

Executive Summary

This study is the final report of **project IARM** (www.transcrime.it/iarm). IARM is co-funded by the Prevention of and Fight against Crime Programme of the European Union and it has been carried out by an international consortium coordinated by **Transcrime – Università Cattolica del Sacro Cuore** (Italy). Other **research partners** are:

- the Vrije Universiteit Amsterdam (the Netherlands)
- the University of Leicester (United Kingdom)

Research partners have contributed to IARM by carrying out the analysis and by writing this report.

Associate partners are:

- the Italian Ministry for the Economy and Finance (Italy)
- UIF – the Italian Financial Intelligence Unit, within the Bank of Italy (Italy)
- the Dutch Ministry of Finance (the Netherlands)
- the Dutch Ministry of Security and Justice (the Netherlands)
- the NPCC – National Police Chiefs' Council (United Kingdom)

Associate partners have contributed to IARM by providing valuable inputs, discussion and feedback but cannot be held responsible for what is written in this report.

Bureau van Dijk provided support as data provider.

Objectives and methodology

Project IARM develops an exploratory methodology for assessing the risk of money laundering (ML). In particular, it develops a **composite indicator of money laundering risk**:

- at **geographic area** level
- at **business sector** level

The methodology is tested in three pilot countries (**Italy**, the **Netherlands** and the **United Kingdom**) and follows 7 methodological steps, which include:

- identifying ML risk factors across areas and sectors;
- operationalising risk factors into a set of proxy variables to allow measurement;
- combining the variables, through various statistical techniques, into a final indicator of ML risk;
- validating the indicator through a sensitivity analysis and comparison with other measures of ML.

IARM adopts a **quantitative approach** which complements the **qualitative perspective** of most existing national and supranational ML risk assessments (NRA and SNRA).

It responds to the need, stressed by regulatory developments at both EU and national level, to develop **objective and robust methodologies** for ML risk assessment.

Risk factors

In each of the three pilot countries, a country-specific set of risk factors is identified on the basis of:

- the relevant **international and national literature** (e.g. FATF guidelines, FIU reports, judiciary evidence, academic literature);
- **interviews with experts** (e.g. FIU officers, investigators, policy-makers, private sector);
- **data availability**: because it is not possible to find the same data and variables in all the three countries.

Risk factors are distinguished between **ML threats** and **vulnerabilities**, as suggested by FATF and as depicted in Figures 1 and 2.

Figure E1 – ML risk factors analysed at sub-national area level (Italy and UK)

