INTER- AMERICAN CENTER OF TAX ADMINISTRATIONS

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**THE USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES
IN THE TAX ADMINISTRATION**

Subtopic 3.1

**DATA MINING AND OTHER APPLICATIONS IN FINANCIAL AND
TAX CRIME INVESTIGATIONS**

EXPERIENCE OF ITALY

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Data mining and other applications in financial and tax crime investigations

Distinguished Authorities and Colleagues

First of all, I wish to congratulate the Receita Federal brasileira on their warm hospitality and the excellent organization which already made of this prestigious event a real success.

Moreover, I would like to thank the CIAT and its Secretary General, Mr. Marcio Verdi for the opportunity I was offered to illustrate the most recent experiences of the Guardia di Finanza with regards to a constant evolving field.

I'd like to move from the considerations addressed by my General Commander to provide you with an overview on what kind of computer tools Guardia di Finanza makes use of in order to evaluate contexts of interest and to identify targets for its investigations and tax audits.

All that, once set forth few preliminary considerations on the general economic scenario and on the tasks the Corps develops even with regard to tax revenue.

There's a common awareness about how the changes that markets have undergone by globalization and new information technologies have furtherly widened the gap between the economic dimension and the sovereignty of the States.

Tax evaders and fraudsters took good advantage of the opportunities provided by the evolving scenario as well as by the several juridical asymmetries and double non-taxation situations. So, the exploit of loopholes often resulted in aggressive tax planning strategies leading to huge tax avoidance and evasion and to the concealment of their proceed in not cooperative countries.

Therefore, tax investigators and auditors have to carry out their activities implementing a more cohesive approach based on proper intelligence techniques. It's self-evident that a good intelligence could make situations of tax evasion to emerge more proficiently thus allowing more incisive targeting and even more effective audits.

This also results in a necessary prerequisite of a credible action for recovery of tax revenue.

Reporting directly to the Minister of Economy and Finance, the Guardia di Finanza fully avails itself of up to grade investigative tools and procedures in order to tackle tax offenses, both at national and international level.

Its operational efforts aim at striking in their entirety all the phenomena endangering national and European financial interests even countering any form of criminal infiltration of economic and financial markets.

For these purposes, the Guardia puts in place preventive analysis of context, risk assessment and intelligence on the ground carrying out observations, interviews, examinations and audits.

It's worth to mention that many of the relevant data can be collected due to the roadside checks operational units daily carry out.

Even with regard to international cooperation – which represents one of the main tasks of the 2nd Department - the Corps implements tax intelligence by using the administrative information exchange instruments (Conventions and bilateral agreements).

On the other hand, even cooperation with national intelligence agencies is a proficient tool for this kind of purposes. Of significant importance is the support of the network of experts and liaison officers Guardia di Finanza deployed in various EU and non EU Countries and international organizations in order to facilitate effective and useful cooperation between States.

Finally, of considerable relevance for tax purposes may be the information collected due to judicial police activities upon delegation of the Public Prosecutor or by performing controls required by other Supervising Authorites.

Naturally, the usage of the first ones must be previously authorized by the competent authority.

The wide range of tasks of the Guardia di Finanza reflects the multi-sectorial approach of any of its operational projections even when carrying on tax audits.

In this context, intelligence and analysis processes are increasingly taking on a fundamental role for the investigation on tax offences and on more complex criminal phenomena possibly connected with tax frauds.

The Guardia collects, manages and enriches huge amount of data – both in aggregate and specific fashion - through the utilization of the most recent Information Technology tools, even by creating, developing and feeding on its own data mining specialized apps.

The full availability of several data bases run both by public and private entities represents a fundamental starting point for any of the law enforcement initiatives our investigators put in place.

This means that every information regarding natural and juridical persons is collected, rationalized, linked one with each other and evaluated in order to reach a proper knowledge and awareness of the matter of the audit or of the criminal investigation.

For this purpose a series of initiatives have been undertaken in order to improve the existing procedures for information management and data assets enhancing.

More specifically, a whole set of technological platforms allow getting full access to:

- **data bases** managed or fed by the Guardia or by other agencies of the national tax administration (internal DBs), by other public entities or by private subjects (external DBs);
- **IT applications** allowing information exchange, crosschecks and comparison of data from heterogeneous sources in order to implement the available basis of knowledge and to emerge possible connections between different information cathegories;
- **Internet** (both in its ordinary running and through the *Deep Web*) which always remains the prime and basic open source for any intelligence enquires.

DATABASES AND DATABANKS

They essentially are digital and structured set of data, i.e. regarding standard descriptions, information on certain topics or disciplines or events, in text or multimedia form which may be accessed through an interface enabling their query and, hence, in conversation mode, their retrieval.

Italian privacy law defines a database as "…*any set of personal data, divided in one or more units located in one or more sites*".

