reduces the propensity of officials to demand grafts.

(2) To the contrary Johnson et al. (1997) and Thum (2005) model *corruption* and the *shadow economy* as *complements*.

(3) Hindriks et al. (1998) also conclude that the shadow economy is a complement to corruption, as the tax payer colludes with the inspector so that the inspector underreports the tax liability of the tax payer in exchange for a bribe.

(4) Dreher and Schneider (2006) hypothesize:
Hypothesis 1: **In low income countries, shadow economy activities and corruption are complements.**
Hypothesis 2: **In high income countries, shadow economy activities and corruption are substitutes.**

Table 4.4: Empirical Findings of the Relationship between Shadow Economy and Corruption – Review Table

Dependent Variable:	Shadow Economy			Corruption		
Independent Variable:	Corruption			Shadow Economy		
	All	Low	High	All	Low	High
ICRG index of corruption						
OLS	1.88 (1.20)	3.57 (1.34)	-0,84 (0.97)	0.00 (0.41)	0.01 (1.14)	-0.07 (3.57***)
Robust regression	1.32 (0.82)	-	-	0.00 (0.43)	-	-
IV, set 1	3.72 (1.17)	3.12 (0.86)	5.41 (1.40)	-0.03 (1.28)	-0.01 (0.42)	-0.09 (1.57)
IV, set 2	-4.04 (1.33)	5.14 (0.78)	-1.85 (1.91*)	-0.02 (0.66)	-0.02 (0.46)	-0.11 (1.45)
Panel, fixed effects	1.34 (2.63**)	1.36 (1.42)	-0.69 (1.98**)	0.09 (2.88***)	0.10 (2.77***)	0.09 (0.76)
Panel, random effects	1.59 (4.81***)	-	-	0.02 (2.64***)	-	-
Panel IV	3.46 (3.48***)	-	-	0.01 (0.12)	-	-
TI index of corruption						
OLS	-	-	-	-	-	-0.06 (2.35**)
World Bank Index of corruption						
OLS	-	-	-	-	-	-0.01 (2.76**)
DKM index of corruption						
OLS	-	-	-	0.04 (1.77*)	0.06 (2.49**)	-0.10 (1.50)

* denotes significant at 10% level; ** significant at 5% level; *** significant at 1% level
Source: Dreher and Schneider (2006), table 12.

Table 4.5: Beta coefficients for OLS regressions of the Relationship between the Shadow Economy and Corruption

Dependent Variable	Shadow Economy		Corruption		
Independent Variable	Corruption		Shadow Economy		
	All	High	All	Low	High
ICRG index of corruption					
Cross Section	-	-	-	-	-0.47 (3.57***)
Panel, fixed effects	0.12 (2.63**)	-0.10 (1.98**)	0.98 (2.88***)	1.32 (2.7***)	-
Panel, random effects	0.10 (4.81***)	-	0.16 (2.64***)	-	-
TI index of corruption					
Cross Section	-	-	-	-	-0.25 (2.35**)
World Bank Index of corruption					
Cross Section	-	-	-	-	-0.17 (2.76**)
DKM index corruption					
Cross Section	-	-	0.29 (1.77*)	0.36 (2.49**)	-

Notes:
* denotes significant at 10% level; ** significant at 5% level; *** significant at 1% level

5. Summary and Conclusions

Table 5.1: Average Size of the Shadow Economy for Various Groups of Countries

Countries/Year	Average Size of the Shadow Economy – Value added in % of official GDP using DYMIMIC and Currency Demand method *(Number of Countries)*				
Mostly developing countries:	1999/2000	2000/2001	2002/2003	2003/2004	2004/2005
Africa	41.3 *(37)*	42.3 *(37)*	43.2 *(37)*	43.2 *(37)*	42.8 *(37)*
Central and South America	41.1 *(21)*	42.1 *(21)*	43.4 *(21)*	43.0 *(21)*	42.2 *(21)*
Asia	28.5 *(28)*	29.5 *(28)*	30.4 *(28)*	30.3 *(28)*	29.8 *(28)*
Transition countries	38.1 *(25)*	39.1 *(25)*	40.1 *(25)*	39.5 *(25)*	38.8 *(25)*
Highly developed OECD Countries	16.8 *(21)*	16.7 *(21)*	16.3 *(21)*	15.6 *(21)*	14.8 *(21)*
South Pacific Islands	31.7 *(10)*	32.6 *(10)*	33.4 *(10)*	32.8 *(10)*	32.1 *(10)*
Communist Countries	19.8 *(3)*	21.1 *(3)*	22.3 *(3)*	22.3 *(3)*	22.0 *(3)*
Unweighted Average over 145 Countries	33.6	34.5	35.2	34.9	34.3

Source: Own calculations.

5. Summary and Conclusions

Finally to conclude – what do we really know?

(1) A shadow economy is a complex phenomenon, which is „present" overall in the world with an average size of 34.3% of off. GDP for 145 countries (unweighted average) for 2004/2005. The worldwide extend of corruption was 1,0000 bill.$ in 2004 (Kaufmann, World Bank, 2005).

(2) People engage in shadow economic activities for a variety of reasons among most important, are government actions, most notable taxation, social security contributions and regulation.

(3) A government aiming to decrease shadow economic activities has to first and foremost analyze the complex and frequently contradictory relationships among consequences of its own policy decisions. *Hence, it should also make great efforts to legalize shadow economy activities with the help of economic incentives.*

5. Summary and Conclusions

(4) From a public choice perspective a government may not have an interest to reduce the shadow economy due to the facts, that

(i) tax losses may be moderate as at least 2/3 of the income earned in the shadow economy is immediately spend in the official economy,

(ii) income earned in the shadow economy increases the standard of living at least of 1/3 of the working population, and

(iii) people who work in the shadow economy have less time for other things like to go on demonstrations, etc.

5. Summary and Conclusions

(5) In *highly developed OECD* and in *transition* countries a shadow economy is welfare *increasing* in developing countries welfare *decreasing*.

(6) In summary there is empirival evidence that *going underground* is an *alternative* preliminary to *corruption* in *high income countries* (substitutive relationship) while *corruption* and the *shadow economy* are *complements* in countries with low and middle income.
However, the results depend to some extent on how the regressions are specified and how corruption is measured.

6 Appendix: Methods to Estimate the Size of the Shadow Economy

6.1 Direct Approaches
6.2 Indirect Approaches
6.3 The Model/Latent Estimation Approaches

6. Appendix: Methods to Estimate the Size of the Shadow Economy

6.1 Direct Approaches

6.1.1 Survey-method
6.1.2 Tax-auditing-method
6.1.3 Empirical results of Questionnaires for Germany
6.1.4 Empirical results of Questionnaires for Austria

These micro approaches employ either well designed surveys and samples based on voluntary replies or tax auditing and other compliance methods.

6.1.3: Empirical Results of Questionnaires for Germany

Table 6.1: Do you regularly work in the shadow economy? (yes or no)? Germany, 2007

(1) Do you work regularly in the shadow economy?	Values in percent
No Yes No answer	77,3 20,7 (25% male, 16% female) 2
(2) Do you regularly demand shadow economy activities?	Values in percent
No Yes	69,2 30,8 (35.4% male, 26.5% female)
Representative questionnaire, Germany, January 2007 Source: IDW Koeln, Germany	

6.1.3: Empirical Results of Questionnaires for Germany

Table 6.2: Reasons, why shadow economy activities are demanded, Germany, 2007

Reasons why shadow economy activities are demanded	Values in percent
(1) One saves money – or they are much cheaper than the official ones	90%
(2) The tax and social security burden is much too high	73%
(3) Due to the high labour costs in the official economy one would not demand these activities (extreme assumption: no shadow economy – 22% demand in the official economy; 30% do-it-themselves; and 48% no demand at all!)	68%
(4) The firms offer them themselves	52%
(5) It's so easy to get quick and reliable workers	31%
Representative questionnaire, Germany, January 2007, Source: IDW Koeln	

6.1.3: Empirical Results of Questionnaires for Germany

Table 6.3: Hourly wage rates of shadow economy activities in Germany, 2004

Activity/Worker	Town/Region	Wage rate in the shadow economy (in €)	Wage rate in the official economy (in €)
Painter	Berlin München Rhein/Rhur	10 – 17 9 – 15 10 – 12	42
Mechanics	Hamburg Berlin München	13 – 23 15 – 19 15 – 23	58
Cost of a household moving (distance 300km)	Berlin München Rhein/Rhur	300 – 380 400 – 450 350 – 420	1.800
Representative questionnaire, May 2004			

Values/Attitudes of the German population regarding shadow economy
Table 6.4: Question: What are „Kavaliersdelikte“ (neglegible delicts)?

Statement	German Population (in % Yes)				
	May 1996	May 1998	May 2001	Nov./ Dec. 2002	Nov./Dec. 2003
To demand activities in the shadow economy	55	64	60	68	67
To drive too fast	42	43	44	45	46
To undertake oneself shadow economy activities	36	41	33	36	38
Stealing a newspaper from a box	28	29	31	30	28
Not to send children to school	25	27	24	18	16
Not to be honest with the tax declaration	22	22	18	-	18
Not to go to work (make „blue“ on a Monday)	18	17	16	13	12
To drive drunken	9	4	7	3	4

6.1.3: Empirical Results of Questionnaires for Germany

Values/Attitudes of the German population regarding shadow economy
Table 6.5: Statements about the shadow economy

Statement	German Population (in % Yes)				
	May 1996	May 1998	May 2001	Nov./ Dec. 2002	Nov./Dec. 2003
Without shadow economy earnings one cannot keep up the standard of living	62	69	69	70	71
It's the state/government own fault that the shadow economy is so popular and large, because the tax and social security burden is too high	63	67	57	66	67
In the last 2-3 years I have demanded shadow economy activities	26	38	34	36	39
Due to shadow economy activities the state looses a great amount of tax revenues and social security payments	29	25	30	28	26
In the neighbourhood one observes a lot of shadow economy activities	-	-	24	28	32
I think, shadow economy workers should be reported to the authorities and prosecuted	9	4	6	3	3
If a shadow economy worker is detected he should be punished severely (high financial fines)	7	4	5	7	3

Table 6.6: A comparison of Size of the German Shadow Economy using the survey and the DYMIMIC-method, year 2006

Various kinds of shadow economy activities/values	Shadow Economy in % of official GDP	Shadow Economy in bill. Euro	Fictive jobs (full time equivalent) millions	% share of the overall shadow economy
Shadow economy activities from labour (hours worked)	5.0 – 6.0	117 – 140	2.1 – 2.4	33 – 40
+ Material (used)	3.0 – 4.0	70 – 90	1.2 – 1.5	20 – 25
+ Illegal activities (goods and services)	4.0 – 5.0	90 – 117	1.5 – 2.1	25 – 33
+ already in the official GDP included illegal activities	1.0 – 2.0	23 – 45	0.4 – 0.8	7 - 13
Sum (1) to (4)	13.0 – 17.0	300 – 392	5.2 – 6.8	85 – 111
Overall (total) shadow economy (estimated by the DYMIMIC and calibrated by the currency demand procedure)	15.0	340	6.0	100
Source: Enste/Schneider (2006) and own calculations.				

6.1.4. Some remarks when comparing the values from the survey method with the total value added in the shadow economy sector achieved by the DYMIMIC method.

The rather large difference can be "explained" with the following facts:

1. Table 6.6 contains earnings and not the value added of the shadow economy. This means material is not considered.

2. Demanders are overwhelmingly households, the whole sector of the shadow economy activities between firms (which are especially a problem in the construction and craftsmen sectors) *is not considered.*

3. All foreign shadow economy activities are not considered.

4. The amount earned in the shadow economy, hourly wage rate and hours worked per year vary considerably.

6.2 Indirect Approaches

These approaches, which are also called "indicator" approaches, are mostly macroeconomic ones and use various (mostly economic) indicators that contain information about the development of the shadow economy (over time).

- **6.2.1 The Discrepancy between National Expenditure and Income Statistics**
- **6.2.2 The Discrepancy between the Official and Actual Labor Force**
- **6.2.3 The Transactions Approach**
- **6.2.4 The Currency Demand Approach**
- **6.2.5 The Physical Input (Electricity Consumption) Method**

6.3 The Model/Latent Estimation Approach

6.2.4. The Currency Demand Approach

The basic regression equation for the currency demand, proposed by Tanzi (1983), is the following:

$$\ln (C / M2)t = bO + b1 \ln (1 + TW)t + b2 \ln (WS / Y)t + b3 \ln Rt + b4 \ln (Y / N)t + ut$$

with $b1 > 0, b2 > 0, b3 < 0, b4 > 0$

where

ln denotes natural logarithms,

C / M2 is the ratio of cash holdings to current and deposit accounts,

TW is a weighted average tax rate (as a proxy changes in the size of the shadow economy),

WS / Y is a proportion of wages and salaries in national income (to capture changing payment and money holding patterns),

R is the interest paid on savings deposits (to capture the opportunity cost of holding cash), and

Y / N is the per capita income.

The most commonly raised objections (criticism) against the current demand approach are:

(1) Not all transactions in the shadow economy are paid in cash. The size of the total shadow economy (including barter) may thus be larger.

(2) Most studies consider only one particular factor, the tax burden, as a cause of the shadow economy. If other factors also have an impact on the extent of the hidden economy, the shadow economy may be higher.

(3) Blades and Feige, criticize Tanzi's studies on the grounds that the US dollar is used as an international currency, which has to be controlled.

The most commonly raised objections (criticism) against the current demand approach are:

(4) Another weak point is the assumption of the same velocity of money in both types of economies.

(5) Ahumada, Alvaredo, Canavese A. and P. Canavese (2004) show, that the currency approach together with the assumption of equal income velocity of money in both, the reported and the hidden transaction is only correct, if the income elasticity is 1. As this is for most countries not the case, the calculation has to be corrected.

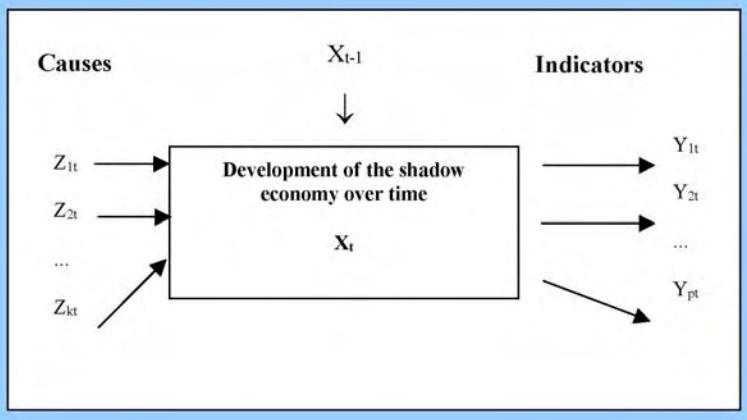
(6) Finally, the assumption of no shadow economy in a base year is open to criticism.

6.3. The Model (Latent) Estimation (DYMIMIC) approach

The DYMIMIC (dynamic multiple-indicators multiple-causes) model consists of two parts:

1. **The measurement model links the unobserved variables to observed indicators.**
2. **The structural equations model specifies causal relationships among the unobserved variables.**
3. **In this case, there is only one unobserved variable, the size of the shadow economy.**
4. **Shadow Economy will be influenced by a set of indicators for the shadow economy's size, thus capturing the structural dependence of the shadow economy on variables that may be useful in predicting its movement and size in the future.**

Figure 6.1: Development of the shadow economy over time



6.3.1. The Model Approach: Some Causes of the Shadow Economy:

(i) The **burden of direct and indirect taxation** (including social security payments), both actual and perceived: a rising burden of taxation provides a strong incentive to work in the shadow economy.

(ii) The **burden of regulation** as proxy for all other state activities: increases in the burden of regulation give a strong incentive to enter the shadow economy.

(iii) The **„tax morality"** (citizens' attitudes toward the state), which describes the readiness of individuals (at least partly) to leave their official occupations and enter the shadow economy: a declining tax morality increase the size of the shadow economy.

6.3.2. Some Indicators of the shadow economy:

A change in the size of the shadow economy is reflected in the following indicators:

(i) Development of monetary indicators: if activities in the shadow economy rise, additional monetary transactions are required.

(ii) Development of the labor market: increasing participation of workers in the hidden sector results in a decrease in participation in the official economy.

(iii) Similarly, increased activities in the hidden sector may be expected to be reflected in shorter working hours in the official economy.

The main objections against the DYMIMIC approach are:

(1) instability in the estimated coefficients with respect to sample size changes and alternative specifications

(2) the reliability and selection of „causes“ and „indicators“ in explaining the variability of the shadow economy, and

(3) Problem that one obtains only relative values of the SE and one has to use another method to calibrate these values into absolute ones!

6.4. Some more general weaknesses of the different methods to estimate the shadow economy:

1. Surveys
- **(1) Quite often only households or only partly firms are considered**
- **(2) Non-responses and/or incorrect responses**

2. Estimations of national account statisticians (quite often the discrepancy method):
- **(1) Combination of meso estimates/assumptions**
- **(2) Often not published**
- **(3) Documentation and procedures often not public**

3. Monetary and/or electricity methods:
- **(1) Some estimates are very high**
- **(2) Are the assumptions plausible?**
- **(3) Breakdown by sector or industry possible?**

4. DYMIMIC method
- **(1) only relative coefficients, no absolute values**
- **(2) estimations quite often highly sensitive with respect to changes in the data and specifications.**

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Dimensions of the drug problem

DRUG ABUSE
- spreading along the trafficking routes

DRUG PRODUCTION
- typically affecting countries with weak institutional structures

TRAFFICKING & ORGANIZED CRIME
- narco-cartels
- corruption
- infiltration of licit economy

HIV-AIDS
- risk of an epidemic

TERRORISM
- funded by narco-resources

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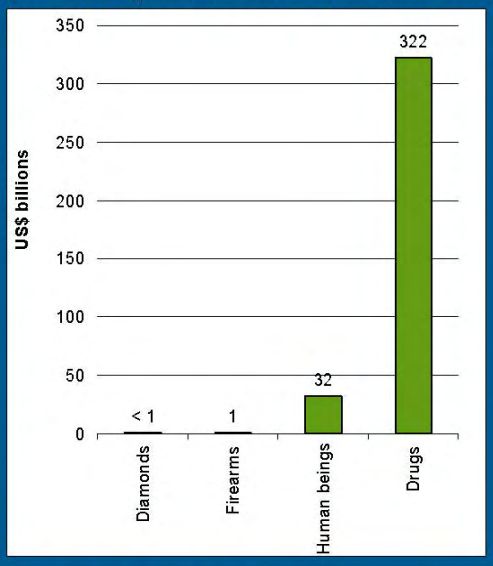
Estimated global value of illicit markets



Source: UNODC, 2007 World Drug Report

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CULTIVATION OF NARCOTICS - OVERVIEW

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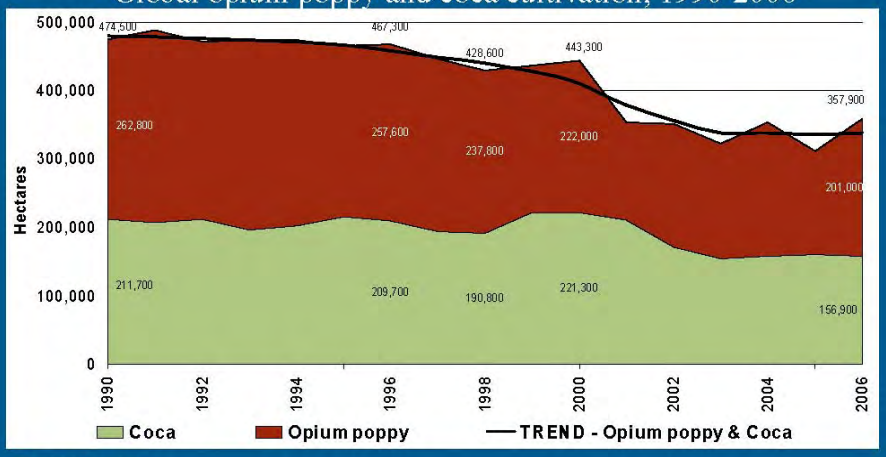
Global opium poppy and coca cultivation, 1990-2006



Comparisons:

Greater London:	157,900 ha	Jamaica:	1,099,100 ha	Mauritius:	204,000 ha
New York City:	95,300 ha	Singapore:	682,700 ha	Comoros:	186,200 ha
Berlin:	89,200 ha	Brunei Darussalam:	576,500 ha	Hong Kong:	109,500 ha
Vienna:	41,500 ha	Cape Verde:	403,600 ha	Bahrain:	71,600 ha
		Luxembourg:	258,600 ha	Malta:	31,600 ha

Source: UNODC, 2007 World Drug Report

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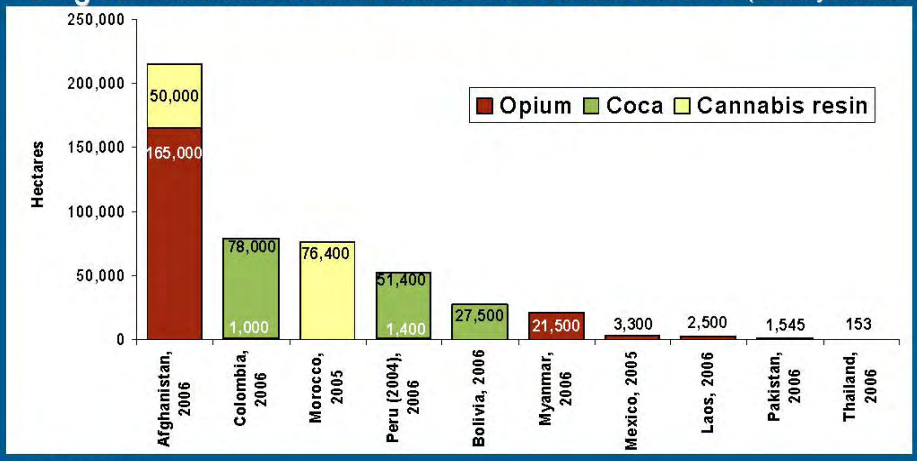
Drug cultivation in hectares in selected countries in 2006 (or latest year available)



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Source: UNODC, 2007 World Drug Report