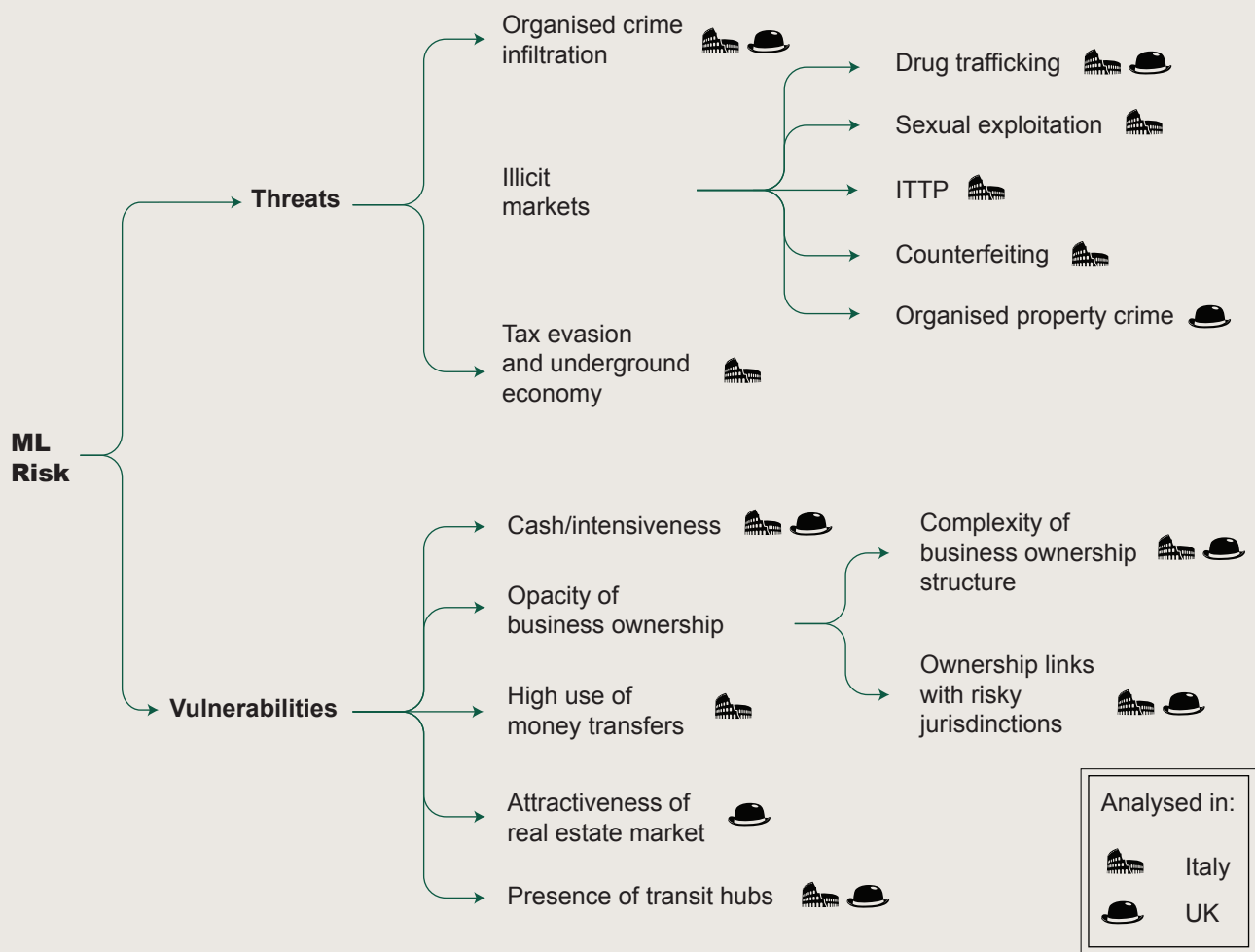
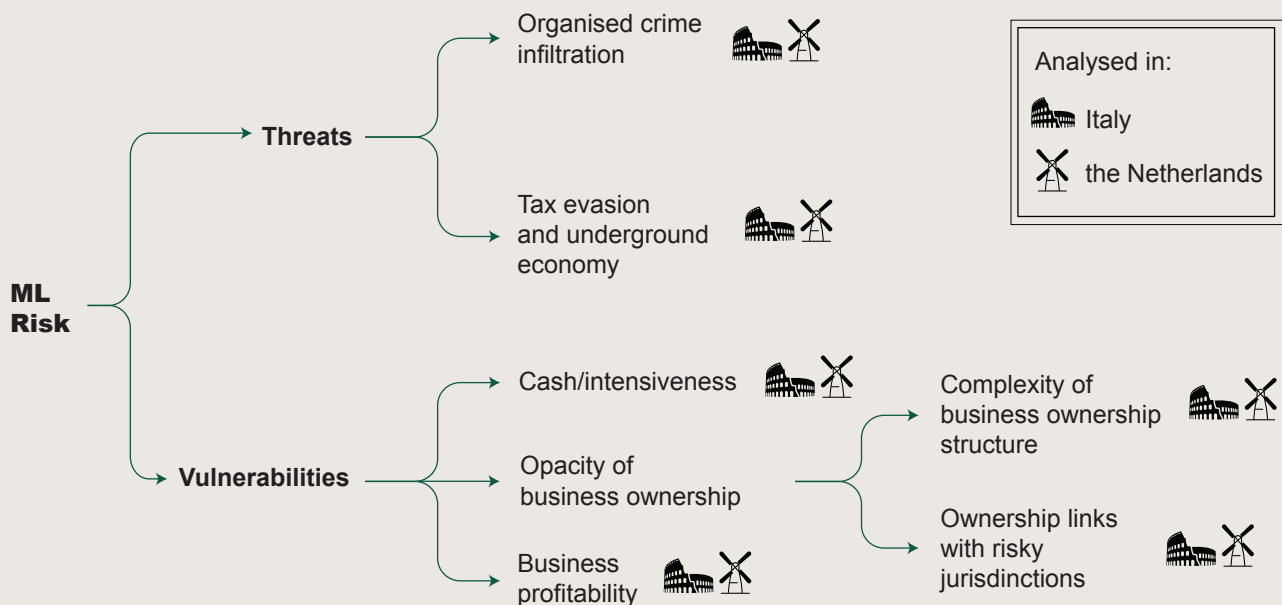


Figure E2 – ML risk factors analysed at business sector level (Italy and the Netherlands)



Italy

In Italy IARM assesses the ML risk across the **110 provinces and 77 economic sectors** (NACE divisions).