Both the Special and the territorial units of the Corps may connect to several of these ones for the retrieval of useful information both for analysis and operational purposes. Among the several ones accessible, we may here cite the following:

Internal databases

Web-based Tax Register Information System

It is a specific data bank managed by a public company which is fed and accessed by the tax administration. Within the same is contained a great amount of information pertaining to the tax position of individuals and companies registered in Italy.

The application enables to access, inter alia, the following data bases:

- "***SER.P.I.CO.***" **(*SERvizio per le Informazioni sul COntribuente – Taxpayer Information Service*)** which allows to get any fiscal data relating to a specific taxpayer, drawing from the relevant details recorded in the Tax Register Information System. These information - referring to personal data, tax returns; tax collections and refunds; personal assets – may be provided by DBs run by external entities.

- "**C.E.T.E.**" (*Economic Control of the Territory*) included in the Tax Register Information System rationalizes data and furher elements of possible interest collected during checks on spot, tax audits, inspections (i.e the ones developed with reference to the money laundering legislation) and police controls on the sea daily carried out.

By matching these ones with all the relevant information, analysts may get awareness of situations in which inconsistence between wealth indexes, expenses, investments and income declared is significant and worth to be deepened.

S.I.VA (Sistema Informativo VAlutario - Currency Information System)

Implemented to manage the whole analysis and investigation on suspicious transaction reports (STRs) which the Financial Intelligence Unit (FIU) of the Bank of Italy submits at the Special Currency Police Unit of the Guardia di Finanza.

It's definetely a relevant topic if one takes into account that the connection between money laundering and tax evasion is much closer than it may seem at a first glance. On the other hand, civil investigations on STRs often result in tax audits allowing detecting tax crimes and offences.

"**PiGrecoWEB**" through which the II Department of the GdiF HQs has computerized all the communication flow in order to create and implement a proficient tool for Intelligence and operational analysis.

I'd like to highlight that PiGreco Web contains pretty the whole information assets of the Guardia.

Since 2001, infact, all information and documents dating back 1952 have been digitally recorded and made accessible respectively through a specialized data warehouse app, in a pdf image format. .

The inputs concern all the activities units on the ground carry on with reference to a specific issue allowing connecting context situations, individuals, tax payers and investigations.

External databases

They are external resources if referred to the Tax Administration and Guardia own information assets.

Those IT apps are generally run by private companies involved in providing their customers with a complete panoplia of services. We may here mention:

- *Dun's & Bradstreet* run by the homonymous American company, it contains a complete set of information concerning most of the main enterprises in the World.

The queries are set on two levels: *DB ACCESS* provides analytical information on each single company; *WORLDBASE* provides synthetic company information with the possibility to make searches starting from partial data.

- **Bloomberg Professional Service** allows access to services concerning financial and/or securities intermediation provided by *Bloomberg L.P.* The service furnishes listings in real time, current and historical information and analyses on the Stock Exchange listed companies.

- **Suite Mint information framework,** managed by the *Bureau Van Dijk* ("BvD"), a multinational consultancy company specialized in providing high value-added Information Technology platforms, contains detailed economic and financial data on:
  - o   joint-stock companies – listed and not listed -;
  - o   partnerships;
  - o   banks and insurances at global level.

Specifically, the system is arranged into **5 modules**:

1. **Companies**, containing complete registration details (trade name, address, telephone number, *e-mail, web* site*,* activity description, etc.) on corporate ties, shareholding and stakes, mergers and acquisitions *(M&A),* consultants, financial and budgetary data, profitability indexes, details on *import / export* activities;

2. **Market research**, with over 3000 reports, drawn up by **Datamonitor** (company specialized in *business information and market analysis),* bearing data on the market, business shares, financial and economic scenarios and forecasting;

3. **Directors**, concerning firm directors and *managers*, with details on the mutual contacts and on the present and past offices held also in the capacity of members of the boards of directors;

4. **Scanned reports**, containing the scans of original documents coming from various sources;

5. **News**, with articles and news from qualified open sources *(Financial Times, Reuters, Moreover,* Ansa, *MediaAddress)* as well as market *rumors* on mergers and acquisitions (source: *database Zephir).*

DATA MINING

All the elements gathered through:

- access to databases;
- implementation of "*deep web*" techniques, in order to extract information of interest from the metadata of web queries, going far beyond the findings that web search engines ordinarily allow ;
- operational information;
- investigations – both civil and criminal;
- tax audits, when gaining information on the activities of other relevant subjects;

- International cooperation, necessarily need to be matched and analyised further in order to provide investigators and tax auditors with a more structured and complete set of information.

This implies that only precise and necessary data may be used for full context awareness and in order to start operations on proficiently selected targets. Consequently, all the relationships – both internal and external to their original framework – must be found and then properly defined.

This continuous analysis and follow-up process is technically termed ***data mining.***

More specifically, it could be considered as a set of techniques and methodologies to automatically extract a notion or a knowledge starting from great amounts of data already avaialable.

