A tentative framework to measure IFFs in illicit drugs market: the Italian case

Expert meeting on statistical methodologies for measuring illicit financial flows (IFFs)
Geneva, 20-22 June 2018
The supply-chain of a product can be thought of as a sequence of **functions** to be carried out in different **locations**

- The sequence of functions is determined according to the given technology of production
- The sequence of locations is determined according to the geographical extension of both the production process and the reference market

**Continuity** of functions and locations is a necessary condition in order to complete the supply-chain

Potential **discontinuities** emerge in correspondence to functional and territorial boundaries of productive units, which involve that some functions or locations cannot be internally managed

In order to manage possible discontinuities, **transactions** (exchange of value, change in ownership) between productive units carrying out different functions and/or operating in different locations emerge
Type of transactions along the supply-chain

- **Integrated enterprise**
  Transaction is internal to the productive unit and there is not exchange of value

- **Technological transactions**
  Transactions between productive units having different functions along the value-chain but same location

- **Geographical transactions**
  Transactions between productive units having similar functions along the value-chain but located in different geographical areas

- **Mixed transactions**
  Transactions between productive units having different functions along the value-chain and located in different geographical areas

Possible cross-border component
Conceptualising illicit drugs market

PRODUCING COUNTRY

- Grower/Manufacturer
  - Output
  - Intermediate costs
  - Value added

- Exporter
  - Trade margins
  - Intermediate costs
  - Value added

TRANSIT COUNTRY

- Transit management
  - Trade margins
  - Intermediate costs
  - Value added

CONSUMING COUNTRY

- International wholesale
  - Trade margins
  - Intermediate costs
  - Value added

- Domestic wholesale
  - Trade margins
  - Intermediate costs
  - Value added

- Retail trade
  - Trade margins
  - Intermediate costs
  - Value added

Consumers

Domestic flows

Cross-border flows
The Italian case: Overview

Italy is considered a consuming country (production is negligible and consumption is higher than exports)

Istat estimates illicit drug market using a demand-side approach taking into account six types of illicit drugs:

- Heroin
- Cocaine
- Cannabis and derivatives
- Ecstasy
- LSD
- Amphetamines

Informative sources:

- General population survey (number of consumers)
- Case studies (consumption habits)
- Information by experts (incidence and type of intermediate consumption, share of exports)
- Data from seizures (purities)
- Data from contrast authorities (domestic prices)
- International studies and database (international prices)
The Italian case: Measurement framework

- **Number of Consumers**
  - Consumption Habits
    - Used Quantity
      - Final Consumption
        - Quantity Used on Domestic Market
          - International Wholesale
            - Trade Margins
              - Intermediate Costs
                - Value Added
          - Domestic Wholesale
            - Trade Margins
              - Intermediate Costs
                - Value Added
          - Retail Trade
            - Trade Margins
              - Intermediate Costs
                - Value Added
            - Primary Income
The Italian case: Estimation procedure

- **Consumed quantity** = Number of consumers by type * Number of doses * Quantity per dose
- **Final consumption** = Consumed quantity * Retail price
- **Exported quantity** = Consumed quantity * Share of exports
- **Exports** = Exported quantity * Domestic wholesale price
- **Imported quantity** = (Consumed quantity * purity) + Exported quantity
- **Imports** = Imported quantity * Average international price
### The Italian case: Estimation procedure

<table>
<thead>
<tr>
<th>Aggregate</th>
<th>International wholesale trade</th>
<th>Domestic wholesale trade</th>
<th>Retail trade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value of sales</td>
<td>Imported quantity * Domestic wholesale price</td>
<td>Consumed quantity * Retailer price</td>
<td>Consumed quantity * Retailer price</td>
</tr>
<tr>
<td>Value of goods to resale</td>
<td>Imported quantity * Average international price</td>
<td>Imported quantity * Domestic wholesale price</td>
<td>Consumed quantity * Retail price</td>
</tr>
<tr>
<td>Trade margin</td>
<td>Value of sales - Value of goods to resale</td>
<td>Value of sales - Value of goods to resale</td>
<td>Value of sales - Value of goods to resale</td>
</tr>
<tr>
<td>Intermediate costs</td>
<td>Percentage of turn-over</td>
<td>Percentage of turn-over</td>
<td>Percentage of turn-over</td>
</tr>
<tr>
<td>Transportation</td>
<td>Percentage of turn-over</td>
<td>Percentage of turn-over</td>
<td>Percentage of turn-over</td>
</tr>
<tr>
<td>Chemicals</td>
<td>Percentage of turn-over</td>
<td>Percentage of turn-over</td>
<td>Percentage of turn-over</td>
</tr>
<tr>
<td>Services</td>
<td>Percentage of turn-over</td>
<td>Percentage of turn-over</td>
<td>Percentage of turn-over</td>
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<tr>
<td>…</td>
<td>Percentage of turn-over</td>
<td>Percentage of turn-over</td>
<td>Percentage of turn-over</td>
</tr>
<tr>
<td>Value added</td>
<td>Trade margin - Intermediate costs</td>
<td>Trade margin - Intermediate costs</td>
<td>Trade margin - Intermediate costs</td>
</tr>
</tbody>
</table>