The analysis provides empirical support for the main findings of the **2014 National Risk Assessment** and of the **2016 FATF Mutual Evaluation Report**. It complements the NRA qualitative approach with a data-driven one, and supplements a regional analysis, while the NRA adopts only a national perspective.

ML risk across provinces

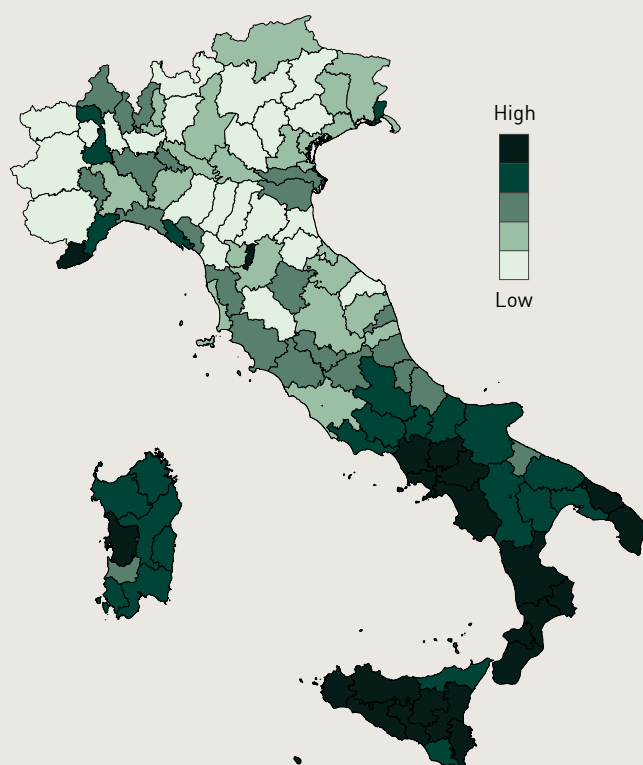
The provinces with the highest ML risk (Figure 3) are in the south, with four Calabrian provinces ranking at

the top (**Reggio Calabria, Vibo Valentia, Catanzaro, Crotone**). They record high levels of mafia-type infiltration, cash-intensiveness and underground economy.

In other southern regions, also **Napoli, Caserta, Palermo** and **Trapani** show high ML risk. Among non-southern regions, **Imperia and Prato** rank highest, showing relatively high levels of opacity of business ownership, of underground and cash-intensive economy and of money transfers.

At province level, ML risk is significantly **correlated with the rate of suspicious transaction reports (STRs)** – although some provinces seem to “under-report” with respect to their estimated level of risk.

Figure E3 - ML risk across Italian provinces



Top 12 provinces according to ML risk composite indicator

- 1 Reggio Calabria
- 2 Vibo Valentia
- 3 Catanzaro
- 4 Crotone
- 5 Napoli
- 6 Imperia
- 7 Caserta
- 8 Agrigento
- 9 Palermo
- 10 Caltanissetta
- 11 Trapani
- 12 Prato

Source: Transcrime - UCSC elaboration

ML risk across business sectors

At business sector level, analysis is made difficult by the **paucity of data** and of appropriate proxies. Therefore, only some **exploratory analysis** is carried out.

According to the composite indicator (Table 1), the economic sector with highest estimated ML risk in Italy are **bars and restaurants (NACE division I 56)**. They are characterised by high cash-intensiveness, irregular labour, opacity of business ownership and relatively high levels of organised crime infiltration.











They are followed by **other service activities** (NACE section S), which include a variety of businesses, from repair services, to personal service activities - like massage parlours, beauty centres and spas - but also security and investigation companies and fiduciary services.

The entertainment sector (Section R) also ranks highly. This not only includes **gambling and gaming activities** (R 92), such as casinos, VLT rooms (*sale slot*), but also related activities (in divisions R 90 and R 93), such as the management of **beach facilities, leisure activities** (e.g. racecourses) and **sporting associations**.

Several segments of the **construction supply-chain**, from sand extraction, to cement production, to building companies and relevant professional activities (e.g. engineering and architecture firms) rank among the first 20 most risky sectors, confirming the link between the construction industry, the underground economy and mafias' business cycle.