We've already seen how the Guardia di Finanza avails itself of several processing, management and data analysis systems.

By way of example, the two following are computerized *data mining* systems realized by the Guardia di Finanza on its own: **"Geo.Da.S."(*Geo-referencing of Statistical Data*)** and **Molecola.**

"Geo.Da.S." (*Geo-referencing of Statistical Data*)

Consistent with the strategic aims traced above, the Geo.Da.S. information system for analysis and support to decision making has been realized integrating the Gdf operational records with statistics and detailed data drawn from external sources (Revenue Agency, ISTAT - *Central Institute of Statistics*, Chambers of Commerce, CONSOB – *Securities and Exchange Commission*, Ministry of the Interior, etc.).

This way, Geo.Da.S contextualizes all the operational activities in the national economic environment where they'd been carried out supporting strategic analysis and decisions undertaking with relevant alerts and evaluation elements. At the same time, it makes specific criminal or tax evasion phoenomena to emerge in their true intensity.

It goes without saying that Geo.Da.S. is not a traditional information system based on the manual input of data on subjects and objects and on their accurate query.

It rather works as an analysis information platform fed by other sources, whose primary goal is to allow queries according to phenomena, thematic areas, aggregations and summary.

Geo.Da.S. enables consultations of the so-called "**information universe**" on a multidimensional scale, comprising numerous "information planets" properly standardized and integrated one with each other. The outputs may be observed through: various views organized on "**horizontal dimensions**" (*Territorial*, *Temporal* and *Sectorial*) and "**vertical dimensions**" (operational, personnel and territorial data).

The strategic decision support purposes are fulfilled through the evaluation summaries reported through a composite system of graphic indicators distributed along the cited "vertical dimensions" which associate context data and investigation and audit findings.

"**Molecola**".

It's an electronic platform Guardia di Finanza developed on its own for countering structured criminal organizations.

Since its early start up, It has revealed itslelf as a proficient tool for the individuation of hidden, illegal assets and for carrying out tax audits foreseen by Antimafia Italian legislation with regard to individuals suspected to belong to organized crime.

Molecola's purposes are then the following:

a.   support, through the Information Technology tool, the guidance of the assets investigations through the analysis of complex set of data;
b.   Evidence any index of disproportion between tax returns and effective revenues, as well as identify subjects whose assets require investigative follow-ups.

It enables investigators and auditors to identify subjects which may be profitably tackled from the standpoint of assets seizures. The relevant "work process" includes a first phase in which:

-   data of investigative interest are gathered and collected according to a "standardized procedure";
-   Those information are loaded in a single "Investigative Data Base", essentially centered on the individual investigated (identifying him/her through his/her own Taxpayer's Code).

Mentioned data may be findings of investigations or of queries to the digital archives available to the Corps.

With specific reference to this phase, Molecola features the possibility to proceed to collect data in a structured manner drawing them massively from other DBs Guardia may access, thus reducing the time required for their further retrieval.

For each of the subjects under investigation, the system creates a computer file containing:

- personal details and relations of kinship (up to the 6th degree) and with other natural and/or juridical persons;
- membership in and/or direct/indirect relations with criminal organizations;
- police and criminal records;
- personal properties, real estate and financial assets;
- tax returns;
- business flows;
- telephone traffic flows.

The consistent analysis of all those data allows, inter alia, to:

- highlight the positions of all those subjects which show significant inconsistencies[1] holding assets in a disproportionate measure if related to their declared income;
- identify direct and/or indirect correlations among persons instantly evaluating and comparing their economic and assets situations;
- perform an interactive analysis of the financial flows as traceble.

The main features of Molecola highlight the most valuable outputs that any analyst, investigator or auditor could take advantage of when dealing with a complex information environment.

Specifically, it provides the possibility to:

- obtain the printout with the reorganization of part or all of the information inputed, pertaining to each subject, according to different aggregation models called *Reports (economic patrimonial files)*;
- manage and process considerable masses of data through procedures able to facilitate their reading and comparison;
- interface the data with the operational analysis application Analyst's Notebook, in order to provide a graphic representation of the same and offer an even more intuitive vision of the subjects to be further investigated.

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[1] following the automatic calculation performed by the application, year by year, through the comparison between "sources and uses"

CONCLUSIONS

Those are some of the tools the Guardia di Finanza put in place in order to implement an up to grade and proficient intelligence for tax revenue purposes and in the fight against every kind of financial and economic crime.

The evolution of means and approaches is naturally influenced by the changes of the context and advances in methodology and technology.

The experiences gained in this field, an overview of which I tried to give you today, constantly orient our efforts in pursuing more effective ways to combat tax evasion and economic crime in close cooperation with the Tax Authorities of all the countries, being aware those offences are more than ever an international issue and that intelligence and comprehensive knowledge are the first, necessary, step for a credible action.

Hoping my presentation has succeeded in satisfying your curiosity, I remain at your disposal for every question you would like to ask.

Thank You again for your kind attention.