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TRAFFICKING
Overview

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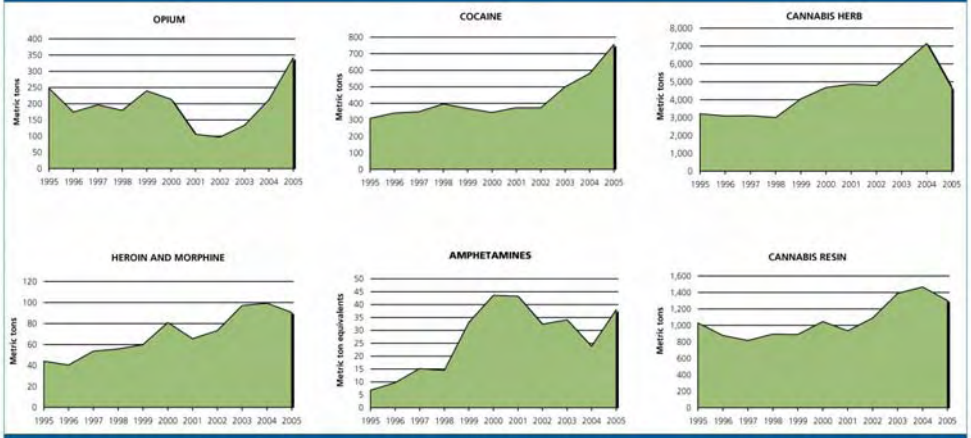
Trends in the world seizures, 1995 - 2005



Source: UNODC, 2007 World Drug Report

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DRUG CONSUMPTION
Overview

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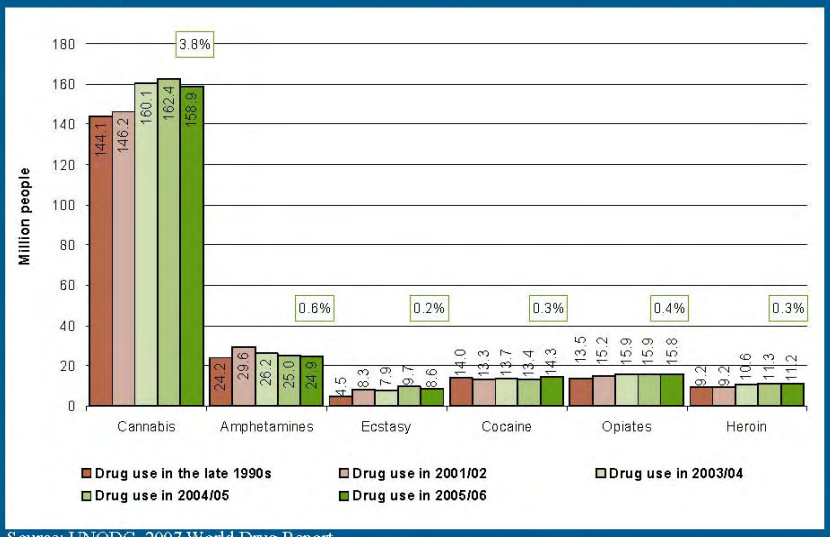
UNODC estimates of illicit drug use, late 1990s to 2005/2006



Source: UNODC, 2007 World Drug Report

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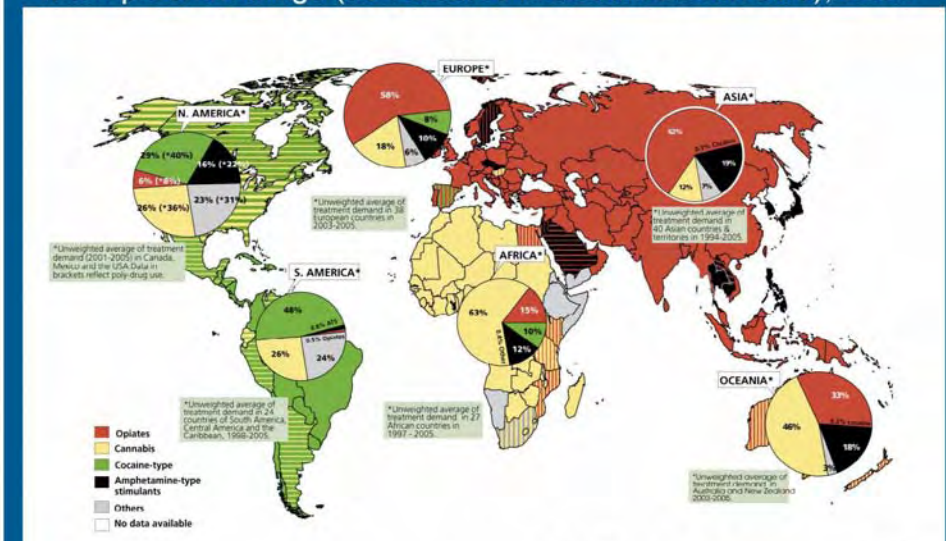
Main problem drugs (as reflected in treatment demand), 2005*



*Or latest year available

Sources: UNODC, Annual Reports Questionnaire Data/DELTA and National Government Reports.

4.5 million people treated in 2005

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OPIUM / HEROIN

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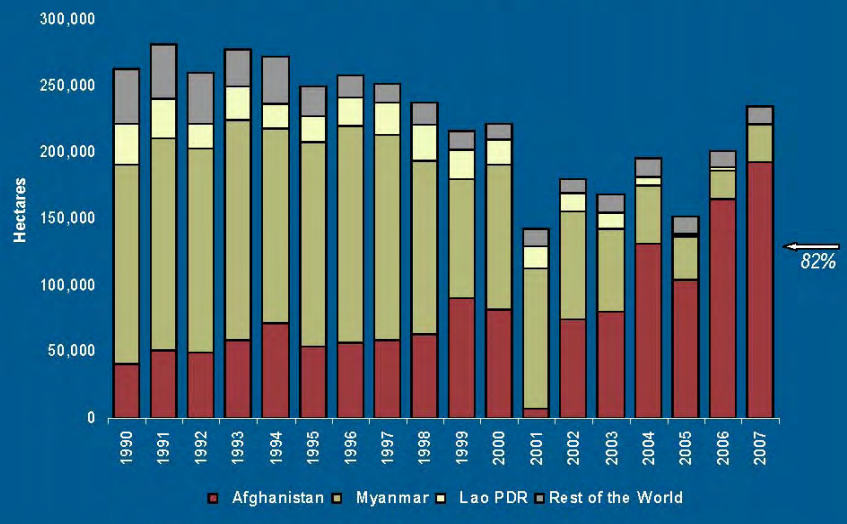
Global opium poppy cultivation, 1990-2007 (hectares)*



* Based on preliminary estimates for Myanmar and Rest of the World

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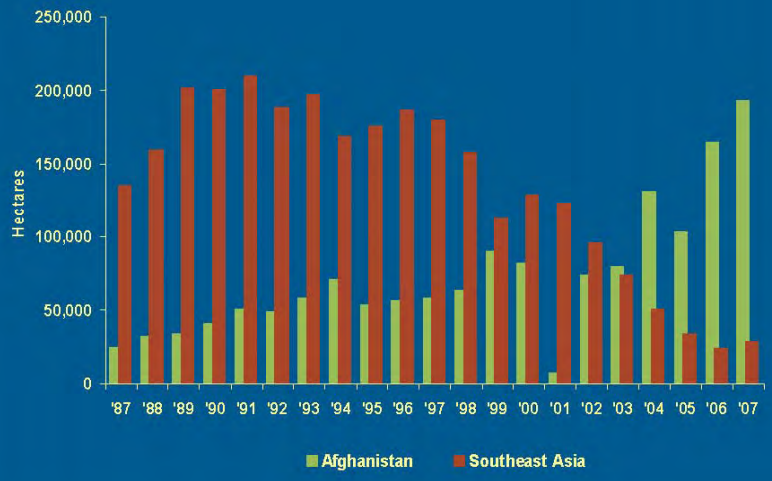
Opium poppy cultivation in Afghanistan & Southeast Asia



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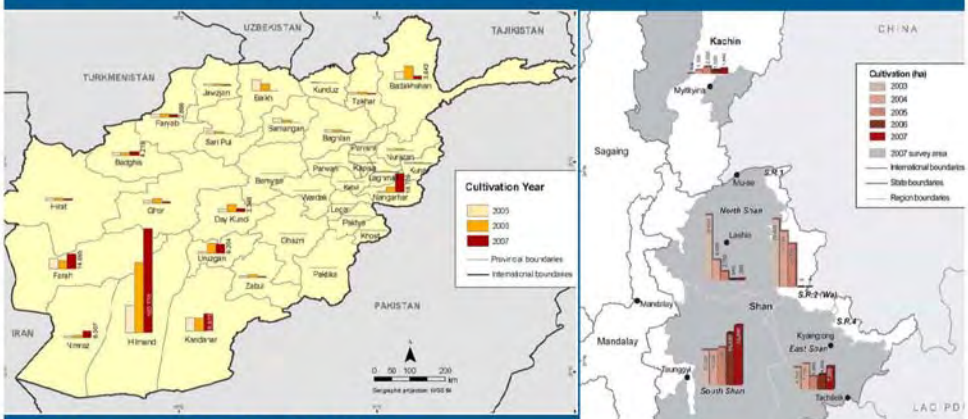
Area under opium poppy cultivation in 2007

Afghanistan: 193,000 hectares; +17% **Myanmar: 27,700 hectares; +29%**



Opium production in 2007:

Afghanistan: 8,200 tons +34% (93% of global)
Myanmar: 460 tons +46% (5% of global)

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Opium poppy cultivation in Afghanistan

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Survey methodology in 2007

Satellite survey:
- 24 provinces covered (up from 19 provinces in 2006)
- 118 survey blocks of 10 km x 10 km covered with total of 236 images
- Very high resolution satellite images used (IKONOS)

Village survey:
- All 34 provinces covered
- 126 surveyors
- 1,506 villages visited
- 1,506 village headmen and 3,012 farmers interviewed

Eradication verification survey:
- All 26 provinces with Governor-led eradication covered
- 24,864 fields in 2,109 villages visited
- 107 eradication verifiers and 15 eradication survey coordinators

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Afghanistan opium poppy cultivation (hectares)

Source: UNODC/MCN – 2007 Afghanistan Opium Survey.

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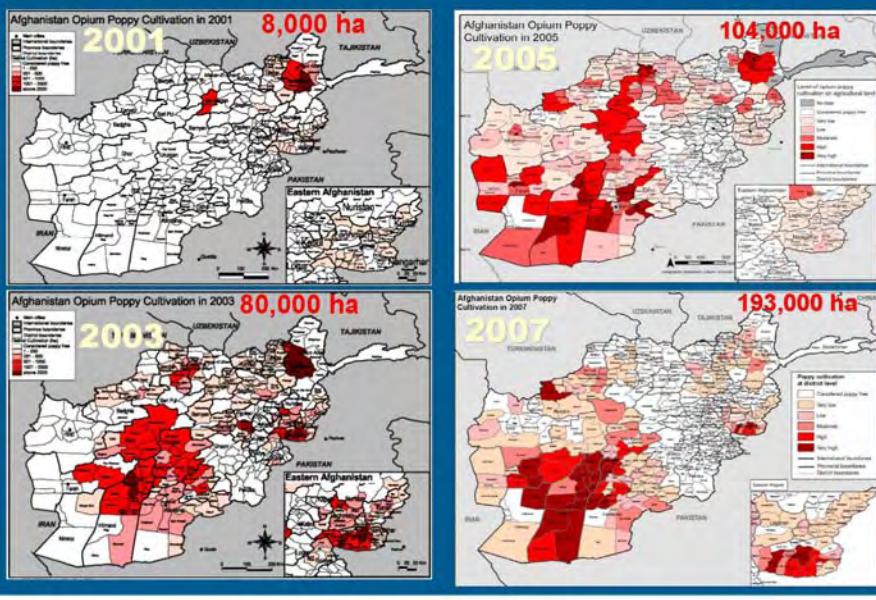
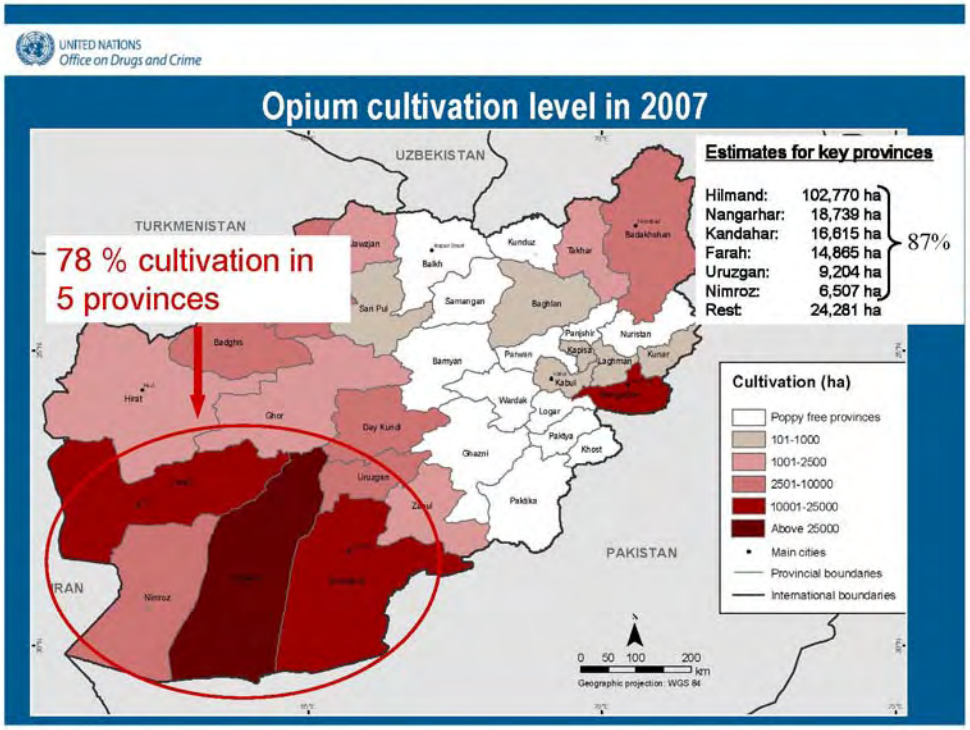
Evolution of opium poppy cultivation at district level, 2001-2007

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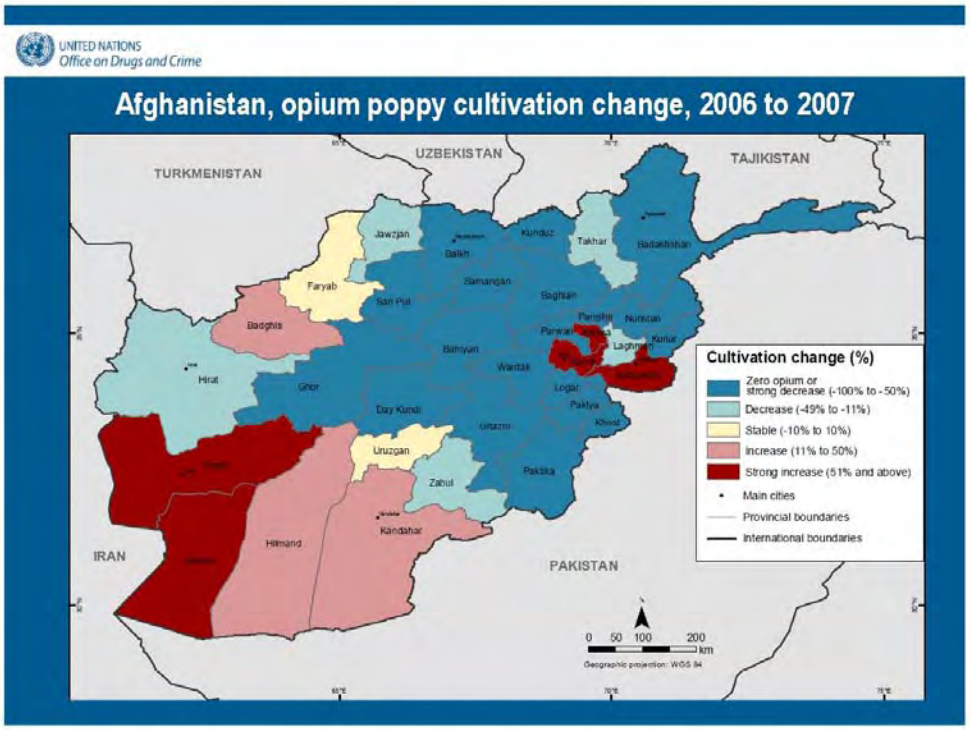
Opium cultivation level in 2007
78 % cultivation in 5 provinces
Estimates for key provinces
Hilmand: 102,770 ha
Nangarhar: 18,739 ha
Kandahar: 16,615 ha
Farah: 14,865 ha
Uruzgan: 9,204 ha
Nimroz: 6,507 ha
Rest: 24,281 ha
87%
Cultivation (ha)
Poppy free provinces
101-1000
1001-2500
2501-10000
10001-25000
Above 25000
Main cities
Provincial boundaries
International boundaries
UZBEKISTAN
TURKMENISTAN
PAKISTAN
IRAN
0 50 100 200 km
Geographic projection: WGS 84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Afghanistan, opium poppy cultivation change, 2006 to 2007
Cultivation change (%)
Zero opium or strong decrease (-100% to -50%)
Decrease (-49% to -11%)
Stable (-10% to 10%)
Increase (11% to 50%)
Strong increase (51% and above)
Main cities
Provincial boundaries
International boundaries
TURKMENISTAN
UZBEKISTAN
TAJIKISTAN
IRAN
PAKISTAN
0 50 100 200 km
Geographic projection: WGS 84

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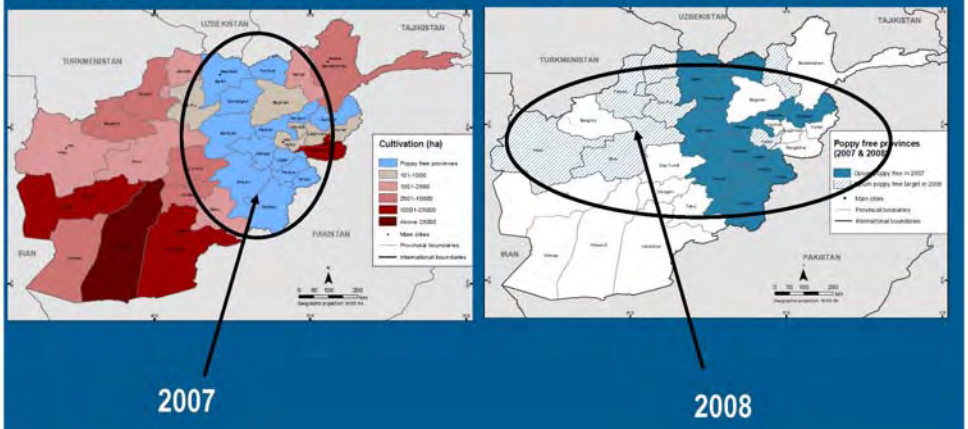
Opium-free provinces

6 Opium-free provinces in 2006

13 Opium-free provinces in 2007

Opium-free targets for 2008



2007

2008

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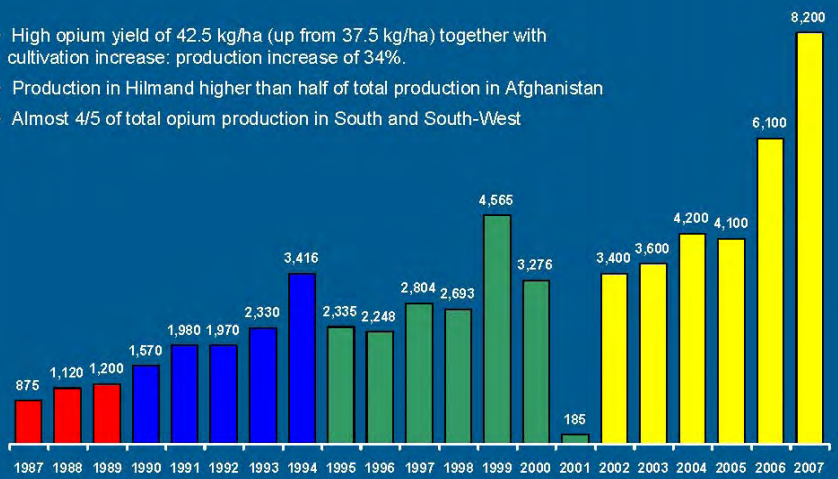
Afghanistan opium production (metric tons), 1987-2007

+34%

- High opium yield of 42.5 kg/ha (up from 37.5 kg/ha) together with cultivation increase: production increase of 34%.
- Production in Hilmand higher than half of total production in Afghanistan
- Almost 4/5 of total opium production in South and South-West



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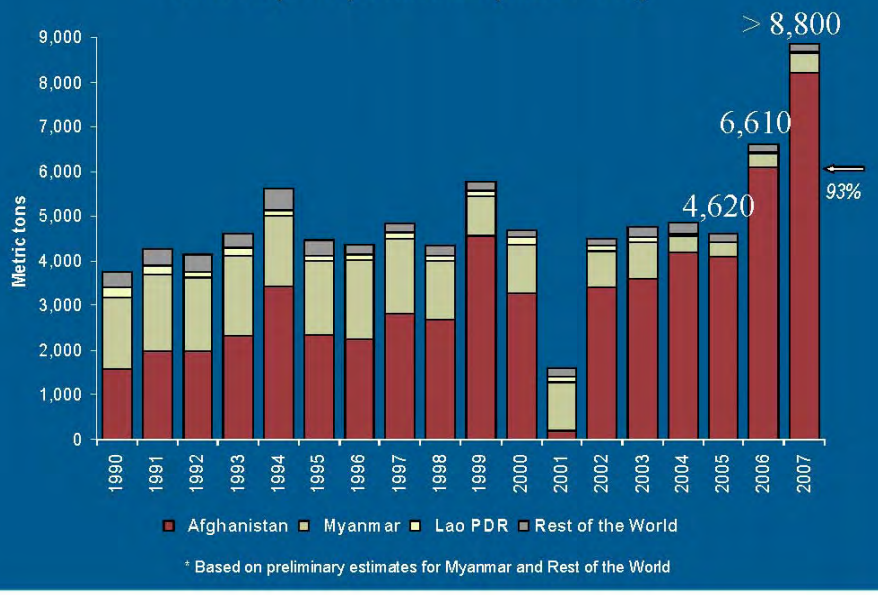
Global opium production (metric tons)*