The high value of **travel agencies and tour operators** (N 79) is explained by the high cash-intensiveness and the close relationship with the tourism industry, which has proven to be vulnerable to criminal infiltration and money laundering activities.

Table E1 - ML risk across business sectors in Italy
Top 10 NACE divisions according to ML risk composite indicator

Business sector (NACE division)		ML RISK COMPOSITE INDICATOR SCORE
	I 56. Food and beverage service activities	100.0
	S 95. Repair of computers and personal and household goods	80.4
	S 96. Other personal service activities	67.3
	N 79. Travel agency tour operator reservation service and related activities	64.4
	R 92. Gambling and betting activities	63.5
	R 90. Creative arts and entertainment activities	62.1
	P 85. Education	61.6
	A 03. Fishing and aquaculture	61.0
	M 74. Other professional scientific and technical activities	60.4
	C 19. Manufacture of coke and refined petroleum products	59.1

Source: Transcrime - UCSC elaboration

The Netherlands

In the Netherlands IARM assesses the ML risk across **83 economic sectors** (NACE divisions).

According to the composite indicator, the business sector with highest ML risk is **casinos, gambling and gaming businesses (R 92)**. Despite being under AML obligations, it shows evidence of OC infiltration, of ‘cooking the books’ activities and a high cash intensity and opacity of beneficial ownership. Also R 93 – which in the Netherlands includes **legal prostitution services** – and R 90 – which is related to art and entertainment activities – are in the top 10 sectors (see Table 2).

Also **hotels (I 55)** and **bars and restaurants (I 56)** rank highly. These sectors show high levels of OC infiltration, confirming their vulnerability to ML activities as suggested by the literature. **Security and investigation services (N 80)** also rank high, confirming evidence from the Dutch Police regarding involvement of organised crime in this business sector.

The analysis may provide inputs to the on-going **Dutch NRA (2017)**, supplementing its qualitative approach with a purely quantitative perspective. It could be used at both policy-making and investigative level, for example to better detect the economic activities to be placed under the **BIBOB screening** (an administrative measure to prevent OC infiltration).

However, the analysis should be further enhanced by improving the quality and availability of data, and by exploring further indicators and measurement approaches.

Table E2 – ML risk across business sectors in the Netherlands
Top 10 NACE divisions according to ML risk composite indicator

Business sector (NACE division)		ML RISK COMPOSITE INDICATOR SCORE
	R 92. Gambling and betting activities	100.0
	I 55. Accommodation	97.9
	R 90. Creative, arts and entertainment activities	72.9
	N 80. Security and investigation activities	69.8
	S 95. Repair of computers and personal and household goods	54.4
	N 79. Travel agency, tour operator reservation service and related activities	54.1
	Others	48.7
	O 84. Public administration and defence; compulsory social security	46.6
	R 93. Sports activities and amusement and recreation activities	44.0
	I 56. Food and beverage service activities	43.8

Source: VU Amsterdam elaboration

United Kingdom

In the United Kingdom, IARM has assessed ML risk across the **43 police areas** in England & Wales. It was not possible, due to lack of workable data, to extend the analysis to Scotland and Northern Ireland. The **paucity of data** in relation to UK threats and vulnerabilities remains a significant issue, especially when trying to assess ML risk at business sector level.

The United Kingdom is at obvious risk from money laundering due to its position as a major **world financial centre**. This leads to a number of companies – especially in the City of London – with connections to **risky jurisdictions**.

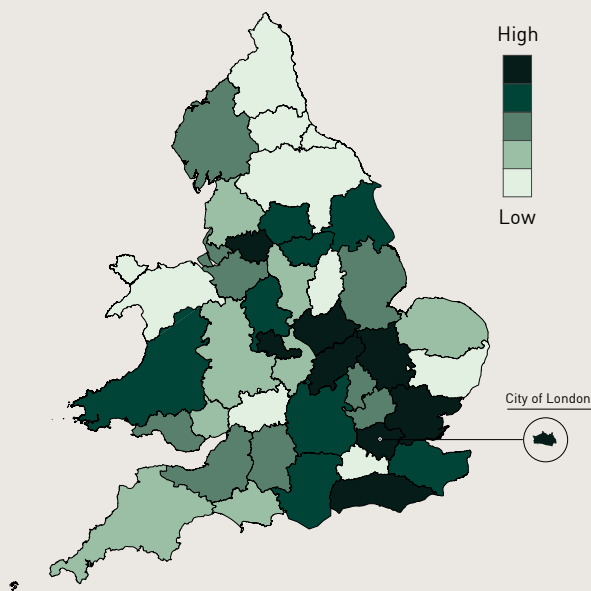
Among the three IARM countries, UK shows the **highest complexity of corporate structures**, with an average distance to beneficial owners¹ of 1.6 – which becomes 3.7 and 3.4 in the Channel Islands and Isle of Man respectively.