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The table above outlines the estimation procedure for different aggregates in the Italian case, focusing on international and domestic wholesale trade, as well as retail trade. It details how to calculate trade margins and intermediate costs for each category.
<table>
<thead>
<tr>
<th>Illicit drugs (2011)</th>
<th>Final Consumption</th>
<th>Imports</th>
<th>Exports</th>
<th>Trade Margins</th>
<th>Intermediate Costs</th>
<th>Value Added</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Bn euro)</td>
<td>(Bn euro)</td>
<td>(Bn euro)</td>
<td>(Bn euro)</td>
<td>(Bn euro)</td>
<td>(Bn euro)</td>
</tr>
<tr>
<td>Heroin</td>
<td>1.6</td>
<td>0.1</td>
<td>0.0</td>
<td>1.5</td>
<td>0.1</td>
<td>1.4</td>
</tr>
<tr>
<td>Cocaine</td>
<td>6.4</td>
<td>0.3</td>
<td>0.1</td>
<td>6.2</td>
<td>0.4</td>
<td>5.7</td>
</tr>
<tr>
<td>Cannabis and derivatives</td>
<td>3.4</td>
<td>0.4</td>
<td>0.0</td>
<td>3.0</td>
<td>0.2</td>
<td>2.8</td>
</tr>
<tr>
<td>Others</td>
<td>1.3</td>
<td>0.2</td>
<td>-</td>
<td>1.1</td>
<td>0.1</td>
<td>1.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12.7</strong></td>
<td><strong>1.1</strong></td>
<td><strong>0.2</strong></td>
<td><strong>11.8</strong></td>
<td><strong>0.9</strong></td>
<td><strong>10.9</strong></td>
</tr>
</tbody>
</table>

Induced activities (Facilitators)

0.9
The Italian case: Results

- **International wholesale**: 0.7 bn euro
- **Domestic wholesale**: 6.1 bn euro
- **Retail trade**: 4.1 bn euro

**Transactions**
- **Imports**: 1.1 bn euro
- **Exports**: 0.2 bn euro
- **No cross border transactions**
Drugs trafficking

Illicit drugs to domestic agents
Illicit drugs to foreign agents

Domestic inputs

Illicit input (including drugs) from abroad

Exports 0.2 bn euro

Imports 1.1 bn euro

The Italian case: Income generation IFFs
Total primary income coming from illicit drugs trafficking amounts to 4.1 bn euro for retailers and 6.8 bn euro for wholesalers and 0.9 bn euro for facilitators.

The two types of agents can be supposed to have different behaviours about consumption vs. savings and domestic vs cross border transactions propensities according to the amount of disposable income they have to manage.

Indicators can be gathered from (they can be also modified using evidences from case studies):

- Official National Accounts data (propensity to consume, propensity to save)
- Official BOP data (domestic vs. cross-border transactions for consumption and investments)

For each type of agent the following indicator matrix can be defined:

<table>
<thead>
<tr>
<th></th>
<th>Prospensity to consume (A)</th>
<th>Propensity to save (B=1-A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imports of goods/services (A1)</td>
<td>Domestic goods and services (1-A1)</td>
<td>Assets from abroad (B1)</td>
</tr>
</tbody>
</table>
The Italian case: Income generation IFFs

Income from wholesale trade (6.8 bn)

Income from retail trade (4.1 bn)

Income from induced activities (0.9 bn)

\((A \times A1) \times 6.8\)

\((B \times B1) \times 6.8\)

Foreign goods and services

Domestic assets

Domestic goods and services

Foreign assets

Domestic assets

Domestic goods and services

Domestic goods and services
Thank you.

fsallusti@istat.it