* Based on preliminary estimates for Myanmar and Rest of the World

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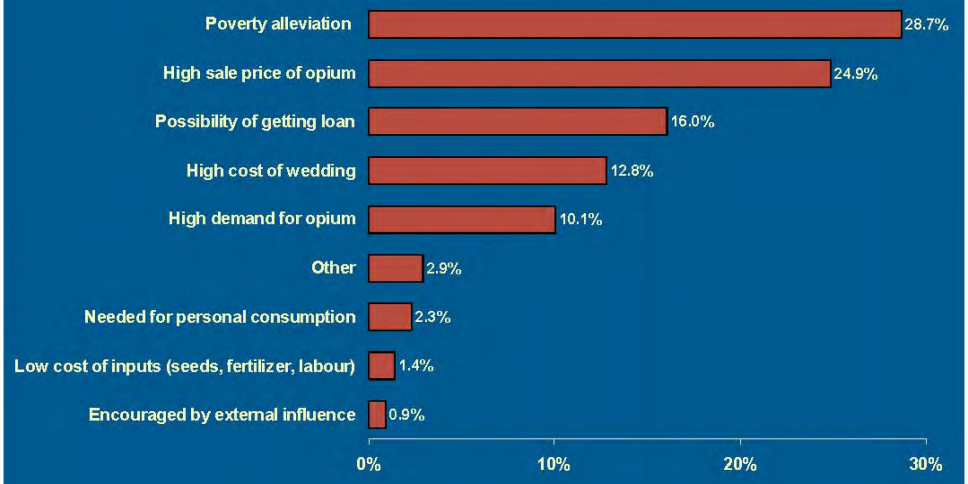
Reasons for opium poppy cultivation in 2007



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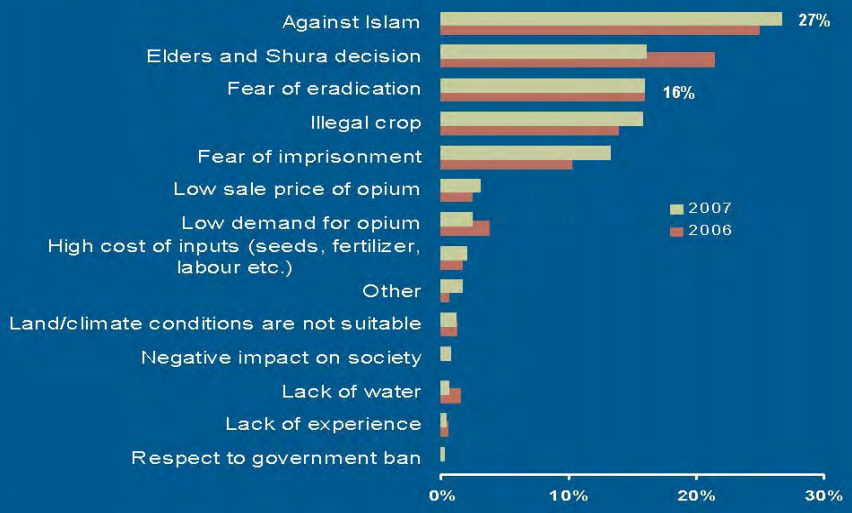
Reasons for not having cultivated poppy in 2006 and 2007



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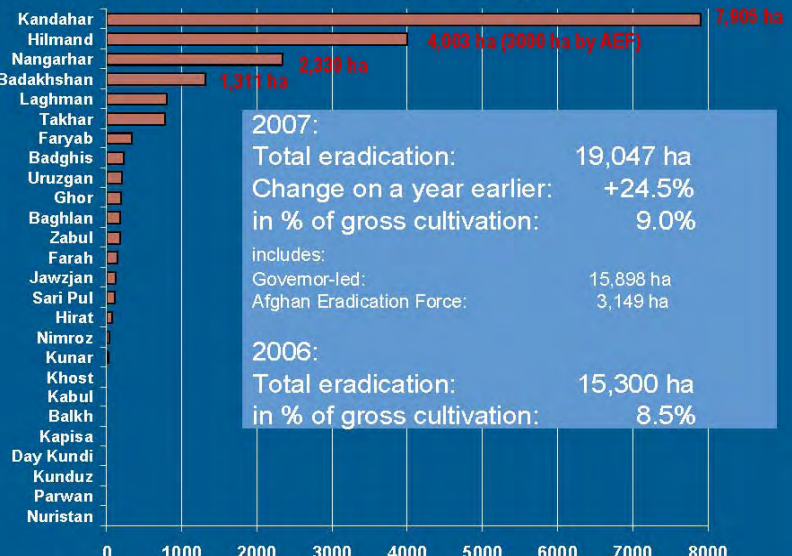
Eradication verification survey, 2007



2007:

Total eradication:	19,047 ha
Change on a year earlier:	+24.5%
in % of gross cultivation:	9.0%

includes:

Governor-led:	15,898 ha
Afghan Eradication Force:	3,149 ha

2006:

Total eradication:	15,300 ha
in % of gross cultivation:	8.5%

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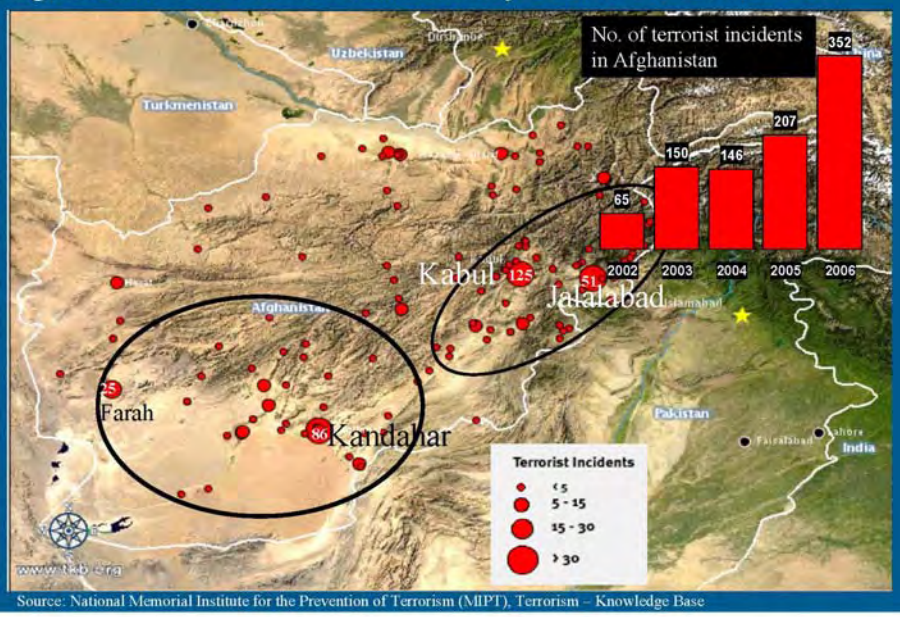
Afghanistan - terrorist incidents: January 2002 to November 2007



Source: National Memorial Institute for the Prevention of Terrorism (MIPT), Terrorism – Knowledge Base

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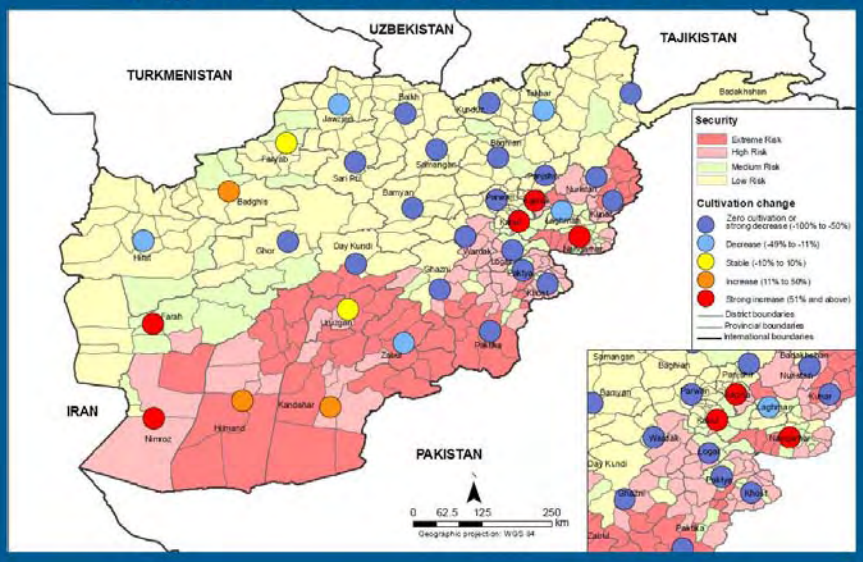
Security situation (May 2007) and poppy cultivation trends in Afghanistan, 2006 to 2007



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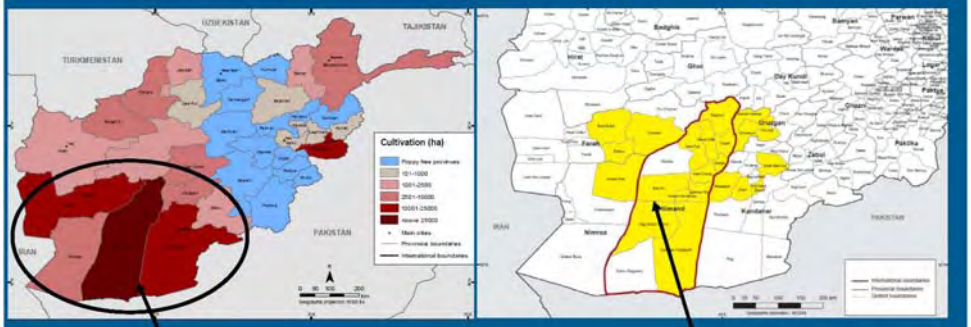
Provinces with high level of cultivation

Cultivation of opium

Insurgency in the South of the country



2007

Activities of the Taliban

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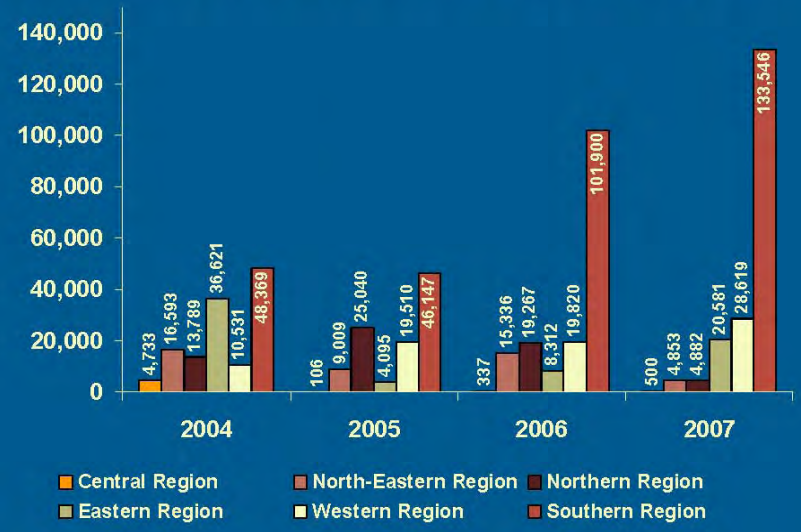
Regional dynamics of opium poppy cultivation in Afghanistan (ha), 2004-2007



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Afghanistan's narco-economy

Organized crime

Hawala system

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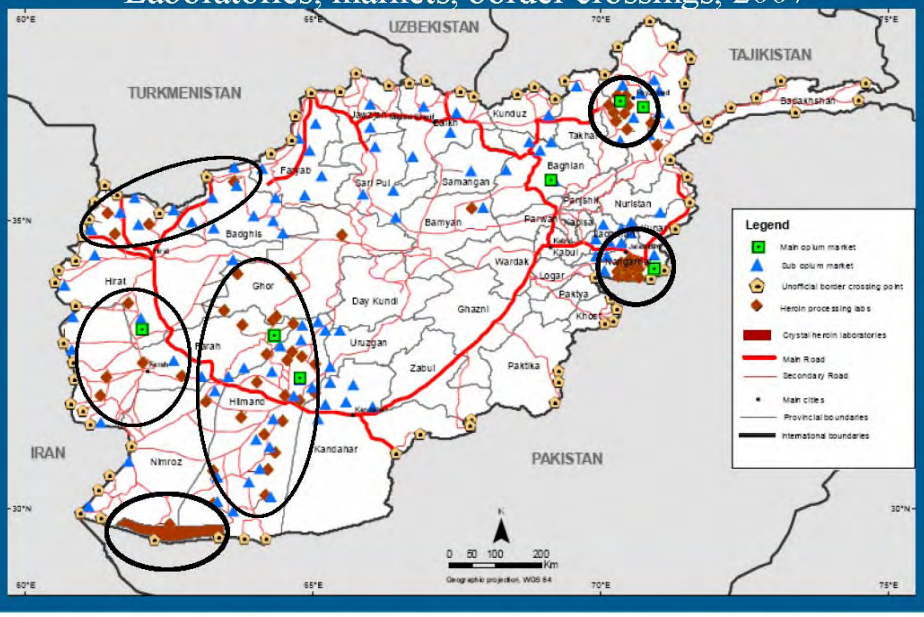
Laboratories, markets, border crossings, 2007



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Manufacturing of Afghan morphine/heroin in 2007

Opium produced: 8,243 tons
less seizures: 105 tons
less consumption: 156 tons
Available for export: 7,982 tons

58.4% (= 4,660 tons of opium) refined in Afghanistan

7:1 ratio

666 tons of morphine / heroin for export

required:
some 11,000 tons of chemicals
incl. 1,330 tons of acetic anhydride
(range: 660–2,660 tons of acetic anhydride)

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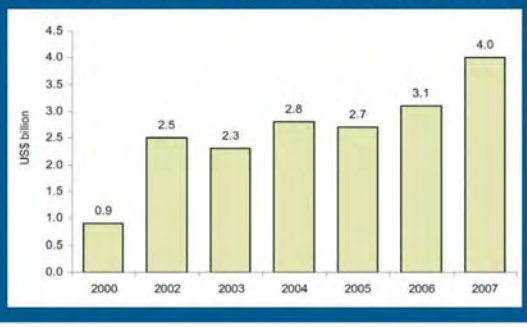
Gross income from Afghan opium production

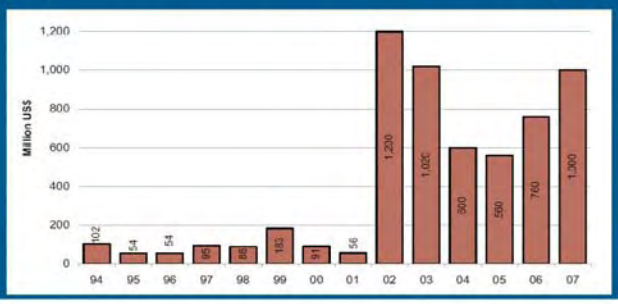
TOTAL: (Farmers, Afghan laboratory owners, Afghan traffickers)
$4 bn in 2007



2007:

53% of GDP

Farmers:
$1 bn in 2007



13% of GDP; $303 per poppy farmer

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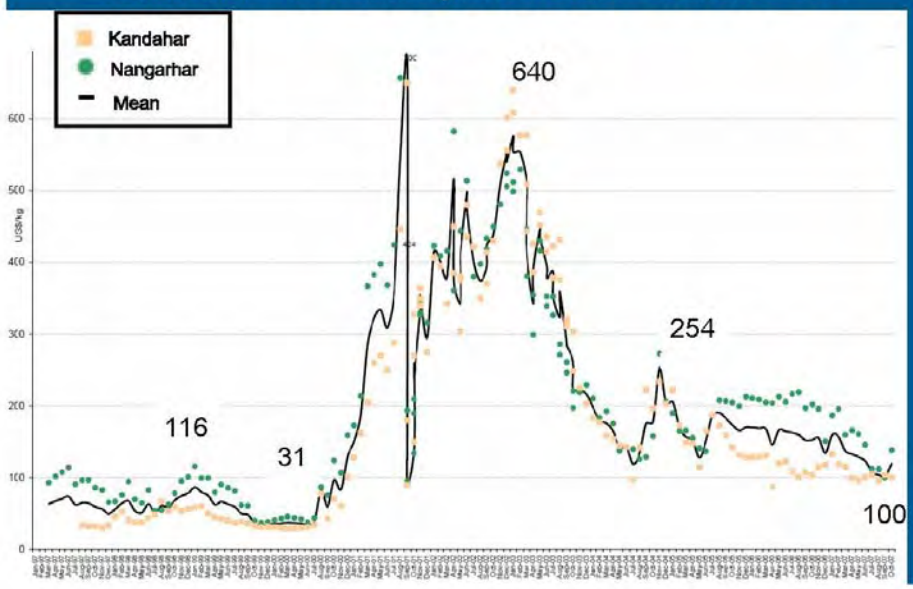
Price of dry opium in Nangarhar and Kandahar collected from traders, March 1997 - October 2007



11

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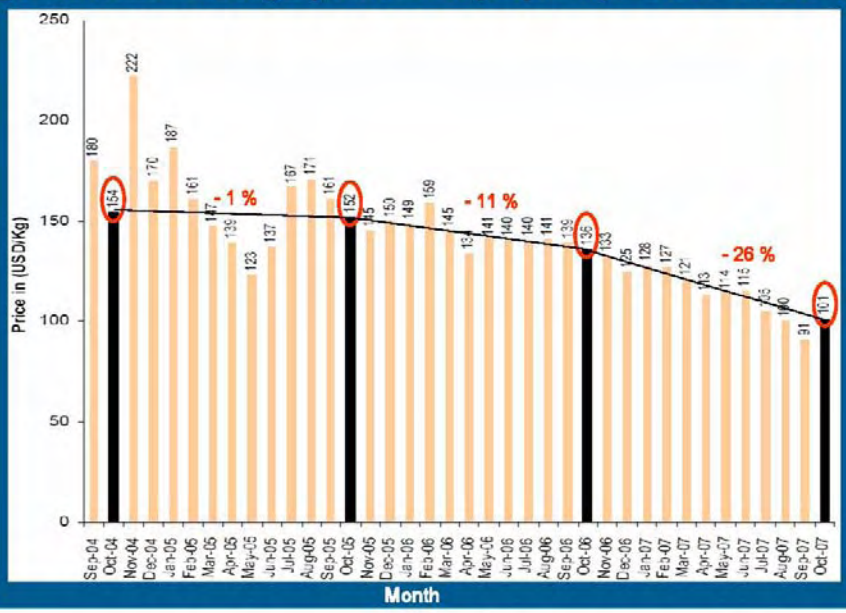
Afghanistan: average price of dry opium, 2004 - Oct. 2007



12

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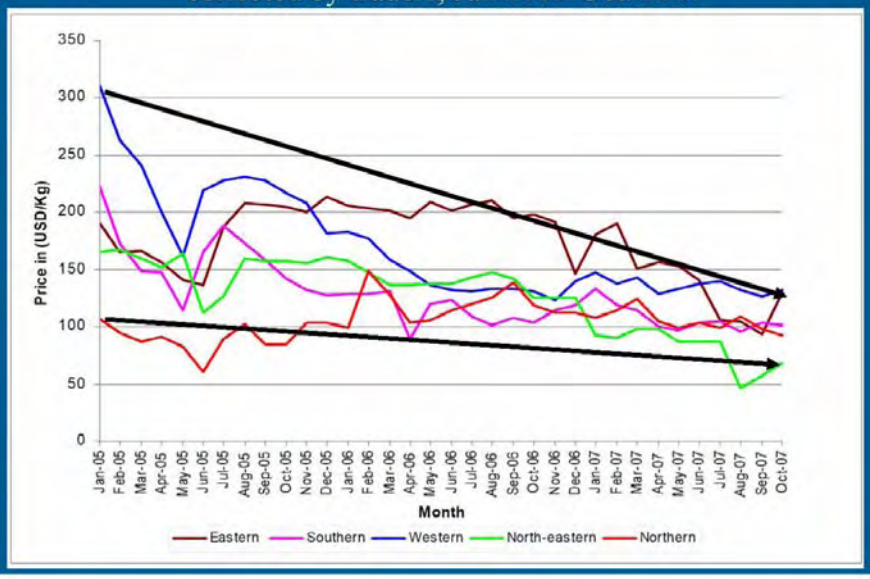
Dry opium prices in Afghanistan – by region - collected by traders, Jan 2005-Oct. 2007



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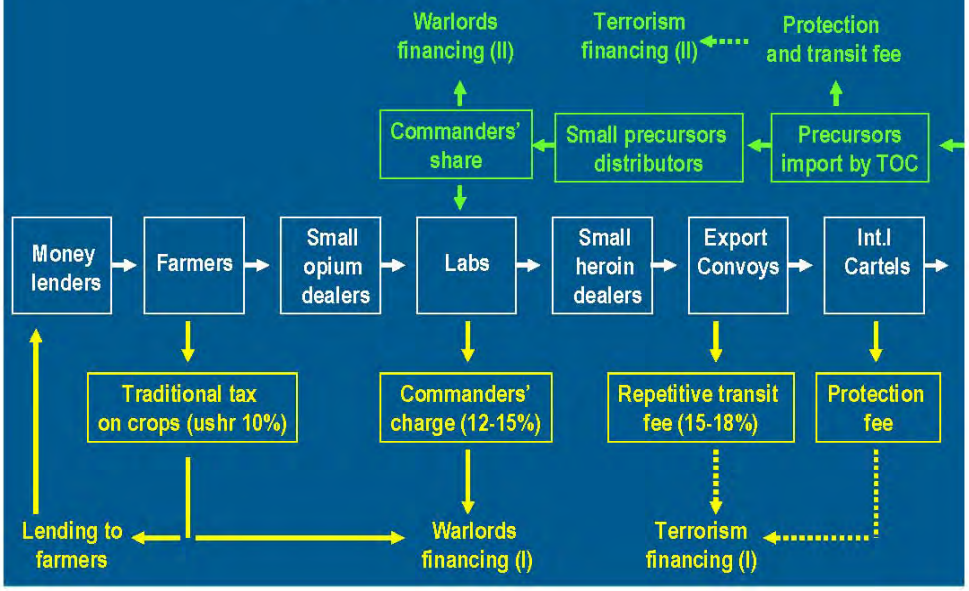
Afghanistan's Narco-Economy



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Organized Crime in Afghanistan (2006)

• There are signs that Afghanistan's highly fragmented opium industry is beginning to move towards 'concentration' and 'vertical integration', with increased involvement by organized crime. Small-scale drug trade continues to exist, but a concentration process is underway with 25-35 major criminal drug trafficking organisations emerging;

• The locus of criminal control of drug trafficking is now in the south of Afghanistan where approximately 15 major drug trafficking organizations are said to be active;

• Organized crime groups are often involved in a variety of other crimes as well.