A number of other ML threats and vulnerabilities could also be identified across UK areas – such as the number of **organised crime groups** operating, the volume of predicate offences and **cash-intensiveness** of businesses.

According to IARM analysis, the **City of London** emerges as the area with the highest ML risk – representing an outlier in most of the considered variables. Conurbations such as the **Metropolitan Police area**, **Greater Manchester** and the **West Midlands** also emerge as high risk areas. These locations appear to be most exposed to serious and organised crime, to businesses' connections with risky jurisdictions and with the highest cash-intensiveness.

Although the approach outlined here is a pilot, it could be used to complement the **2015 UK ML NRA** and to support future National Risk Assessments. The risk-factors approach adopted by IARM could lead to a **more transparent methodology** to be developed to measure territorial and business level risks.

Figure E4 – ML risk across UK police areas of England & Wales (all 43 areas)



Source: University of Leicester elaboration

1. BOs in the BvD definition are the individual(s) who ultimately own or control a company or other legal entity. BvD identifies them by reconstructing the ownership chain until finding natural persons holding above a certain shareholding. For the purpose of this study, it has been decided to set the minimum threshold at 10% of the sharehold-

ing at the first level of the company ownership chain and 10% at further levels. The threshold adopted is lower than that indicated by the current EU Directive's definition (25% threshold) but allows for a more comprehensive analysis. When BO distance equals 1, the company is directly controlled by its BO(s) (see Annex for details).

Opacity of business ownership

Thanks to the use of an innovative set of data and proxies, IARM also carries out the first in-depth analysis of the degree of **opacity of business ownership** in Italy, the Netherlands and the UK.

Italian companies exhibit more direct control patterns: **BO distance** is lower than in the Netherlands and the UK (respectively 1.3, 1.7 and 1.6) and also the volume of connections with **risky jurisdictions** (such as off-shore countries) is more limited. However, figures vary greatly across areas and economic activities.

Business sectors like mining (NACE section B), energy (D), water and waste (E) and finance (K) are characterised by higher complexity and opacity in all the three countries, but also by a higher number of **multinational companies**.

After controlling by company size, **hotels, bars and restaurants** (section I), **entertainment & gaming** (R) and **other services** (S) emerge promptly. In the UK, **real estate businesses** (L) also rank high, highlighting the risk of a link between the UK property market and companies/individuals from opaque jurisdictions.

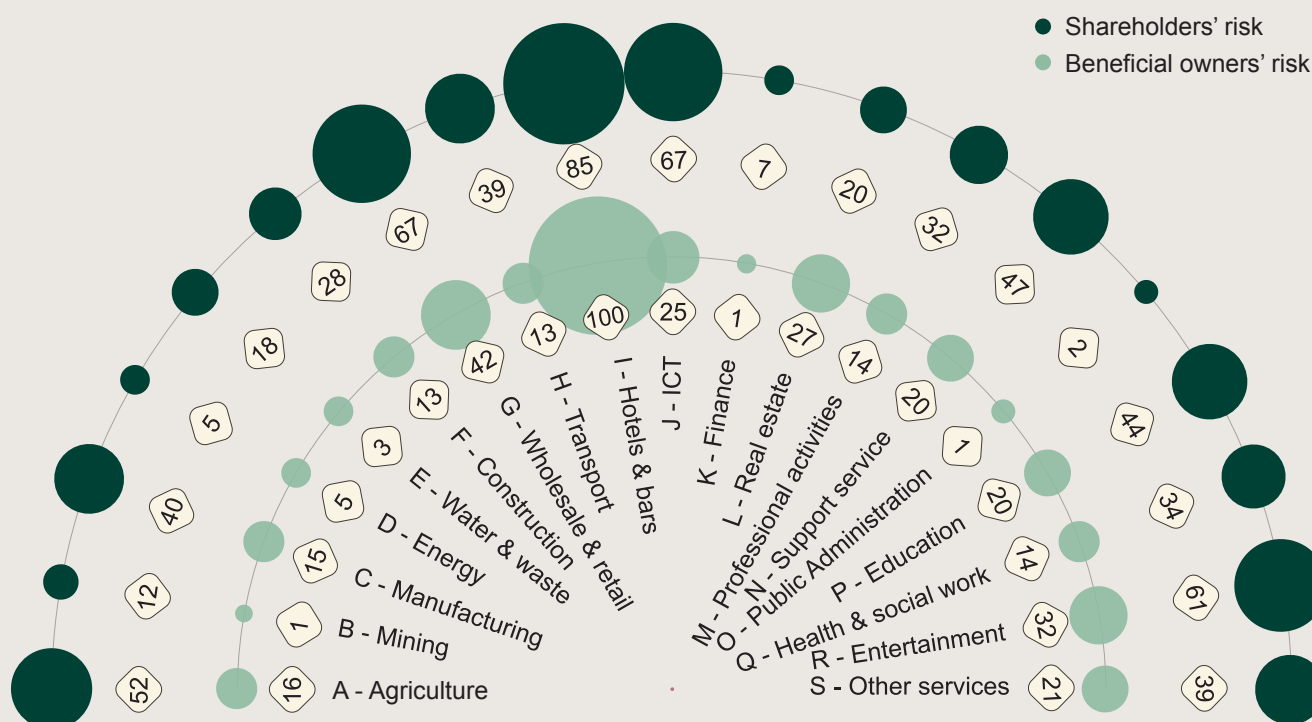
Some other statistics would deserve further research – for example the high number of shareholders (especially legal persons) from **Luxembourg, Cyprus and Switzerland** and of beneficial owners from **Spain** (in all the three countries, but especially in some southern Italian areas and sectors like R 92 - gambling & betting).

Figure E5 – Average distance to beneficial owners (min=1)



Figure E6 – Shareholders' and BOs' links with risky jurisdictions by business sector

Weighted by average company size. Average score of Italy, the Netherlands and UK. 100=max risk score



Research and policy implications

IARM added value

The IARM methodology builds on **FATF guidelines**. It does not intend to replace the qualitative approach of current ML national and supranational risk assessments (NRA and SNRA) but to complement it with a **quantitative and data-driven perspective**. With respect to existing risk assessment, IARM offers:

- a higher disaggregation detail (e.g. a regional perspective vs the national perspective of most NRAs);
- coverage of all business sectors (while NRA usually do not adopt a sectorial perspective);
- an innovative analysis of business ownership opacity;
- a synthetic measure of a complex phenomenon such as ML risk.

The indicators of ML risk developed by IARM could be **adopted in the operational domain** by both public agencies and private entities, for example:

- by policy-makers, to support a better allocation of AML resources and measures across the areas and sectors based on their risk level;
- by investigative agencies (e.g. LEAs and FIUs), to identify the areas and sectors on which to strengthen monitoring and investigations;
- by obliged entities (e.g. banks, professionals, etc.), to enrich the set of indicators and red-flags to be used in AML customer due diligence.

Future challenges

IARM is only a **first step** towards a systematic assessment of ML risks across areas and businesses. It follows an **exploratory methodology** which is affected by **data availability** – it works better in contexts characterised by richer set of information, while it will underestimate those risk factors for which data are still lacking (like emerging ML risks which by definition lack estimates).

In order to improve this approach, **data quantity and quality** should be enhanced. In particular:

- at business sector level;
- on important ML threats such as **tax crimes and fraud**;
- on important ML vulnerabilities such as **cash use**, for which statistics are available in most EU countries only at the national level;
- on the **ownership structure** of European businesses;
- on suspicious transaction reports/suspicious activity reports (**STRs/SARs**) which could be rich sources of information but are only partially exploited for research purposes

The **IARM data-driven methodology** should be combined with the qualitative approach of other NRAs in order to obtain a comprehensive understanding of ML risks. It should be **replicated in other countries**, both in Europe and abroad, to test its validity and refine the methodology. Moreover, it should take into consideration other factors (e.g. vulnerabilities in AML regulation).

The benefits would go much beyond the AML field, reinforcing also the fight against **terrorist financing**, **tax evasion** and **corruption** and improving the efficiency and security of the EU internal market.