• Specialized financial services ('hawala system') facilitate criminal operations; Dubai and cities in Pakistan are major transaction centers;

• Police structures - at all levels - are targeted by key organized crime groups (corruption), so that there are close ties to the police to provide protection for criminal activities.

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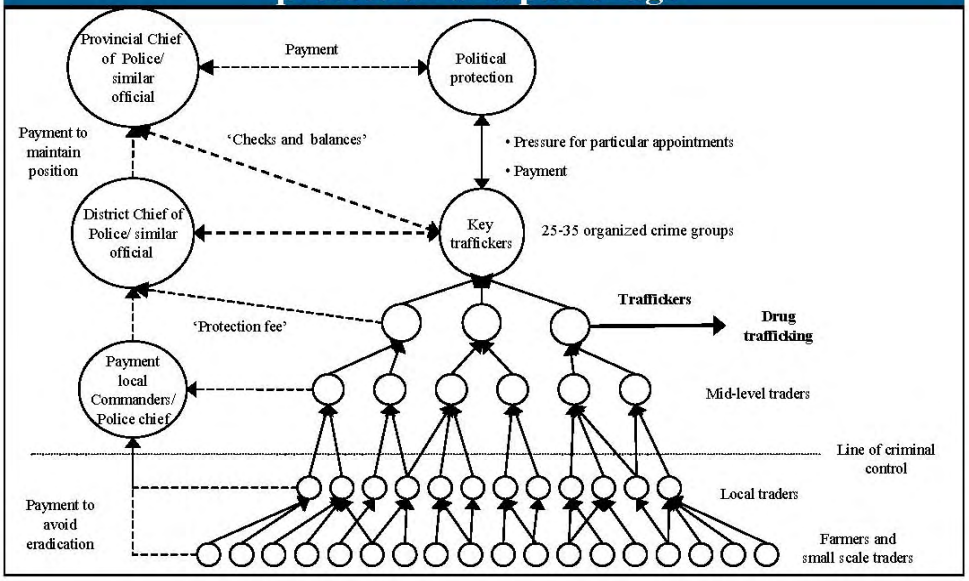
The emergence of 'pyramids of protection and patronage'



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Trafficking patterns / structure in Helmand (2005)

Proportion in Afghan opium production: 18% in 2004 (740 tons)
27% in 2005 (1,100 tons)

Small traders: usually owning a shop dealing in fabric or household consumption goods.

Large traders: usually large land owners, several houses; luxurious cars; sometimes dealers in motorbikes and imported cars; often undertook haj (pilgrimage to Mecca).

	Peak monthly trade per trader	Annual trade per trader	Number of traders	Total annual trade	Traded volume (based on production in Helmand and links to other provinces)
Helmand					
Small traders	10-15 kg	0.1-0.2 tons	1000-1500	100-300 tons	
Large traders	0.5-1 tons	2-5 tons	300-500	600-2500 tons	~ 2000

→ ~ 10-30% of local production bought by small traders;
~ 90% of total trafficking in hands of large traders

Allegations of police confiscating opium from small traders to sell it to large traders

Allegations of the use of police forces to damage rival networks

Source: Afghanistan Research and Evaluation Unit (AREU), *Opium Trading Systems in Helmand and Ghor*, January 2006 (based on 39 interviews with traders)

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Hawala system in Afghanistan

(1) Country A

Client/Sender → ***Hawaladar***

Client contacts *Hawaladar* and requests remittance to a designated recipient in country B of USD20,000 in foreign currency equivalent. Client hands over the money in cash and receives a numerical code. *Hawaladar* profits from a commission or favourable rate of exchange to the foreign country.

Amount of remittance and destination is communicated to *Hawaladar* in country B and the numerical code is relayed.

(2) Country B

Recipient ← ***Hawaladar***

Recipient (or sender) gives code to *Hawaladar*. Local currency equivalent of USD20,000 is given to recipient from counterpart *Hawaladar*'s cash reserve.

(3) Settlement

Hawaladar in Country A owes USD20,000 to *Hawaladar* in Country B. It will be settled in future transactions either by remittance through formal bank accounts or delivery of commodities of equal value.

- Afghan market players often rely on Pashtun dispora in Iran, Pakistan, Saudi Arabia, United Arab Emirates, Europe, USA; or make use of corresponding Pakistani networks;
- Dubai: central clearing house; few but large amounts also come from London and New York.

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Hawala system in Afghanistan (2005)

Centers studied (March-July 2005): Lashkar Gah and Sangin (Helmand)
Kandahar (Kandahar)
Herat (Herat)
Faizabad (Badakhshan)
Peshawar (Pakistan)

Estimate: some 900 significant *Hawala* shops in Afghanistan (info from 54 Hawala dealers)

Estimated volume of money (in billion US$) entering the Hawala system in Afghanistan 2004/2005)

Source	USDbn
Opium trade	2.7
Unofficial trade through ATT*	1.1
UN agencies**	0.5
Diaspora investment***	0.3
NGOs****	0.2
TOTAL:	**4.8**

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Money flows (2005)

(based on interviews with 54 *hawaladars*, March-July 2005)

Within Afghanistan:

- from Helmand/Kandahar to northern Afghanistan (Balkh)
- from Helmand/Kandahar to Ghor
- from Nangarhar to Helmand/Kandahar

smaller amounts:

- From Nangarhar and Kandahar to north-western Afghanistan (Badakshan)

Outside Afghanistan:

- from Pakistan (Peshawar, Quetta, Karachi) to Afghanistan (mainly southern and eastern Afghanistan)
- from United Arab Emirates to Afghanistan (mainly southern and western Afghanistan)
- from Iran to Afghanistan (mainly western and southern Afghanistan)
- from Tajikistan to Afghanistan (mainly north and north-western Afghanistan)

Significant proportions of the funds enter Afghanistan in the form of imported goods;

Some funds remain in Pakistan and in the United Arab Emirates and are re-invested there.

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Hawala centers: southern Afghanistan (2005)

Helmand province (US$0.8 bn drug funds laundered)
- **Lashkar Gah: 14 major drug money launderers**
- **Sangin: 15 major drug money launderers**
- Dishaw district border area (Baramcha)
- Musa-Qala district centre
- Grishak district centre

Annual turnover (based on 7 interviews) **in Lashkar Gah and Sangin:**
Mean: US$ 26 million
Range: 2.5 - 126.0

Drug turnover per Hawala dealer (based on 7 interviews):
Mean: US$17 million
in % 68%
Range: 0.5%-92%

Kandahar province:
- **Kandahar city:** 25 major drug money launderers

Annual turnover (based on 3 interviews) in Kandahar
Mean: US$ 16 million
Range: 6 - 32

Drug turnover per Hawala dealer (based on 3 interviews):
Mean: US$5.5 million
in % 34%
Range: 14%-82%

South (10 interviews): annual per capita turnover: US$23 mio; drug related: US$14 (60%)

80-90% of hawala dealers are involved in drug money laundering; currency used: Pakistani Rupee; transfers mainly via Quetta (Pakistan) and Dubai where Turkish traffickers would deposit money.

in the East:

Peshawar (Pakistan): Estimated number of Hawala dealers: 200-300, including 10-15 significant ones

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Hawala centers: western and north-eastern Afghanistan (2005)

Herat province (west):

- Herat (based on interviews with 11 Hawala dealers)

Size of *hawaladar*	No of *hawaladars*	Monthly average (USDm)	Annual total (USDm)	Annual average (mio US$)
Large	3	6.0	216	72
Medium	50	1.0 - 2.0	600 - 1,200	18
Small	100	0.2	240	2.4
Total:	**~150**	**0.6 - 0.9**	**1,056 - 1,656**	**9**

Funds/goods from Dubai, Iran, Turkmenistan, Uzbekistan **30% drug related (US$3 mio)**

Badakshan (north-east):

- Faizabad (based on interviews with 6 Hawala dealers)

Size of *hawaladar*	No of *hawaladars*	Monthly average (USDm)	Annual total (USDm)	Annual average (mio US$)
Large	1	5.0	60	60
Medium	3	1.5	54	18
Small	2	1.0	24	12
Total:	**6**	**1.9**	**138**	**23**

Funds from Peshawar and Jalalabad (via Kabul) and Tajikistan **Drug related: up to 100%; strong variations**

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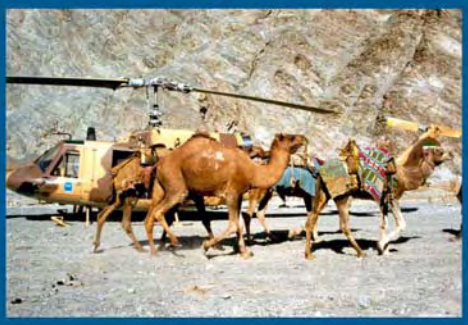
Trafficking of opiates



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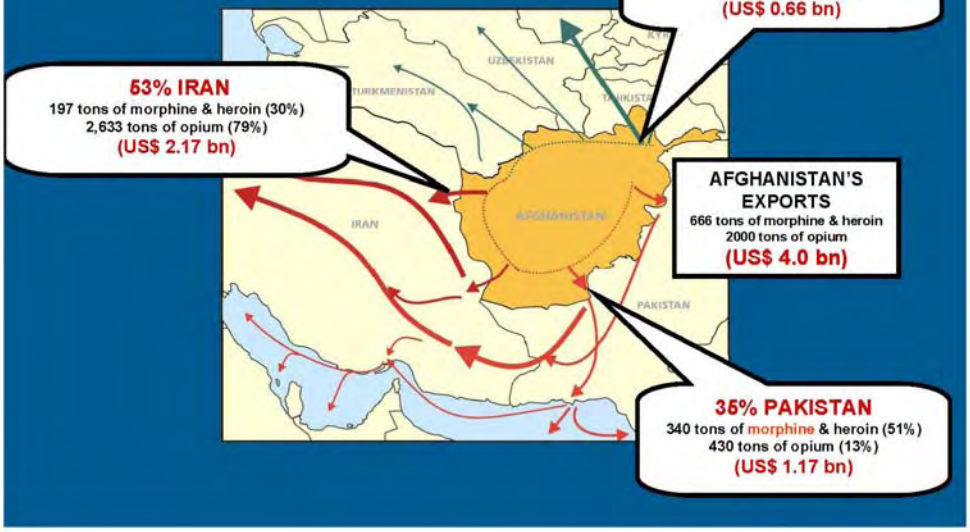
Export routes and value in 2007: best estimates



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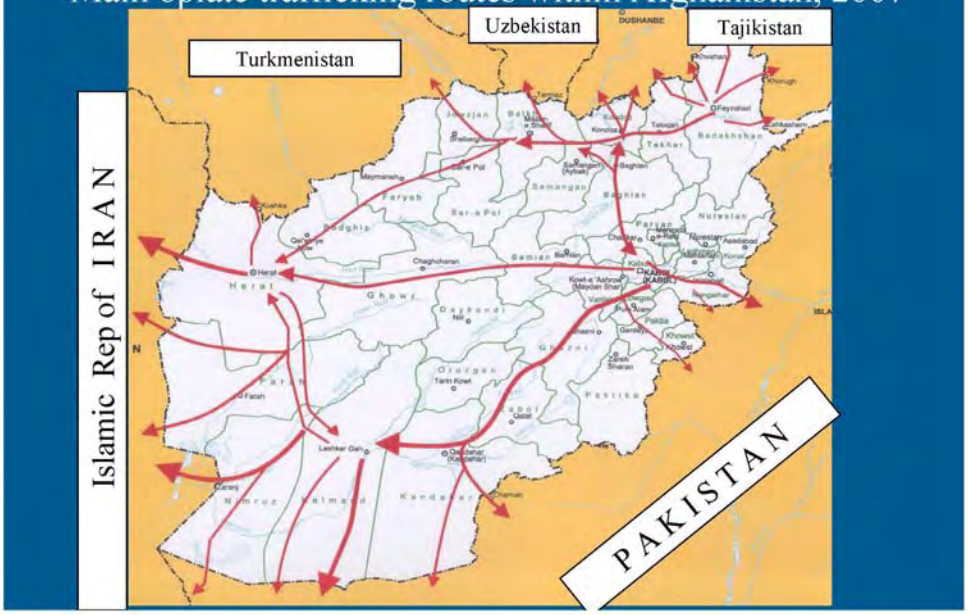
Main opiate trafficking routes within Afghanistan, 2007



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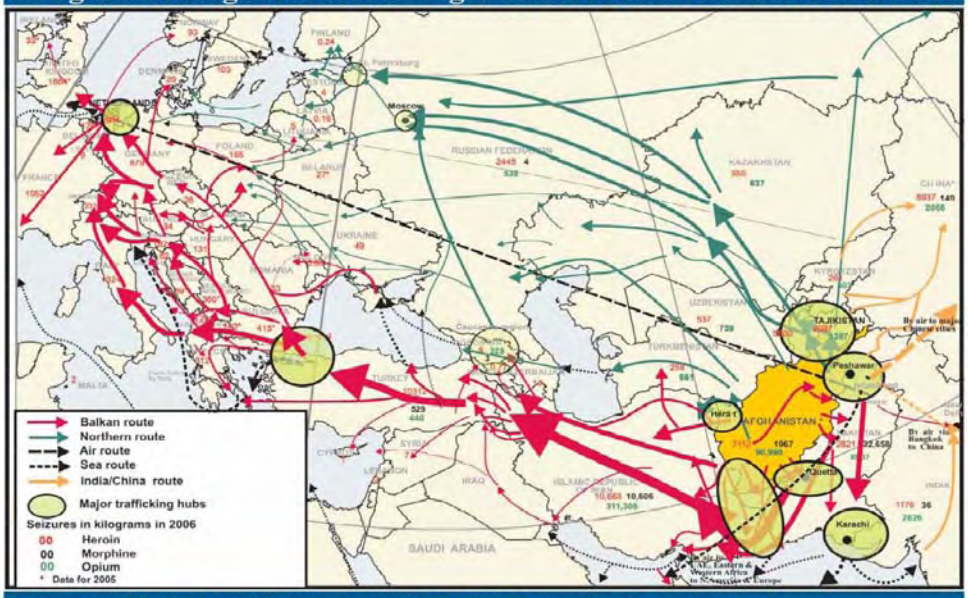
Drug trafficking routes from Afghanistan to main consumer markets



Sources: UNODC, Annual Reports Questionnaire (ARQ) data, UNODC, individual drug seizures (IDS); Govt. reports.

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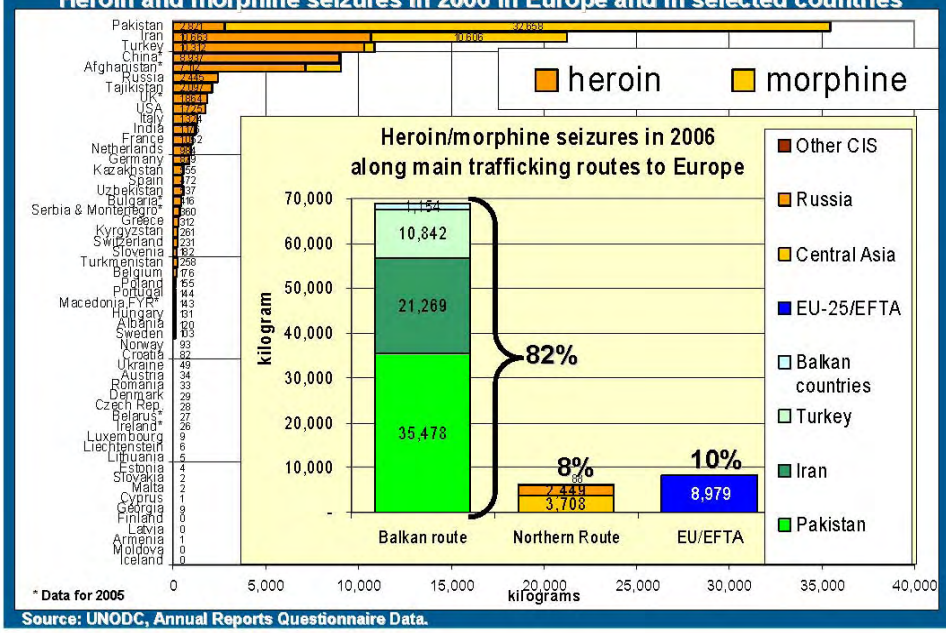
Heroin and morphine seizures in 2006 in Europe and in selected countries



Source: UNODC, Annual Reports Questionnaire Data.

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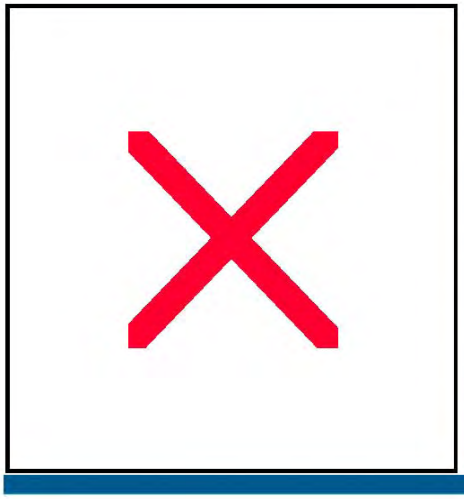
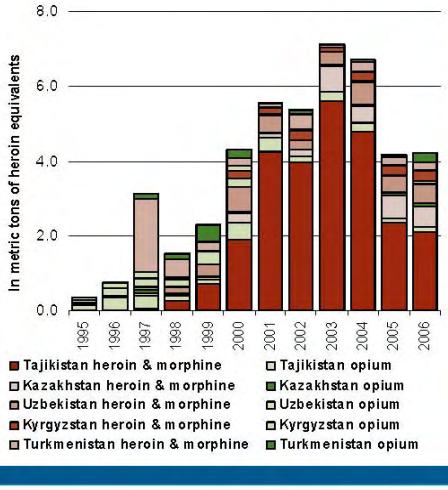
Opiate seizures, in heroin equivalents, 1995-2006

Iran and Pakistan



Central Asia



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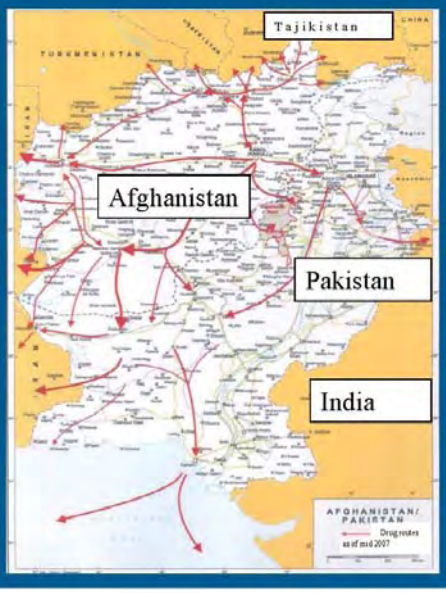
Main opiate trafficking routes – Afghanistan – Pakistan, 2007



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Main opiate trafficking routes into Iran

Khorassan (via Herat)

North of Zahedan

Southern Sistan & Balouchistan

Source: Iranian Anti-Narcotics Police

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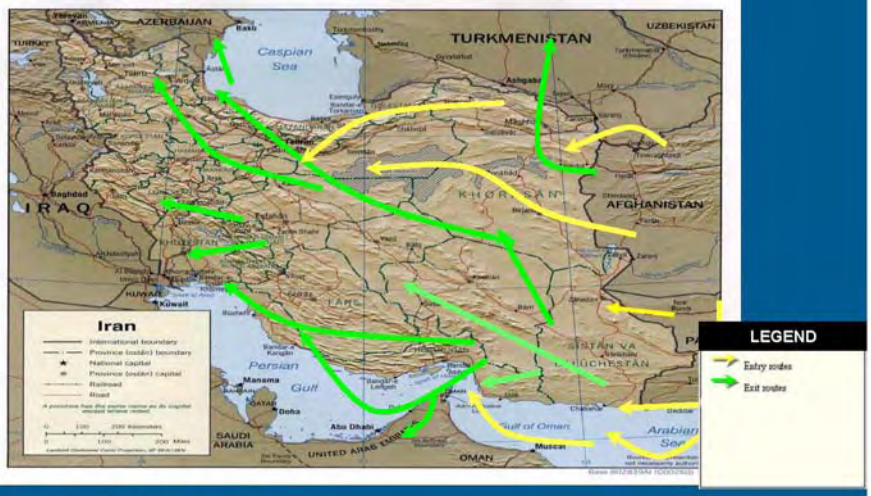
Opiate smuggling routes affecting Iran



Source: Paris Pact Assessment Mission

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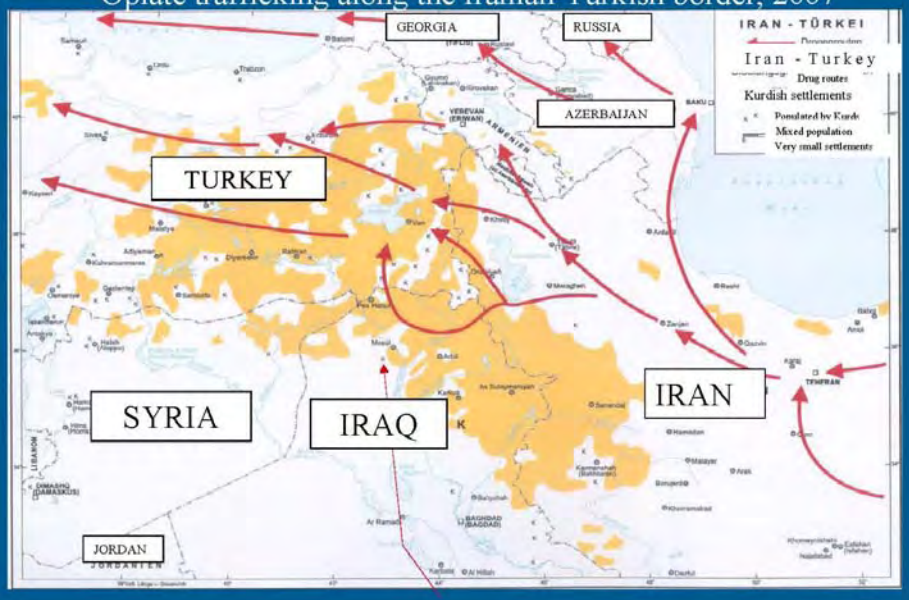
Opiate trafficking along the Iranian-Turkish border, 2007



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Trafficking of opiates via Iran, Caucasus and Turkey, 2007

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Trafficking of opiates via Central Asia to Russia

Source: UNODC, 2007 World Drug Report

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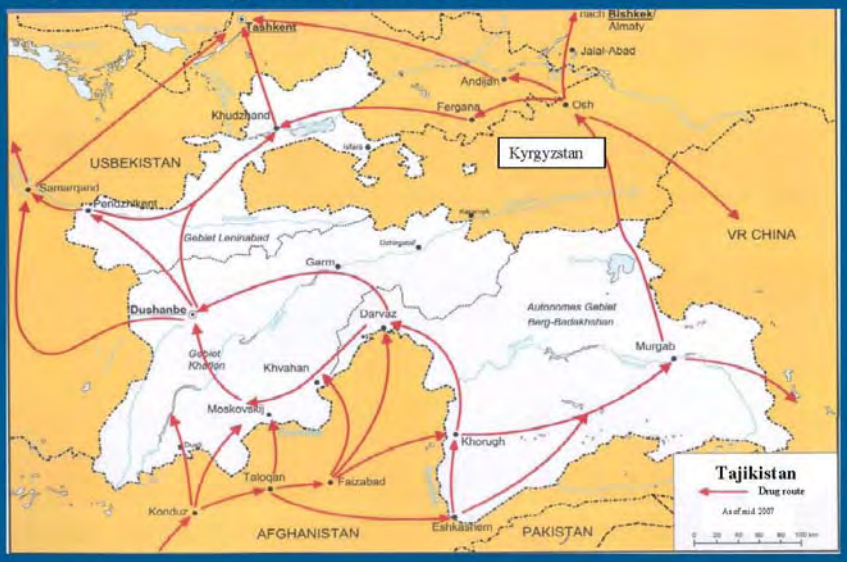
Opiate trafficking via Tajikistan, 2007



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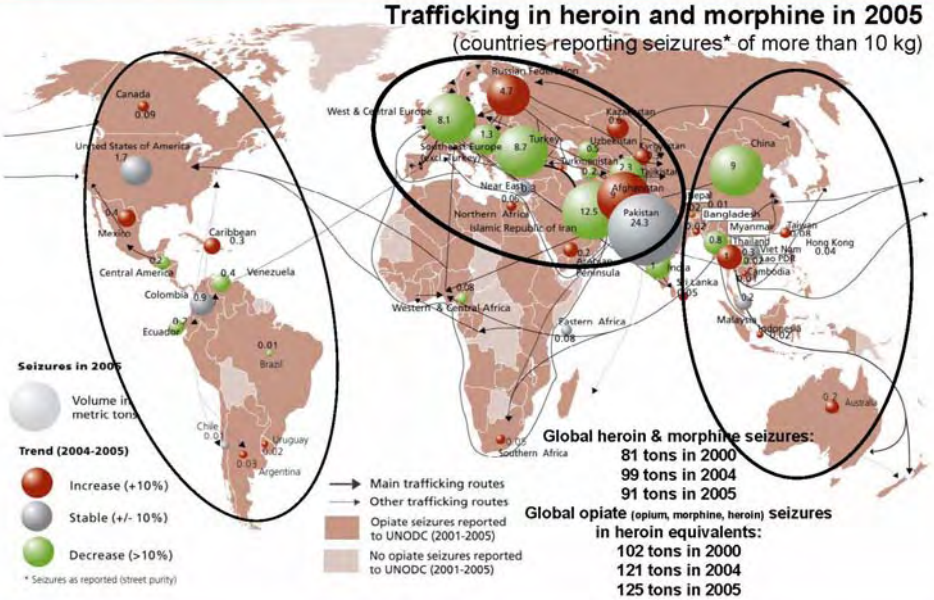
Trafficking in heroin and morphine in 2005

(countries reporting seizures* of more than 10 kg)



Global heroin & morphine seizures:
81 tons in 2000
99 tons in 2004
91 tons in 2005

Global opiate (opium, morphine, heroin) seizures in heroin equivalents:
102 tons in 2000
121 tons in 2004
125 tons in 2005

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Abuse of opiates

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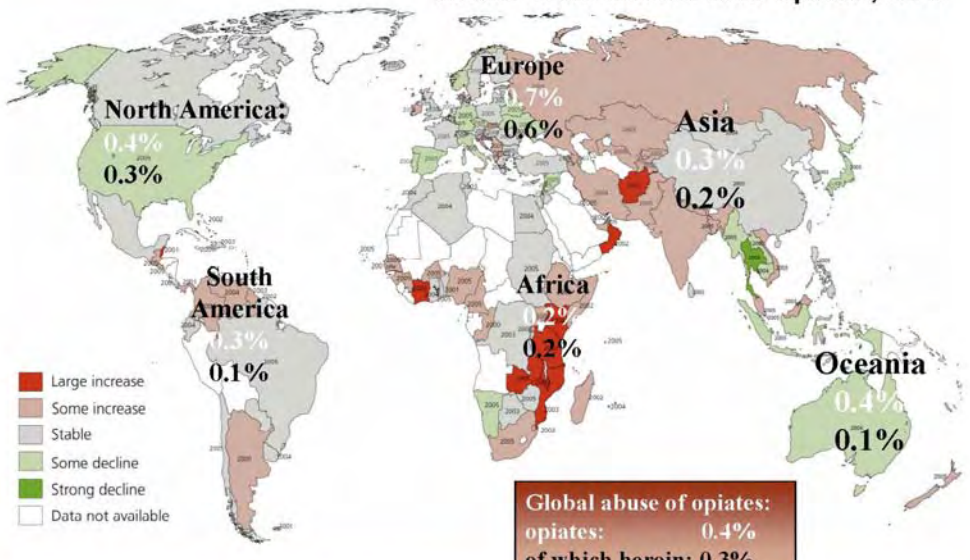
Abuse of heroin and other opiates, 2005



Global abuse of opiates:
opiates: 0.4%
of which heroin: 0.3%

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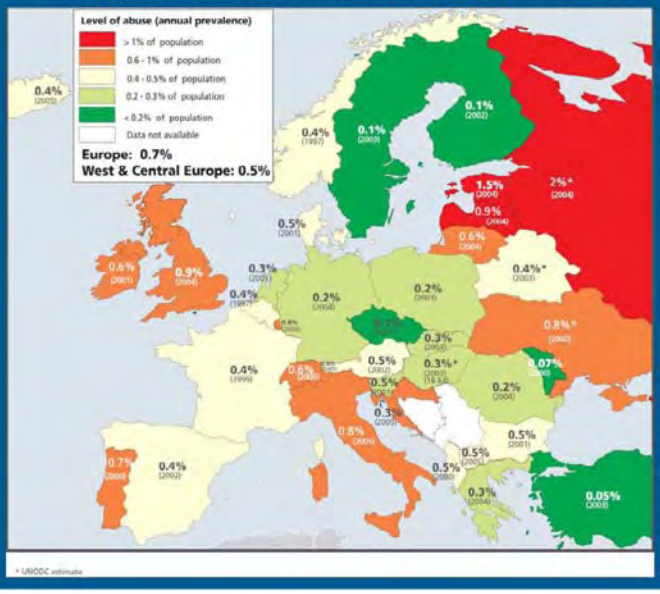
Annual prevalence of opiates abuse, age 15-64

Comparisons:

North America: 0.5%

Global: 0.4%



Source: UNODC, 2007 World Drug Report

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COCA

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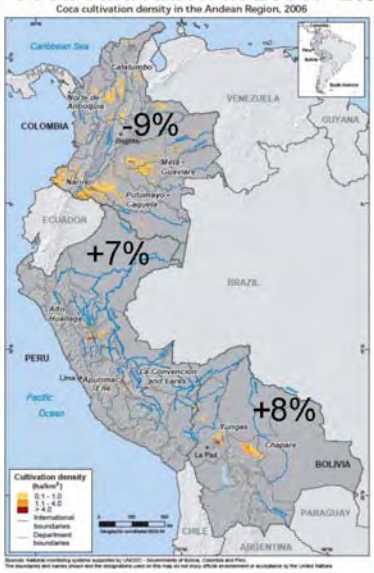
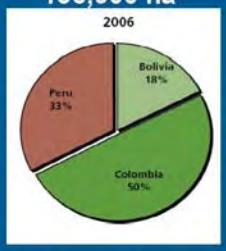
Coca cultivation in 2006: -2%

Coca cultivation density in the Andean Region, 2006

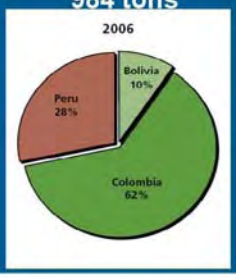


Area under coca cultivation 156,900 ha



Colombia: 78,000
Peru: 51,400
Bolivia: 27,500

Potential cocaine production 984 tons



Colombia: 610
Peru: 280
Bolivia: 94

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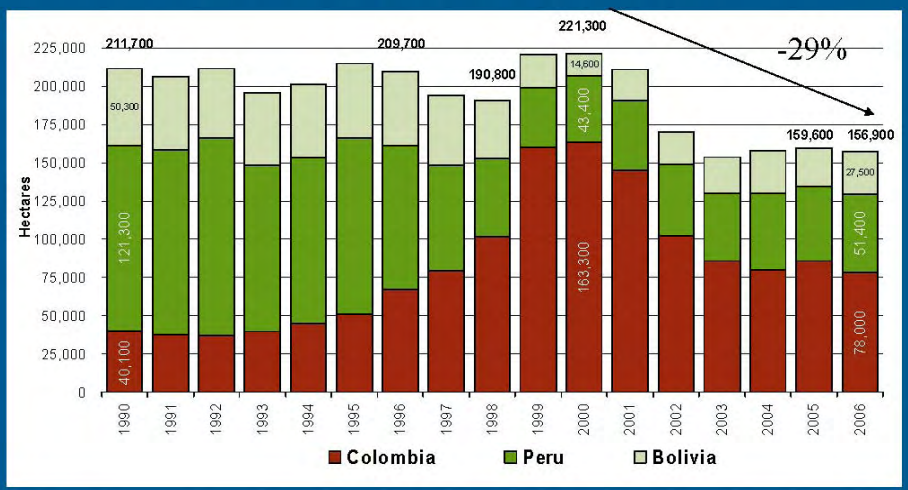
Global coca cultivation, 1990 - 2006



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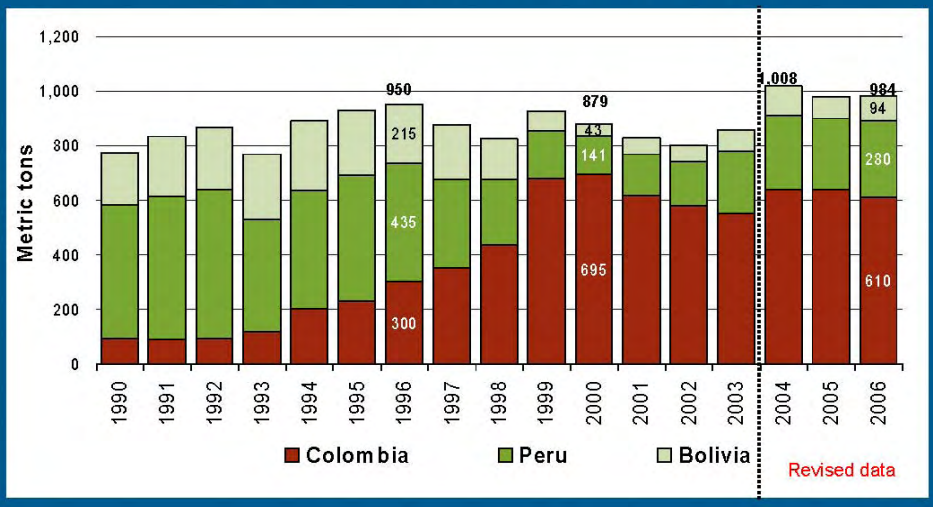
Global cocaine production, 1990 - 2006



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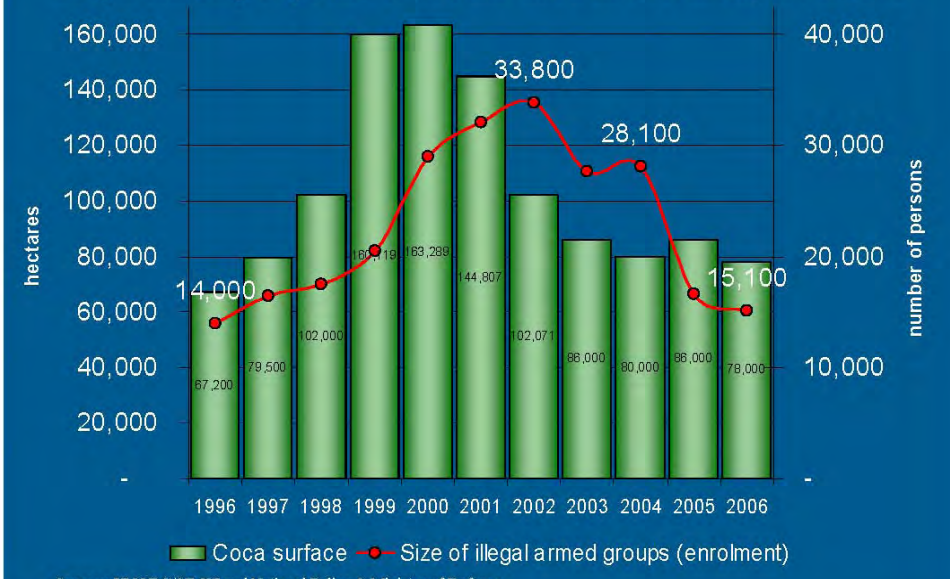
Illegal armed groups and coca cultivation in Colombia, 1996-2006



Sources: UNODC/SIMCI and National Police & Ministry of Defense.

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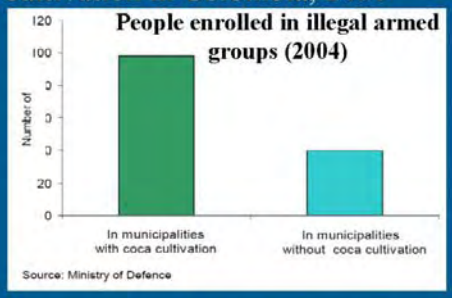
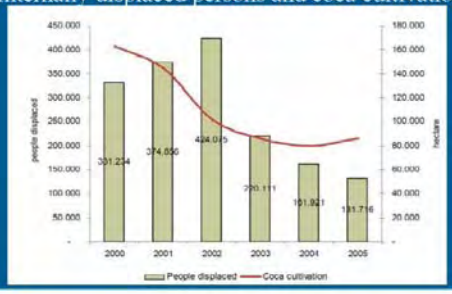
Illegal armed groups and coca cultivation in Colombia, 2006



Internally displaced persons and coca cultivation



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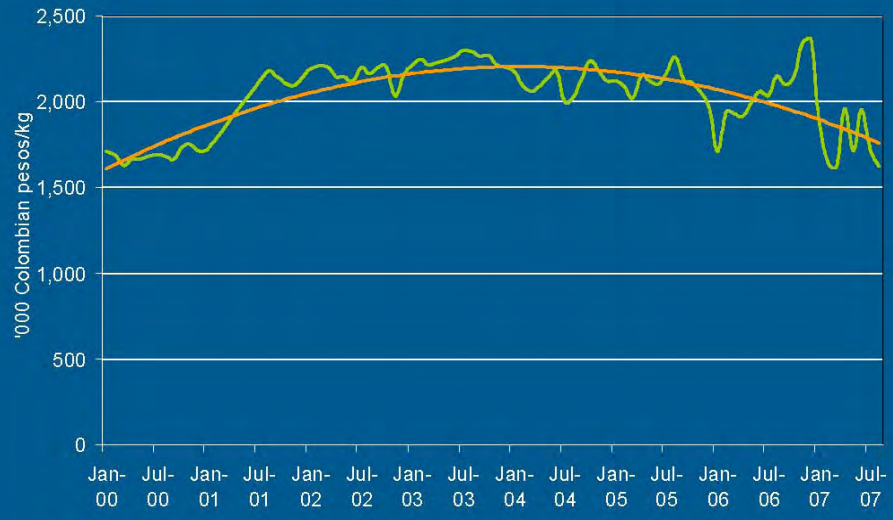
Coca-paste prices in Colombia, January 2000 - August 2007



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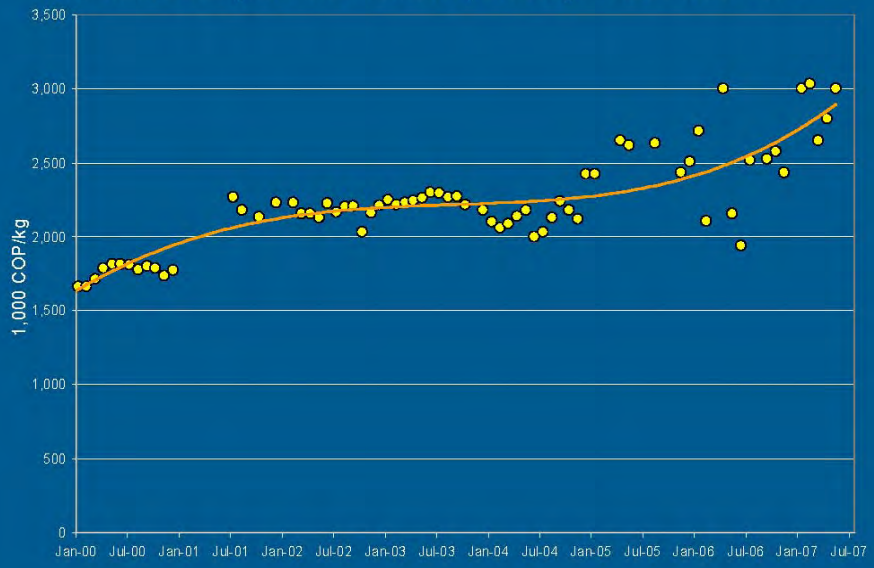
Cocaine base price in Colombia, January 2000 - June 2007



Source: UNODC, ICMP

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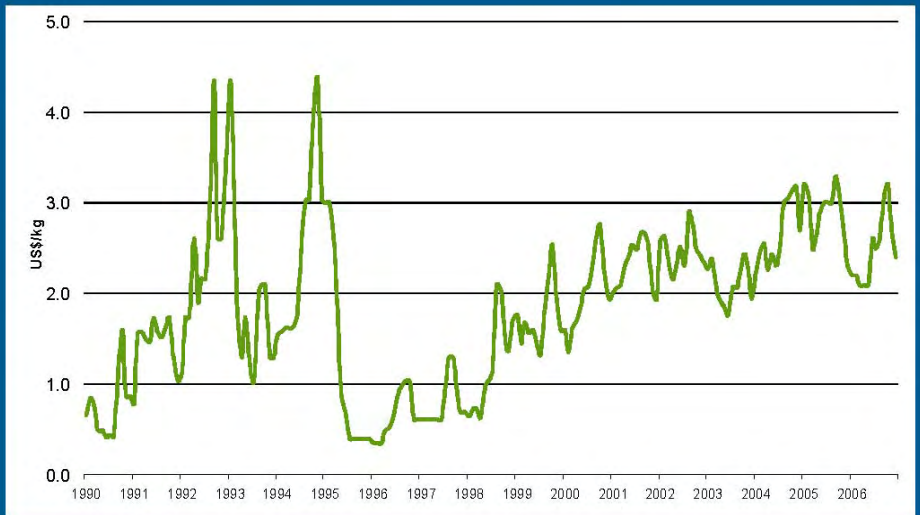
Peru: farmgate prices of sun-dried coca leaf (US$/kg), 1990-2006



Source: UNODC, ICMP

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Bolivia: farm-gate prices of sun-dried coca leaf (US$/kg), in Chapare, 1990 – October 2007

Source: UNODC, ICMP

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TRAFFICKING

in Cocaine

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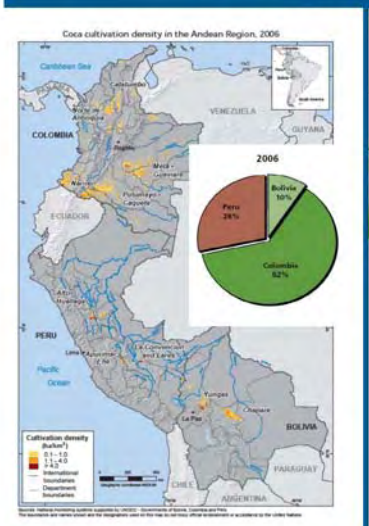
Cocaine production and trafficking flows in 2006



Cocaine production: 984 tons

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Trafficking of cocaine via Central America to the USA

UNODC, 2007 World Drug Report.

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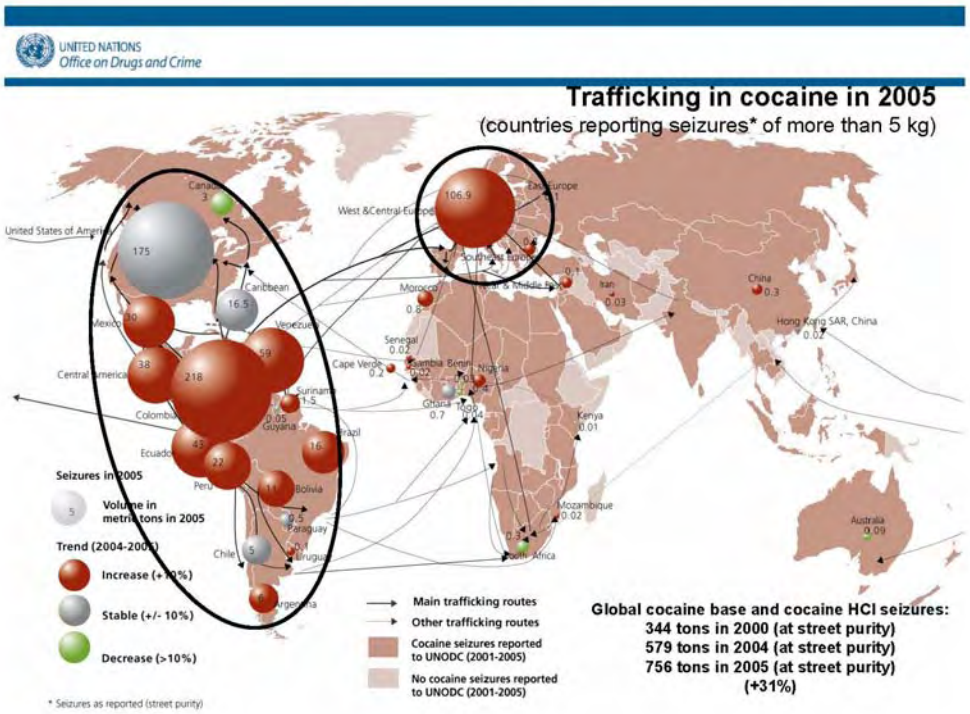

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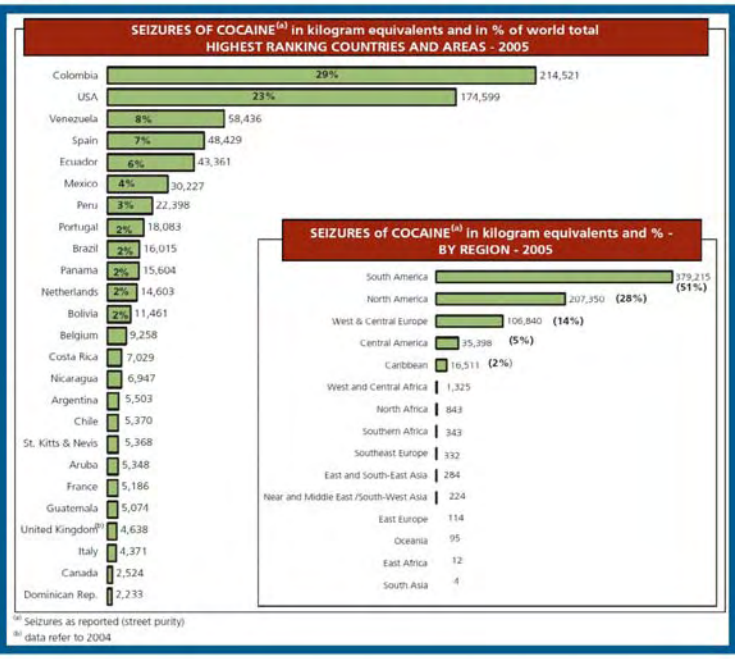

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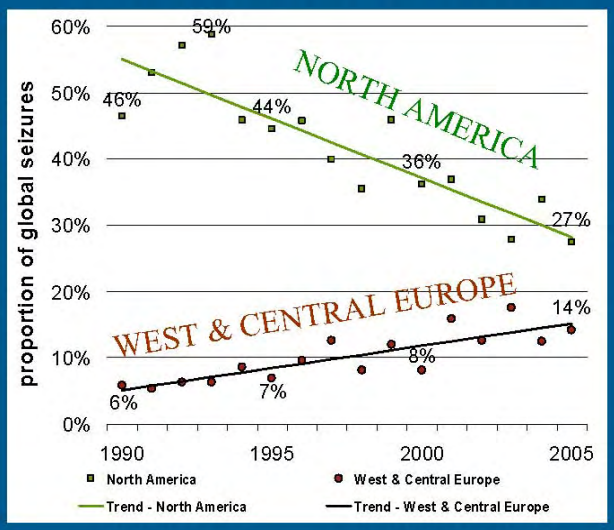
Proportion of global cocaine seizures



SOUTH AMERICA:
1990: 14.0%
1995: 14.6%
2000: 19.3%
2005: 48.7%

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ABUSE

of cocaine

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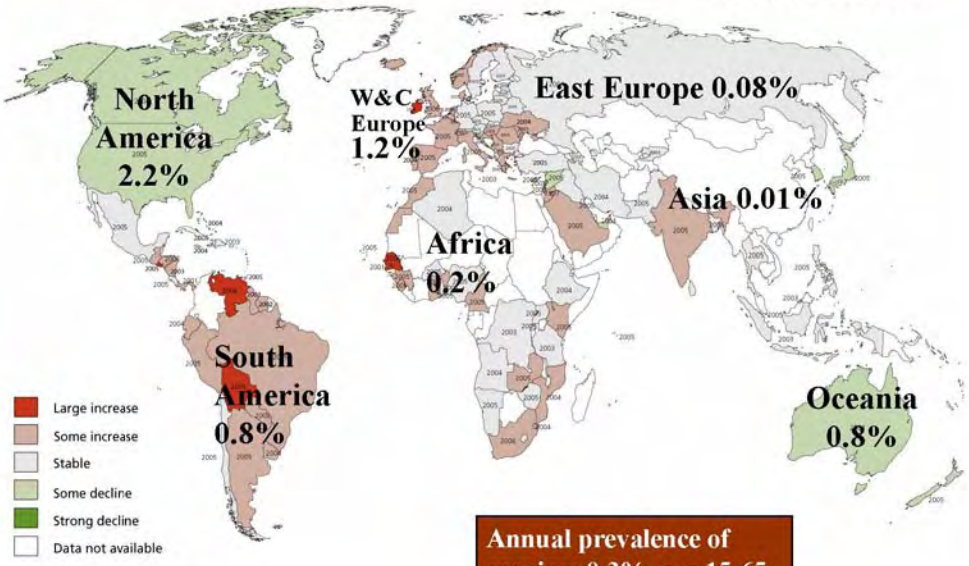
Cocaine use, 2005



Annual prevalence of cocaine: 0.3%, age 15-65

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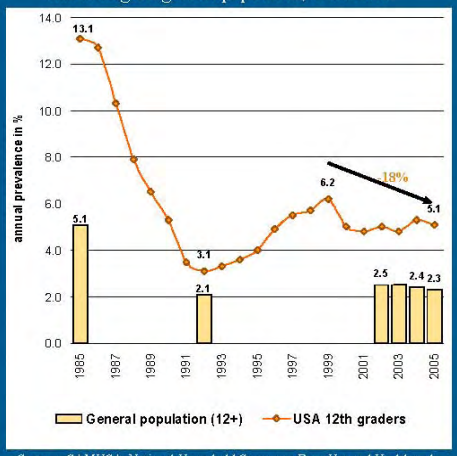
Cocaine use in North America

USA:

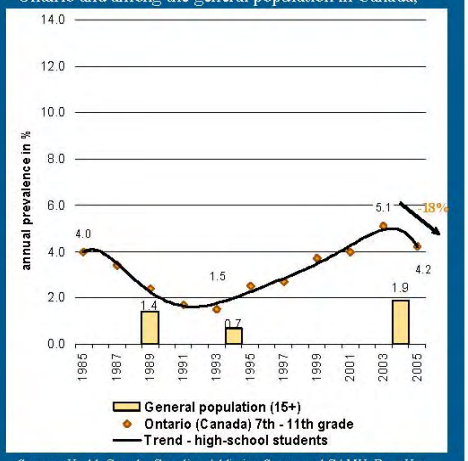
Annual prevalence among high-school students and among the general population, 1985-2005



Sources: SAMHSA, National Household Survey on Drug Use and Health and NIDA, Monitoring the Future.

Canada

Annual prevalence among high-school students in Ontario and among the general population in Canada,

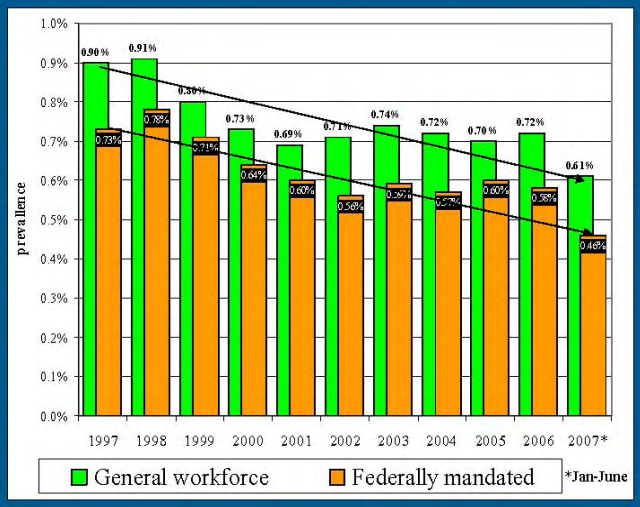


Sources: Health Canada, Canadian Addiction Survey and CAMH, Drug Use Among Ontario Students.

UNITED NATIONS
Office on Drugs and Crime

USA: workforce testing positive for cocaine

(based on more than 9 million tests in 2006)



-32%

-37%

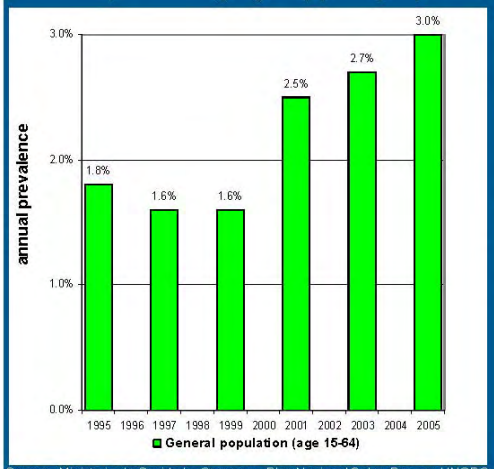
Source: Quest Diagnostics

UNITED NATIONS
Office on Drugs and Crime

Cocaine use in Europe

Spain:

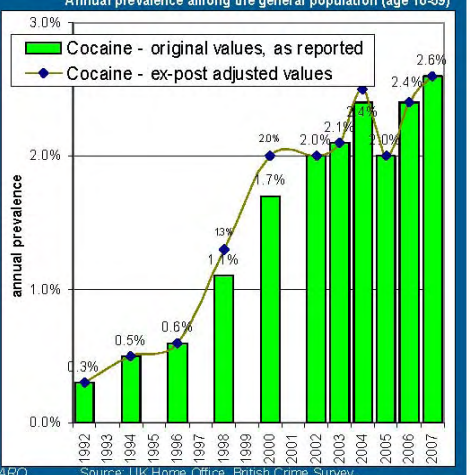
Annual prevalence among the general population (15-64)



Source: Ministerio de Sanidad y Consumo, *Plan Nacional Sobre Drogas, UNODC, ARQ*

England & Wales

Annual prevalence among the general population (age 16-59)



Source: UK Home Office, British Crime Survey.

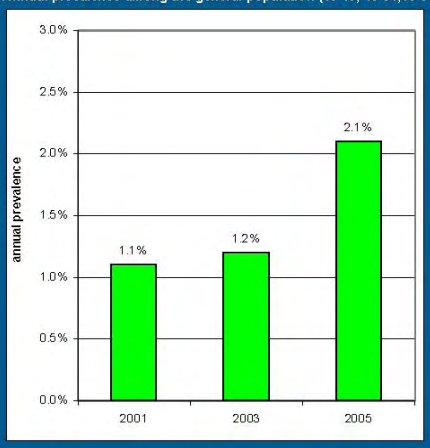
Memo: annual prevalence of cocaine use **in West & Central Europe: 1.2% and in USA: 2.8% among people aged 15-64 in 2005**

UNITED NATIONS
Office on Drugs and Crime

Trends in cocaine use in Europe

Italy:

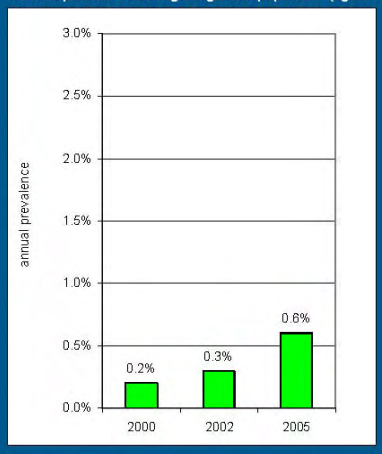
Annual prevalence among the general population (15-45, 15-54,15-64)



Source: UNODC, Annual Reports Questionnaire data.

France

Annual prevalence among the general population (age 15-64)



Source: UNODC, Annual Reports Questionnaire data.

Memo: annual prevalence of cocaine use **in West & Central Europe: 1.2% and in USA: 2.8% among people aged 15-64 in 2005**

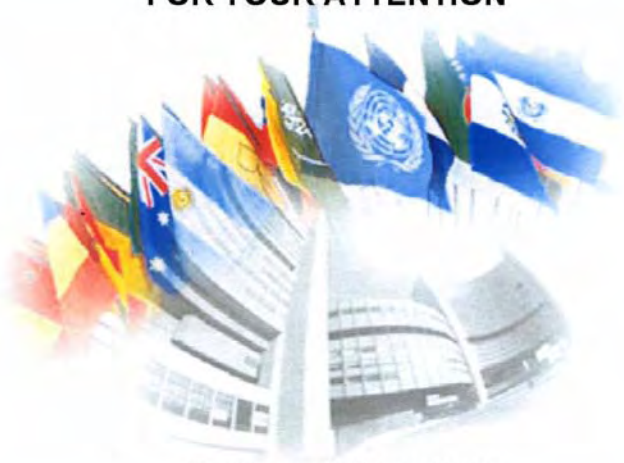
UNITED NATIONS
Office on Drugs and Crime

Conclusions

- Links between drug production, trafficking, corruption, organized crime and insurgency, which mutually reinforce each other;
- System must be looked at in holistic way; partial interventions can create problems elsewhere;
- Need for more research to better understand the functioning of the system and device appropriate policies;
- Need for stronger international exchange of information, coordination and cooperation.

UNITED NATIONS
Office on Drugs and Crime

THANK YOU
FOR YOUR ATTENTION



For more information:
http://www.unodc.org/

UNODC Technical Seminar

Countering the Destabilizing Effects of Violent Transnational Crime

Questions and Way Forward

5-6 DECEMBER 2007

Comments/Questions - Presentations

- **Criteria for alliances (criminal enterprises/terrorist organizations) is not only that cooperation must be *mutually beneficial* but also *must not undermine* either group's operations.**
  - In terms of interdicting organizational alliances, how do we identify/affect the cost-benefit analysis?
  - Is there a way to increase the costs of alliance to one or both parties?
- **Network transformation (criminal enterprise → insurgency [vv]) may require/involve the acquisition and/or development of specific capabilities, resources, etc. to create "full-service" networks**
  - Can we identify gaps in targeted networks (i.e. money laundering sources, documentation acquisition, drug operations, geographic reach, etc.)? Who has the resources to do this?
  - Should we establish watch lists of organizational capabilities/gaps?
  - Can we identify viable acquisitions i.e. are there capabilities/cells (e.g. documentation manufacturers) available for purchase/integration?
  - Can we interdict the integration/acquisition of certain types of operations/cells into established networks? How?

Comments/Questions – Presentations

- **Network shift from "corporate" to "franchise" model**
  - How does this impact counter-network operations/strategies?
  - Can we exploit the more distributed environment (i.e. financial transfers, command/control, etc.)? Or is this more of a whack-a-mole strategy?
- **Delineation of illicit/licit operations and provision of safety nets**
  - How do we clearly distinguish between legitimate social services vs. illicit activities? Can we?
  - If we inadvertently cut off funding for legitimate activities (while targeting illicit operations), how do we ensure continuity of services to general population?
  - How do we not alienate/disenfranchise population we are trying to affect in countering criminal enterprises/terrorist organizations?

Comments/Questions – Presentations

- **Environment i.e. stable/unstable/transitional states determines ability to craft counter-network operations is dependent on the**
  - Should we create multi-layer strategies based on the state model? Assuming in stable/unstable societies, a criminal enterprise/terrorist organization's goal would be either regime change/perpetuation of instability?
  - In a transitional state where the goal may not be to perpetuate instability, can we exploit competition for profit/power of the competing interests?
- **Nature of group determines parameters of counter network operations**
  - Are there certain characteristics of groups which effect how resources/efforts should be directed?
  - Do we want to encourage groups to coalesce b/c it is easier to take down a more centralized organization vs. disparate cells – i.e. is the whack-a-mole strategy?
  - Is it easier to identify/counter criminal activities than terrorist organizations?

Comments/Questions - Presentations

- **Reemergence of "groups" creates identity and establishes purpose in an increasingly globalized, dispersed world**
  - What are the connotations of the emergence of new groups?
  - How do states encourage "identity" without
- **Inform public perceptions**
  - What is the effect of criminalizing an organization's activities (i.e. Balkan mothers offended by children's actions not ideological bent) on the local populace (i.e. more/less support to law enforcement/security initiatives?
  - Can we manipulate perception (i.e. farmers better off adopting a new crop that fearing Taliban/FARC payback?)
  - Can we affect the public view of motivational legitimacy?
- **Human rights concerns vs. counter-network operations**
  - How do we effectively work with NGOs, other organizations after designation (or efforts to designate) criminal enterprise (s)?
  - How do we ensure legitimate HR concerns are met while conducting counter-network operations?
  - How do we evaluate trade-offs – i.e. provide economic opportunity and supplement HR activities to forgo illegal operations?

Comments/Questions - Presentations

- **Adaptation**
  - How have networks adapted to interdiction efforts (i.e. what lessons learned have FARC internalized)?
- **Lessons learned analyses**
  - What can we learn from analyzing lessons learned through the enemy's own words, sources, changing TTPs, etc. (or other foreign sources)?
- **Consumption – changing supply/demand**
  - Can we do more to affect networks (i.e. narco-traffickers in Colombia, West Africa) by plugging demand?
  - How do we affect demand particularly in Europe?
- **Precursors as a supply side indicator**
  - How do we track precursor shipments (counter drug flow analyses)?
  - Can we affect drug supplies by interdicting precursor chemicals?
- **Operationalizing quantitative models**
  - How do we apply quantitative research on network operations/characteristics to tactical operations?
  - Can we fine-tune models to better support future operational initiatives?

Research Deficits

- **Effects of criminalizing terrorist organizations**
  - Targeting
  - Legal implications
  - Perception
  - Metrics
- **Case studies – developing effective countermeasures**
  - Terrorist network evolution A-Z (Tamil Tigers – LTTE)
  - Ideological network to criminal enterprise evolution
  - Criminal enterprise/terrorist network evolution to legitimate commercial/political force
- **Socio-cultural implications of counter-network activities**
  - Effect on societal networks
  - Affiliations (i.e. tribal relations)
  - Cultural biases
  - Legal restrictions

Way Forward

- **Community of experts**
  - Identify body of specialists (social, political, LEF, economic, etc.)
    - Recommend who you know to establish network
  - Create a collaborative forum, drawing on UNODC networks
    - Is this a website? Annual meetings in person or remote?
- **Correlate/coordinate qualitative/quantitative data**
  - Develop a "whole picture" approach by linking statistics with contextual analysis (i.e. what makes Iraq different from Afghanistan from Colombia in terms of evaluating counter-network efforts?)
  - Produce analytical/operational assessments
- **Support policy-makers**
  - Identifying gaps (intelligence, expertise, etc.)
  - Making recommendations –
    - Going beyond the academic solution, how do we affect policy changes?
  - Resource allocation
    - Cost-benefit analysis of counter-network activity
    - Improvement of counter-network intelligence/analysis capabilities
- **Support field operations**
- **Create best practices**

Way Forward

- **Identification & Intelligence**
  - HUMINT – we have to work with the filth to get the dirt?
  - Collaboration/coordination
- **Targeting**
  - Develop new metrics
  - Add to collective knowledge and investigative value
- **Interdiction/Disruption**
  - Identify TTPs and adaptations – proactive vs. reactive
  - Target supply chain (precursors, someone needs to be selling submarines to FARC, etc…)
- **Network Evolution**
  - Identify critical requirements/vulnerabilities
  - Assess timeline (evolution/interdiction/reconstitution)
  - Evaluate environmental causes that allow/spur evolution
- **Reconstitution**

Way Forward

- **Making Matters Worse**
  - To do no harm – what are we doing that is perpetuating network evolution and/or the spread of criminal activities and/or terrorist networks?
    - Media
    - Academics
    - Lack of coordination
    - Cultural hang-ups?

Reconstitution: Enabling the rebuilding of violent criminal organizations

December 6, 2007

Dr. Barry Crane
Dr. Amy Alrich
Dr. Richard White

Institute for Defense Analyses
4850 Mark Center Drive
Alexandria, Virginia

Conditions for criminal groups to flourish and, facing interdiction, reconstitute

- **Ineffective political/legal environment: Instability, lawlessness, weak government apparatus, corrupt officials/courts, decentralization**
- **Accommodating physical environment: porous borders, ungoverned spaces provide sanctuary**
- **Unstable economy: weak economic infrastructure, reliance on limited natural resources as basis for GDP**
- **Supporting social circumstances: poverty, high unemployment, potential for ideological radicalism, limited skill set upon which population can rely to generate income, limited economic opportunities; cooperative population (through coercion or cooptation)**

Reconstitution? Some questions to resolve

- Reconstitution of a criminal enterprise (reconstructing operations as a response to some interdiction and intervention)
- The reconstitution is a response to an unanticipated crisis or upheaval.
  - A lethal intervention causing a critical loss of personnel
  - Arresting key individuals at some stage of the operation
  - Significant loss of property or equipment
- Reconstitution occurs because the intervention is invariably "tactical" or short-term in nature. Criminals then seek a new activity with less risk.
  - How long does it take them to reestablish the activity? At what level?
  - What effect does it have on the whole enterprise?
  - How do they reconstitute? Same organizational model?
    - Let "contracts" to adapt? Chose the winners to continue.
    - What kinds of losses can be tolerated?
  - What kinds of external metrics can be used?

Some observations about reconstitution

Means to prevent reconstitution?

- Restoring security and rule of law
  - Remove corruption
  - Improve professional capabilities
  - Indict insurgents for criminal activities
- Remove the legitimacy of the criminal/insurgent group
  - Limit recruiting capacity of the insurgents, and
  - Remove the support of local citizens.
- Removing illicit income and resources
  - Removes lots of resources for the insurgent and his supporters.
  - Accomplished with cocaine in Peru in 1996 and led to five straight years of reduced illicit cultivation.
    - Price collapse occurred from interdiction
    - Removed 75% of the illicit economy
  - Interdicted a critical part of supply chain
- Concepts for Afghanistan
  - Ruin opium price because of opium overproduction
  - Combined law enforcement and military operations to remove the middlemen in the drug trafficker organization
  - Enemy combatants mixed with criminal; need to sort these out
  - Successful eradication campaigns occurred only after the commodity price was driven to very low values, even below cost, not before.

Observations about Afghanistan

The insurgency has become a perpetual motion machine, – funded by drugs – recruiting, training, equipping new fighters, corrupting regional officials, destabilizing central government.

- During ISAF/coalition presence, opium poppy resurgence resulted in annual production of 5,000-6,000 MT of opium, either consumed or turned into the 600 MT of heroin, 90% of world consumption, generating an underlying illicit $3 billion, about 35% of total Afghan GDP.
  - Taliban, AQ elements, warlords have ability after spring/summer fighting, to bring in new weapons/recruits, and be ready to go again next spring.
- Objectives achieved only when all 5 strategy pillars have been reached and Afghan government can be considered self-sustaining.
  - The $3 billion generated by the drug trade is used to undermine U.S. and NATO objectives for stabilization and rebuilding of Afghanistan.
- Winning will only be possible if U.S. military forces join prevent reconstitution.

Additional Related Materials

Universal Patterns in Modern Conflicts

Talk given at Georgetown University,
November 30, 2007

Michael Spagat,
Department of Economics,
Royal Holloway College,
University of London

There are many people involved in this research:

University of Miami:	Universidad de Los Andes:
Neil Johnson	Juan Camilo Bohorquez
	Alvaro Moreno
Oxford University:	Elvira Restrepo
Sean Gourley	Juan Pablo Calderon
Alex Dixon	Roberto Zarama

CERAC and Universidad Javeriana: Jorge Restrepo

Is there a common structure of modern warfare that remains more or less constant across diverse wars?

Aside from the inherent interest of this question, the answer can have important implications for the practical conduct of war, including medical and insurance planning.

What is the relationship between terrorism and modern warfare?

The distinction between the two is often blurred, e.g., in the concept of the "war on global terrorism". But there does appear to be a real relationship between the two and knowledge of its nature will be very welcome.

We find remarkable regularities and similarities in the size distribution of violent events in large number of modern conflicts: Colombia, Iraq, Afghanistan, Indonesia, Peru, Israel-Palestine, Northern Ireland, Casamance (Senegal), Sierra Leone, Uganda and El Salvador.

We organize and explain these findings for modern conflicts with a model of the coalescence and fragmentation of insurgent groups.

One can learn about the nature of an insurgency from studying the size distribution of casualties that it throws up.

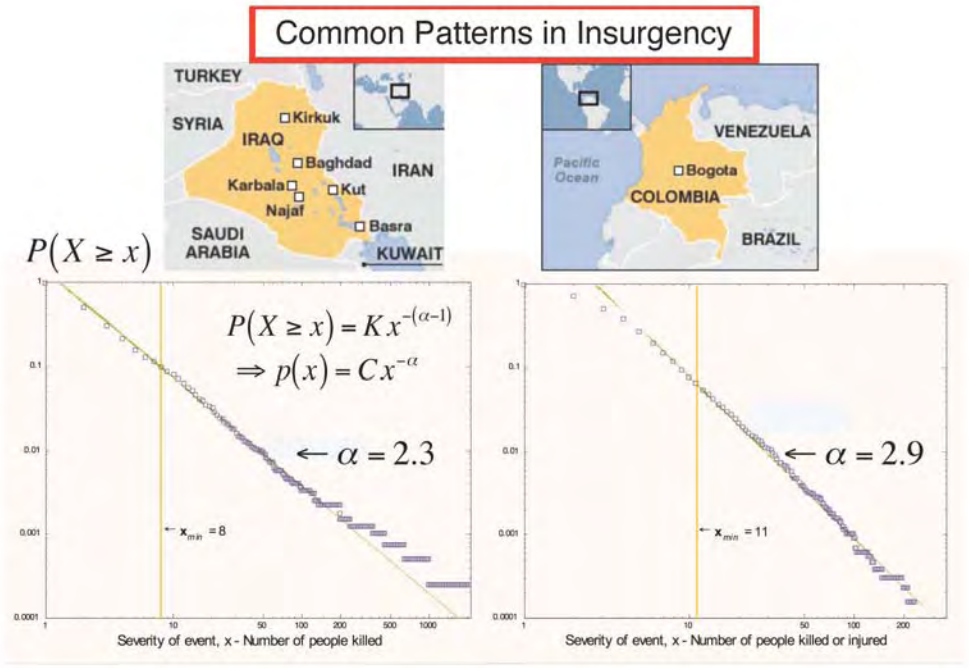
Our findings greatly resemble those of Clauset, Young and Gleiditsch (2007) on the size distribution of casualties in terrorist attacks.

The links between terrorism and insurgency deserve deeper study.

We also find striking similarities in the timing of violent events across four modern conflicts: Colombia, Iraq, Afghanistan and Peru.

It seems that there are common and predictable patterns to the way that humans wage war that transcends particularities of time and place.

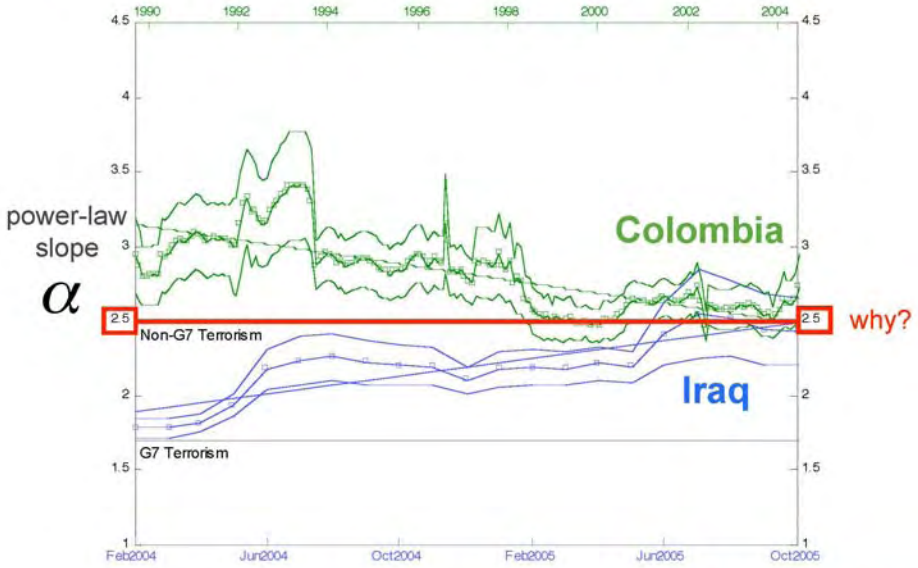
Common Patterns in Insurgency



use max. likelihood + Kolmogorov-Smirnov

http://xxx.lanl.gov/abs/physics/0605035

Variation through time using a sliding time-window

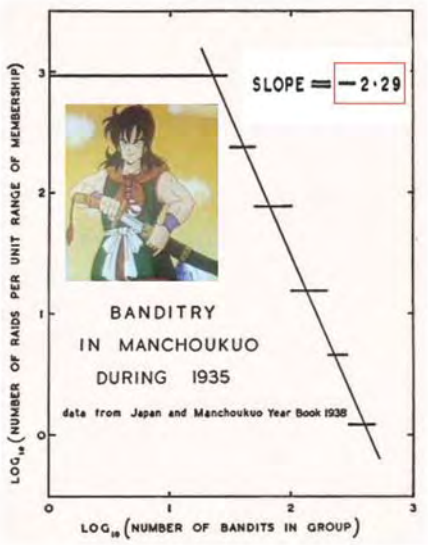


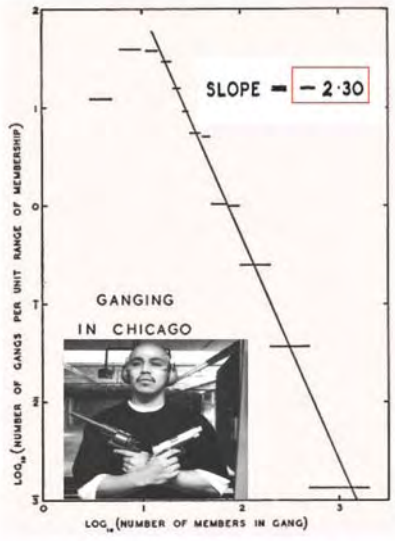
http://xxx.lanl.gov/abs/physics/0605035

Variation of the Frequency of Fatal Quarrels With Magnitude

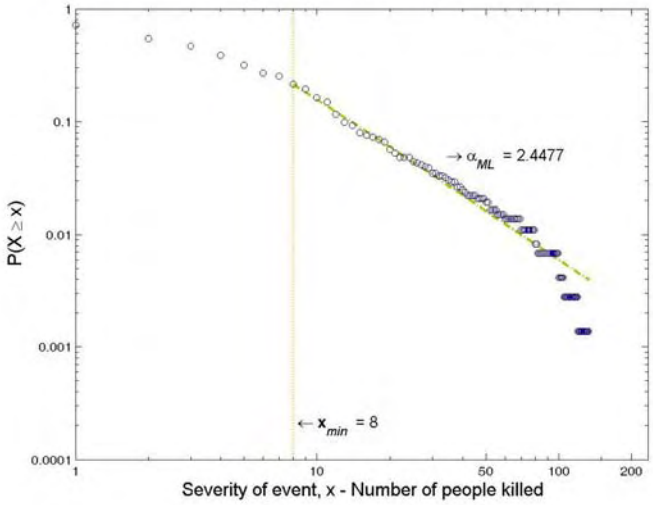
Lewis F. Richardson

Journal of the American Statistical Association, Volume 43, Issue 244 (Dec., 1948), 523-546.

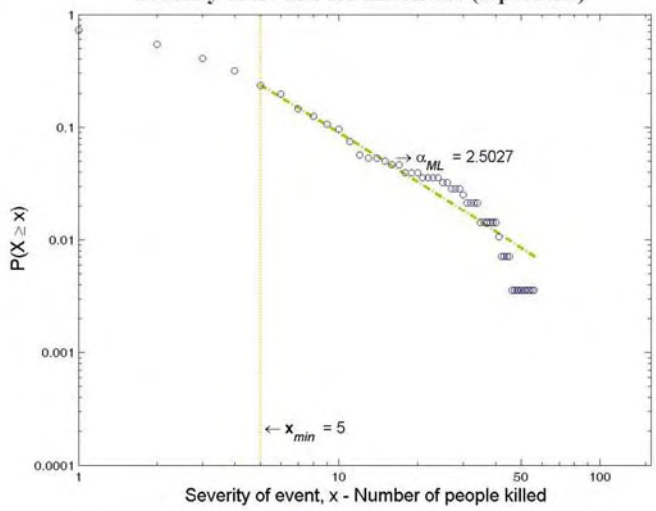




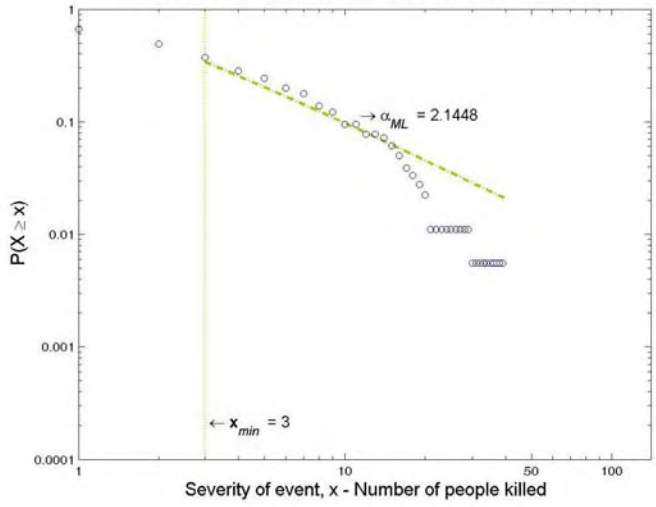
Log-Log plots of 1 – the Cumulative Distribution Function for Severity of Events for Afghanistan

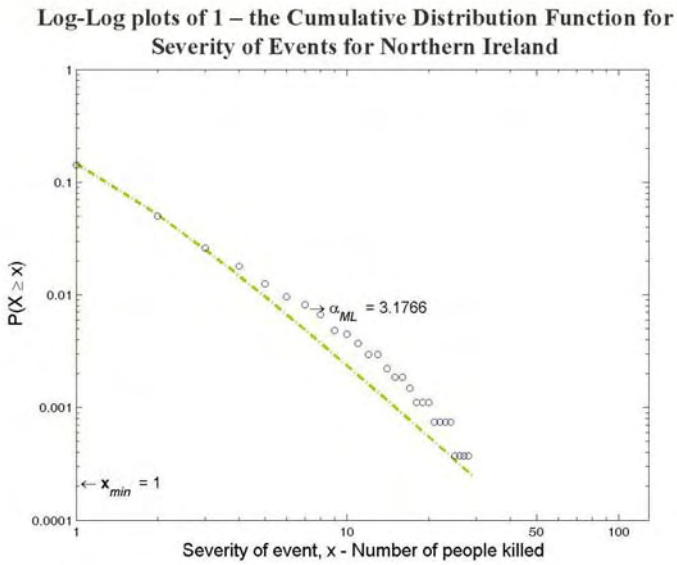


Log-Log plots of 1 – the Cumulative Distribution Function for Severity of Events for Indonesia (separatist)

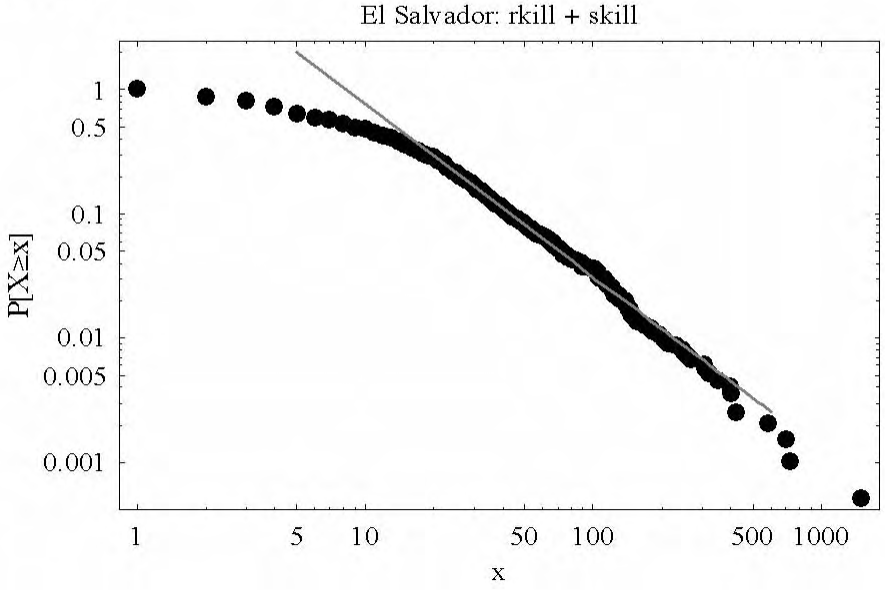


Log-Log plots of 1 – the Cumulative Distribution Function for Severity of Events for Israel-Palestine Conflict

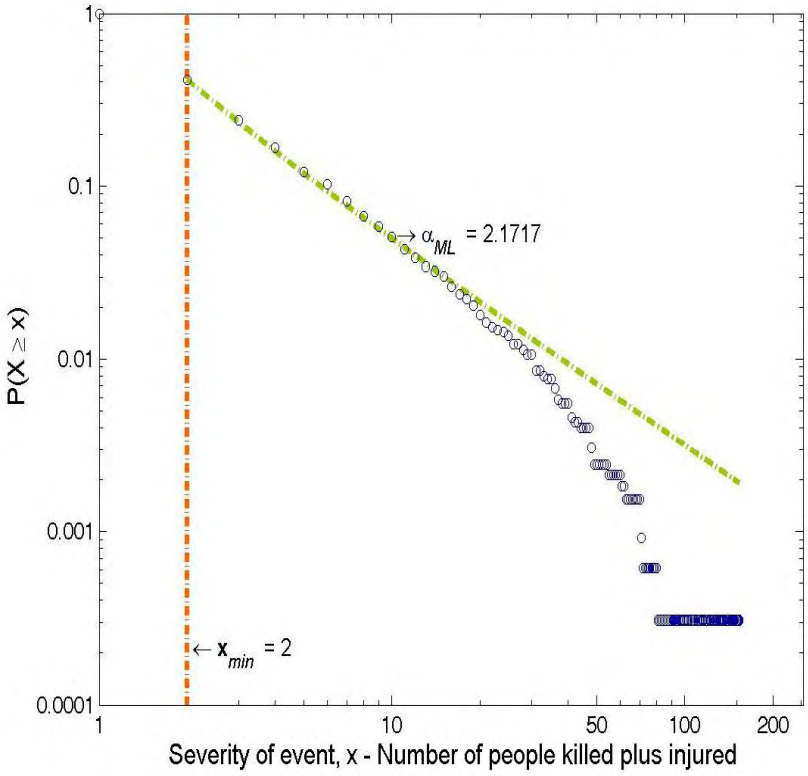




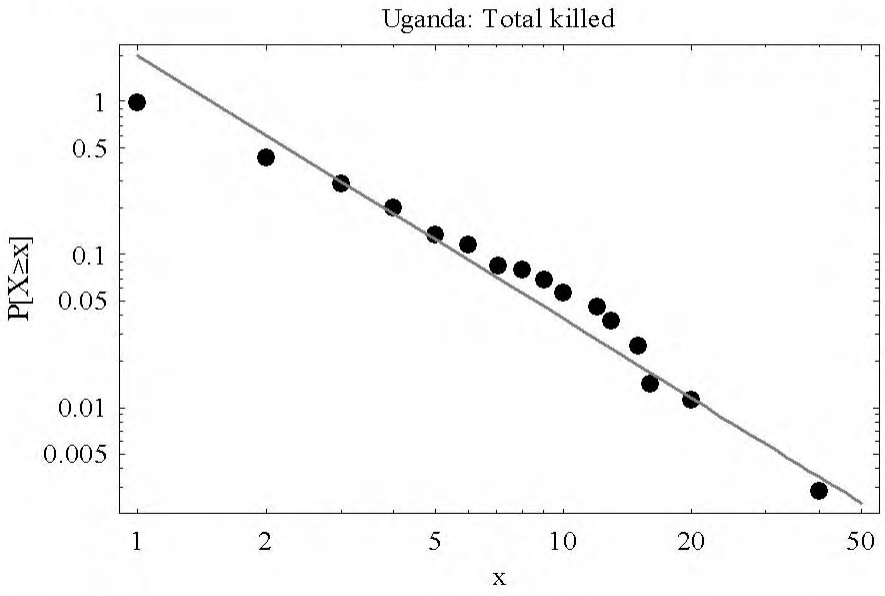
Database: EL SALVADOR
Variable: rkill + skill
Xmin: 20
Alpha: 2.39

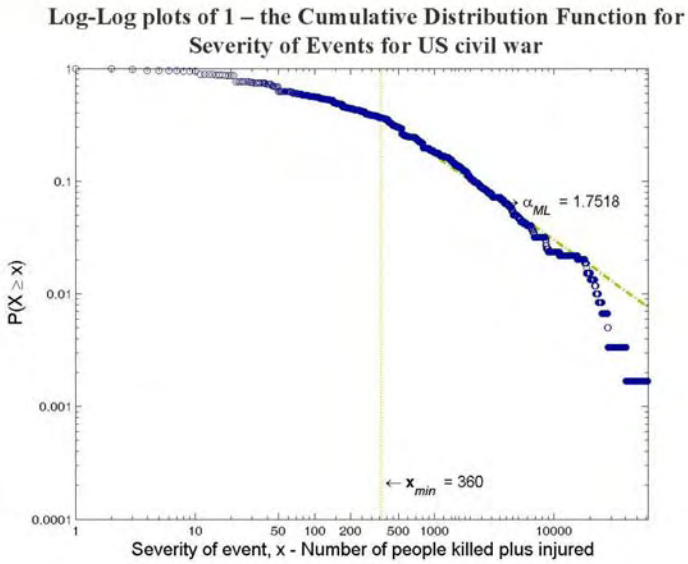


Log-Log Plots for 1 – the Cumulative Distribution Function for the Severity of Events in Peru

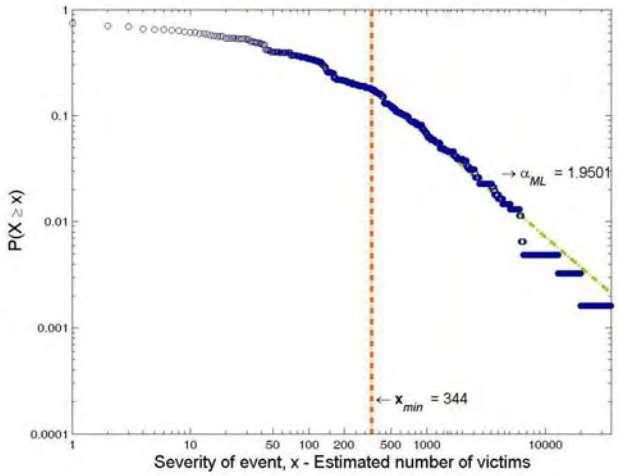


Database: UGANDA
Variable: Effects-Total Killed
Xmin: 5
Alpha: 2.71

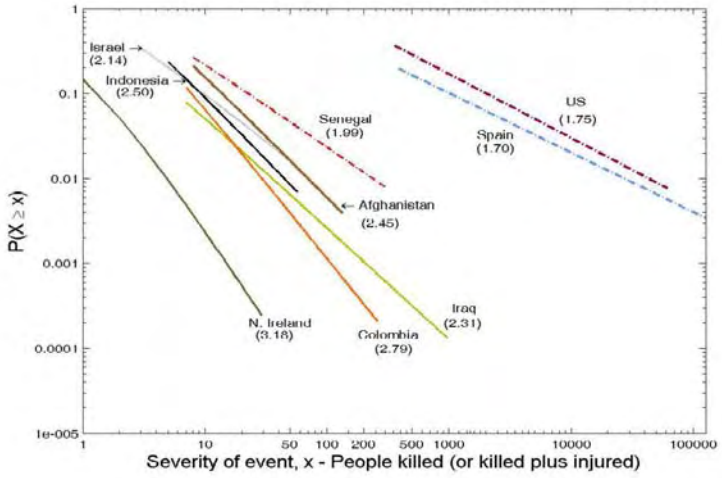


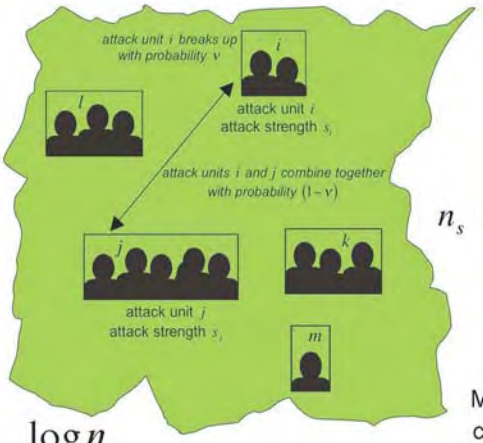


Log-Log plots of 1 – the Cumulative Distribution Function for Severity of Events for Russian civil war



Log-Log plots of 1 – the Theoretical Cumulative Distribution Function for Severity of Events for old wars and new wars (without Iterate)



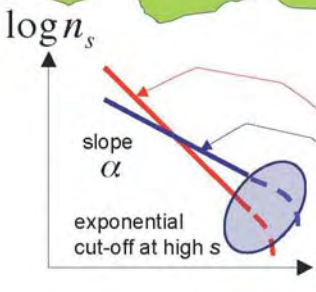


total attack strength = N

$$n_s \propto N \,.\, \exp -\left\{ s.\ln\left[\frac{\left(1-\frac{\nu}{2}\right)^2}{(1-\nu)}\right]\right\} . \, s^{-\frac{5}{2}}$$

Modifying the probability of coalescence-fragmentation so that larger attack units are more rigid, gives

$$n_s \propto s^{-\left(\frac{5}{2}-\delta\right)}$$



$\delta = 0$ corresponds to a power-law with $\alpha = 2.5$

$\delta = 0.7$ corresponds to a power-law with $\alpha = 1.8$

Conclusion

We find extraordinary similarities in the size distribution of violent events and the timing of insurgent/guerrilla attacks in Iraq and Colombia.

Iraq and Colombia differ strongly in a number of highly visible ways.

- Colombia has "rough terrain", i.e., extensive mountains and jungles, completely contrary to Iraqi geography.
- Iraq has strong ethnic/religious cleavages, completely unlike Colombia.
- The ideologies of Colombia's insurgent groups, more or less Marxism, differ strongly from the ideologies of the insurgent groups in Iraq.

But a common underlying logic renders both conflicts structurally almost identical along two key dimensions.

Moreover, we get strikingly similar patterns on the size distribution of events for Afghanistan, Indonesia, Israel-Palestine, Nothern Ireland, Senegal (Casamance), Sierra Leone, El Salvador, Uganda and Peru, i.e., there seems to be a very reliable pattern to modern insurgency.

These patterns are also very similar to the size distribution of casualties in terrorist events.

So "Modern War" seems to be a valid category of analysis.

Geography, ethnicity, religion and ideology are not unimportant - various wars and global terrorism do differ and good analysis must make reference to local specifics.

But there seems to be an underlying logic to insurgency and terrorism that should be central to the study of modern conflict.

There is a potentially high payoff to in-depth, micro-level studies of individual wars combined with comparative work ranging across these wars and terrorism.

TOWARDS COMPUTATIONAL MODELS OF VIOLENT ACTIONS

Neil F. Johnson, Juan Camilo Bohórquez, Juan Pablo Calderón, Roberto Zarama

The "WHAT, WHEN and WHERE" of insurgency

Our earlier work looked at:
SIZE of violent events (i.e. clashes, attacks)

Our recent work looks at:
TIMINGS & LOCATION of violent events

Our present work uses our agent/network models to look at:
DURATION: how long might a given conflict last and how might this duration be altered?
PREDICTABILITY: when and where are future events most likely to occur?
INTERVENTION: what are the likely effects of different intervention schemes, changes in troop numbers etc.?

Work in progress ….

- Understanding the role of factions/cliques in insurgent groups:
  Relationship to crime gangs, online war-gaming etc.
  Is an insurgent group/cluster more like a 'team' (i.e. complementary characteristics) or a 'family' (i.e. similar characteristics)
- Predictability using binary-coding of event data
- Can spread of conflict be modeled like spread of disease: vaccination, repeated infection, immunity..?

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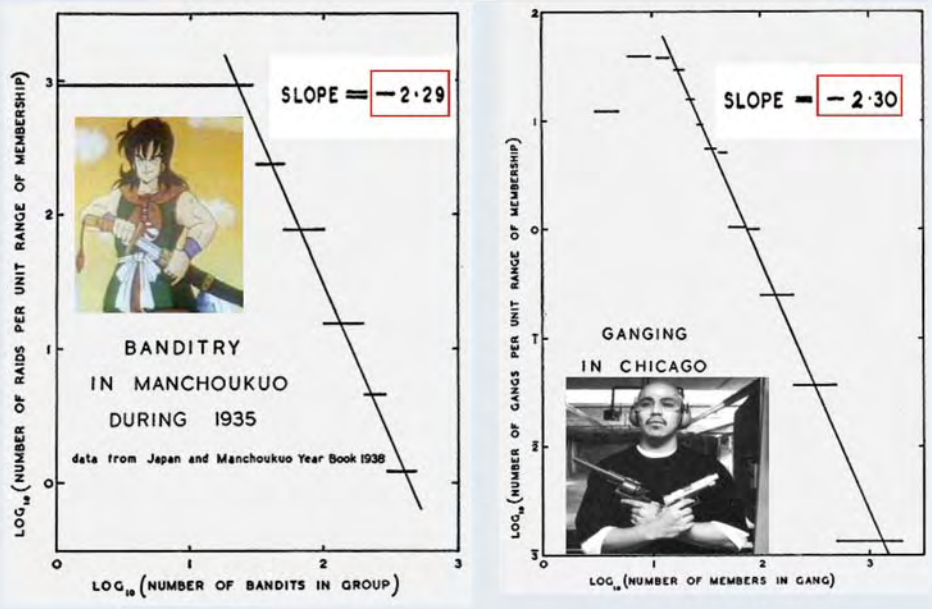
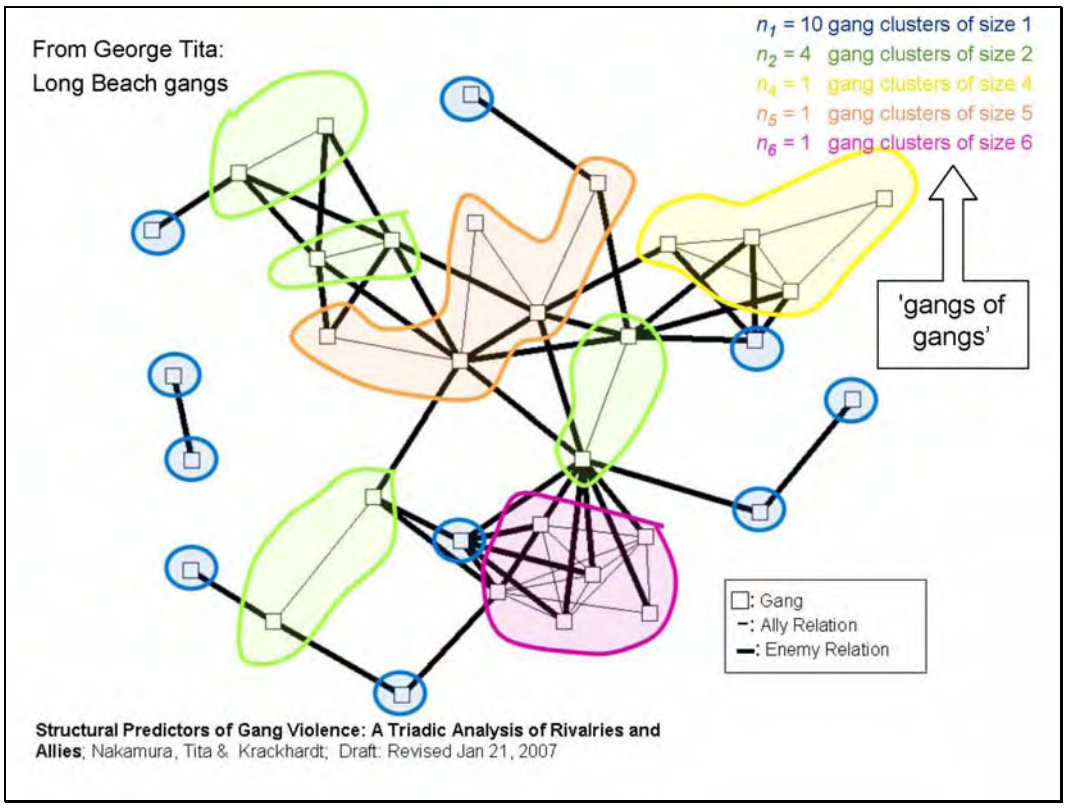
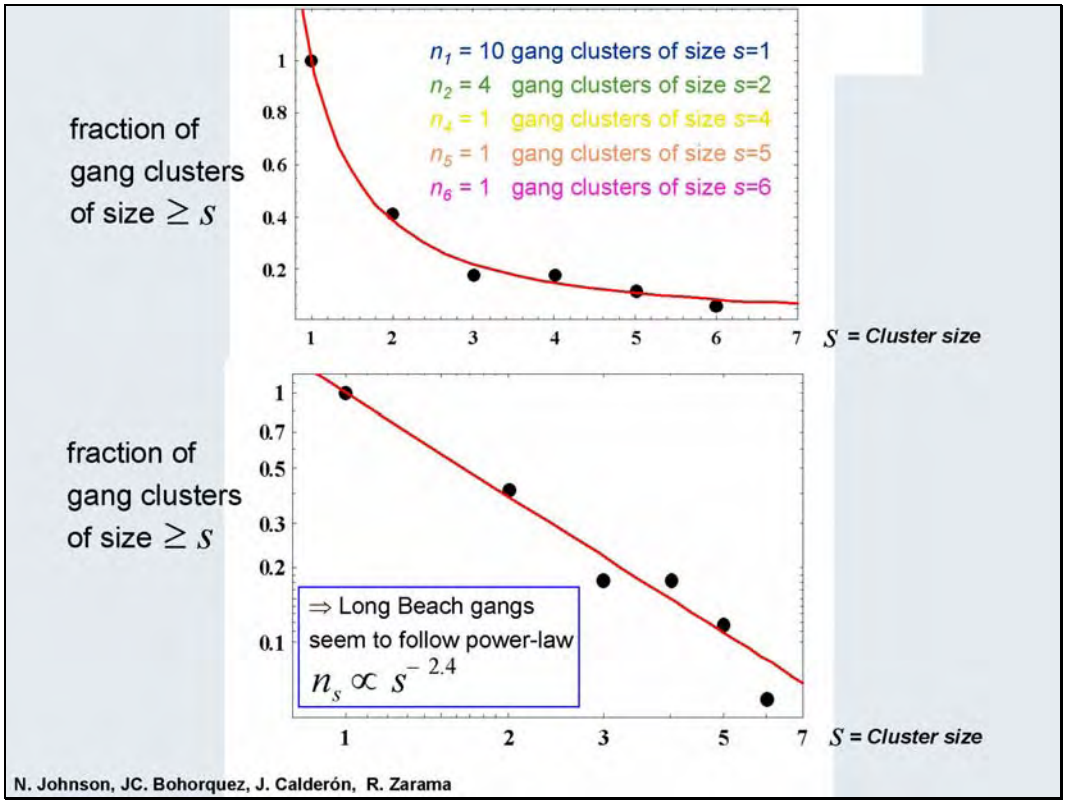
Variation of the Frequency of Fatal Quarrels With Magnitude

Lewis F. Richardson

Journal of the American Statistical Association, Volume 43, Issue 244 (Dec., 1948), 523-546.




From George Tita:
Long Beach gangs
n_1 = 10 gang clusters of size 1
n_2 = 4 gang clusters of size 2
n_4 = 1 gang clusters of size 4
n_5 = 1 gang clusters of size 5
n_6 = 1 gang clusters of size 6
'gangs of gangs'
□: Gang
–: Ally Relation
—: Enemy Relation
Structural Predictors of Gang Violence: A Triadic Analysis of Rivalries and Allies; Nakamura, Tita & Krackhardt; Draft: Revised Jan 21, 2007


fraction of gang clusters of size $\geq s$
n_1 = 10 gang clusters of size s=1
n_2 = 4 gang clusters of size s=2
n_4 = 1 gang clusters of size s=4
n_5 = 1 gang clusters of size s=5
n_6 = 1 gang clusters of size s=6
S = Cluster size
fraction of gang clusters of size $\geq s$
⇒ Long Beach gangs seem to follow power-law
$n_s \propto s^{-2.4}$
S = Cluster size
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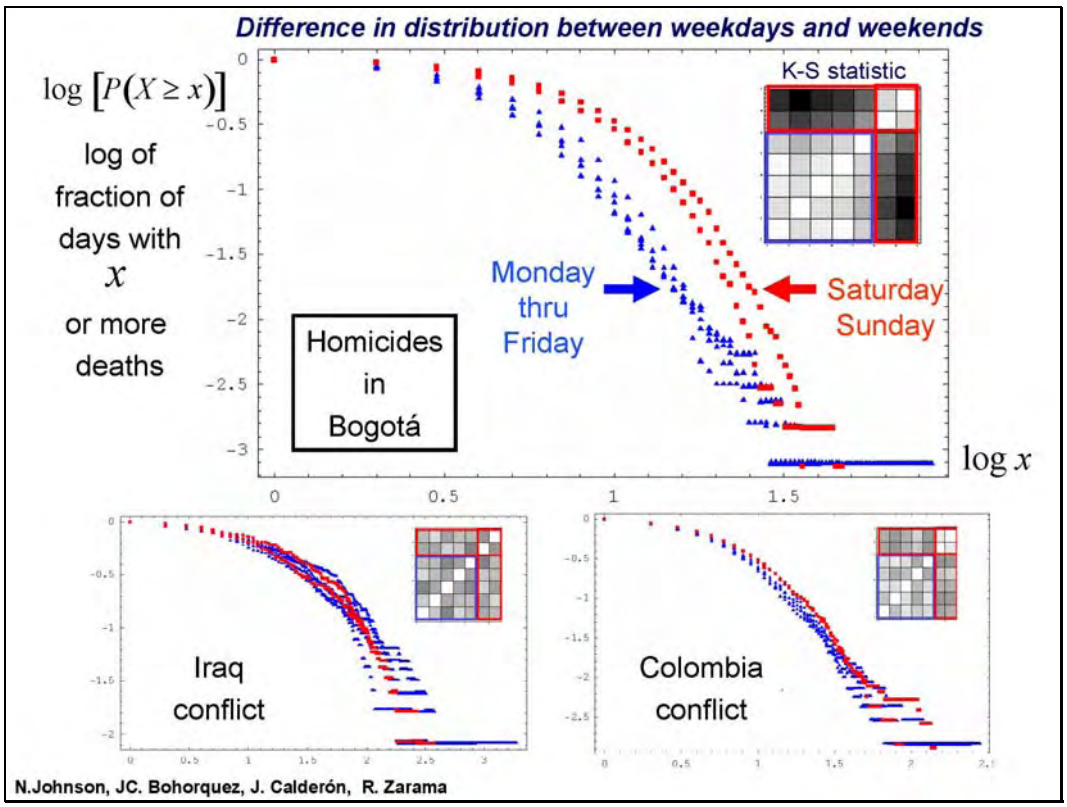
Difference in distribution between weekdays and weekends
log [P(X ≥ x)]
log of fraction of days with x or more deaths
K-S statistic
Monday thru Friday
Saturday Sunday
Homicides in Bogotá
log x
Iraq conflict
Colombia conflict
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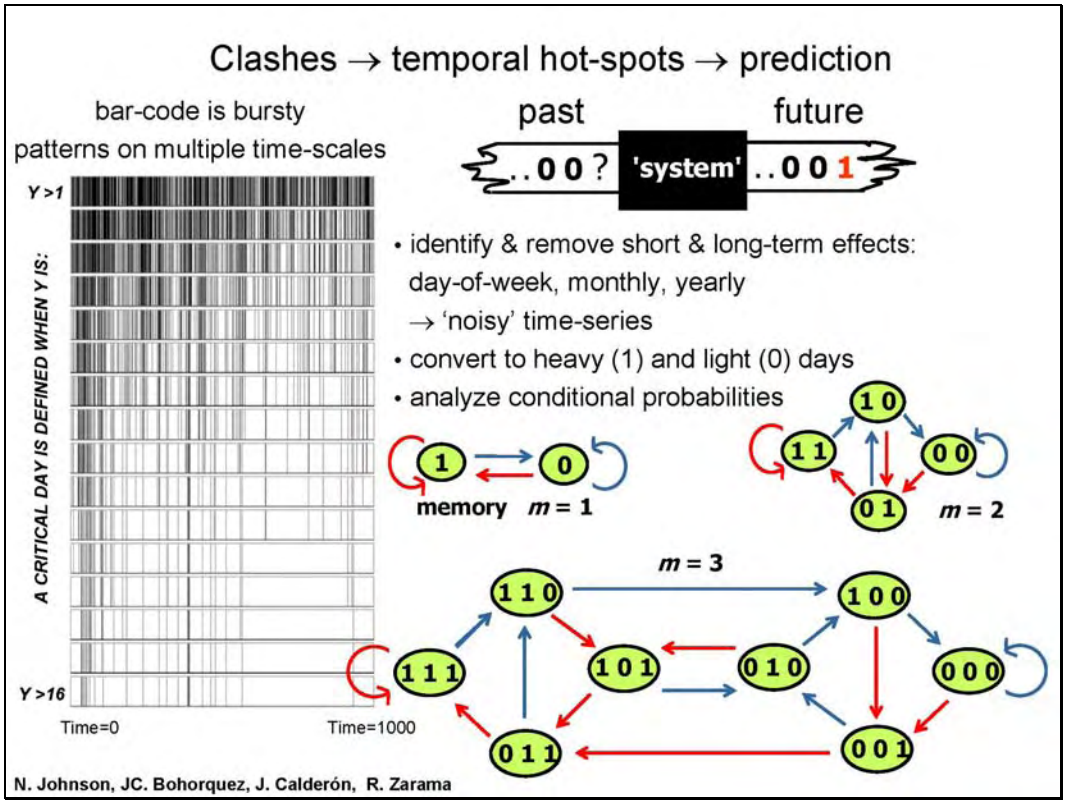
Clashes → temporal hot-spots → prediction
bar-code is bursty
patterns on multiple time-scales
past
future
..00? 'system' ..001
Y >1
A CRITICAL DAY IS DEFINED WHEN Y IS:
Y >16
Time=0
Time=1000
• identify & remove short & long-term effects: day-of-week, monthly, yearly → 'noisy' time-series
• convert to heavy (1) and light (0) days
• analyze conditional probabilities
1
0
memory m = 1
10
11
00
01
m = 2
m = 3
110
100
111
101
010
000
011
001
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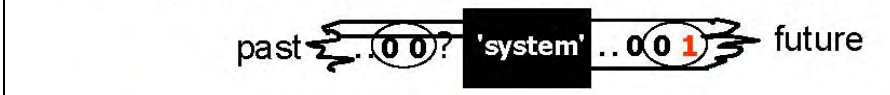
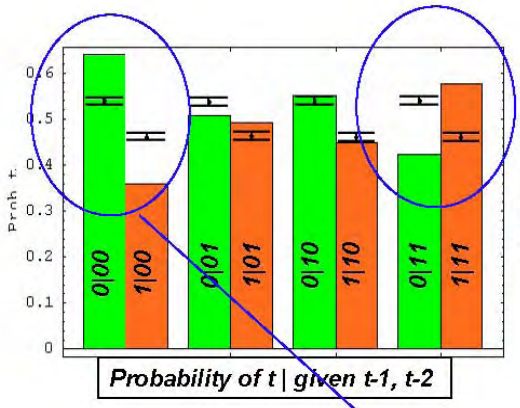
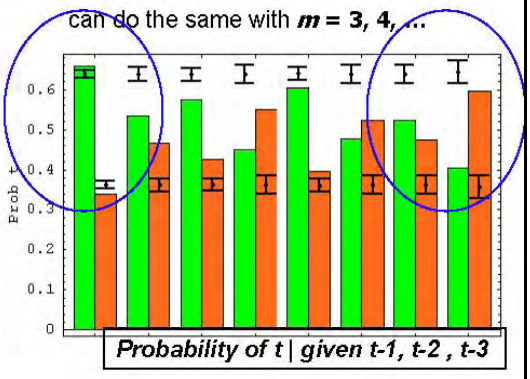
Temporal hot spots → daily, weekly, monthly prediction



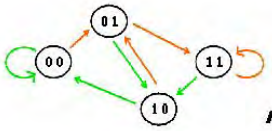


Probability of t | given t-1, t-2

can do the same with m = 3, 4, ...

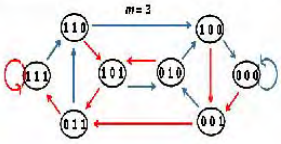


Probability of t | given t-1, t-2 , t-3



m = 2

Sticky pattern for crime



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What type of models can explain this observed patterns?

How can we extend our current models?

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14. ABSTRACT

To advance the understanding of how illicit markets operate and support violent anti-government groups, the United Nations Office on Drugs and Crime (UNODC) hosted a two-day expert's level technical seminar, "Countering the Effects of Violent Transnational Crime," on 5-6 December 2007. The event, held at the Vienna International Centre (VIC), was sponsored by the U.S. Department of State and administered by the Institute for Defense Analyses (IDA). Attendance was by invitation only and based upon technical expertise and experience.

Seminar topics concentrated on histories of transnational crime and connections to anti-government/terrorist groups, similarities between criminal and terrorist network operations, the underlying organizational principles governing their behavior, and viable strategies for defeating them. The Colombian narco-insurgency and criminal activities in the surrounding regions were examined as the largest case study of successfully countering the legitimacy and capabilities of a criminal-based anti-government group.

The consensus of the world-wide experts assembled at the seminar was:

- The failure to grasp and deal with emerging violent transnational criminal groups will continue to create larger and larger numbers of self-financed anti-government forces unless checked by efficient strategies.
- The emerging unfavorable situation in Afghanistan requires immediate application of the scientific principles enumerated in the seminar

15. SUBJECT TERMS
Narco-Trafficking, Afghanistan, Narcotics, Terrorism, Crime

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