

# 10. Collection of statistics

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## 10.1 INTRODUCTION

We classify the statistics on AML policy into two types. First, we identify what we call output statistics, which are the result of the AML policy. The main output statistics that we discuss are reports sent to the FIU, the number of prosecutions and the number of convictions for money laundering. In addition to these output statistics we identify input statistics, which are the resources spent on AML policy, such as the budget of the FIU and other relevant institutions. After discussing both types of statistics we will conduct a statistical analysis to classify the Member States.

## 10.2 OUTPUT STATISTICS: REPORTS SENT TO THE FIU

The most widely available statistic on anti-money laundering policy seems to be the number of reports sent to the FIU. The EUROSTAT report on money laundering in Europe<sup>1</sup> is basically the only report with a reasonable amount of cross-country statistical information on anti-money laundering policy indicators. This EUROSTAT report identifies the number of reports sent to the FIU as its first key indicator. However, at the moment it is still very hard to use this statistic as an actual indicator for anti-money laundering policy. An increase in the number of suspicious transaction reports (STRs) can be the result of greater anti-money laundering efforts, a different counting rule, or an increase in the amount of money laundering. Moreover, an increase in the number of reports does not lead per se to better money laundering prevention or more convictions for money laundering, because it can also mean that the FIU is overloaded with patchy useless information, leading to an actual decrease in effectiveness.<sup>2</sup> The EUROSTAT report also mentions that

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<sup>1</sup> EUROSTAT (2010).

<sup>2</sup> Takáts (2007).

the figures reported vary greatly, even allowing for the different sizes of the respective financial markets, with extremely high figures reported by some countries (NL, LV and UK). This is because concepts and counting rules are not uniform across the EU. FIUs tend to process transactions received in STRs as cases. Relevant cases are sent to the Law Enforcement Authorities. Some FIUs record all related STRs as one case, while others only count the first case-opening STR. For some Member States (CY, FI, UK) the concept is interpreted as a Suspicious Activity Report (SAR), which may include activities, not related to any particular monetary transaction, but to e.g. the opening of a bank account, restructuring a company, providing insurance products etc. One Member State (NL) records Unusual Transaction Reports (UTR) which, if found to be suspicious, may be sent to the law enforcement authorities.

Although SARs are only used explicitly in some EU Member States, it is also possible to report activities like opening a bank account in many other Member States (e.g. Malta, Italy and Portugal).

Section 3.2.2 shows that the reports used by various European countries in the prevention of money laundering are of a very distinct nature in six different respects:

- (1) the type of report (some reports refer only to cash transactions, while others refer to all transactions; some reports refer only to transactions, while others refer to any activity);
- (2) subjective grounds of suspicion (the level of necessary knowledge when defining a transaction as suspicious);
- (3) objective grounds of suspicion (the reporting threshold of the amount of money involved in a transaction, for which a report must be filed);
- (4) the definition of a transaction (specifying which activities constitute transactions);
- (5) the inclusion of attempt (including an attempt at a transaction even when stopped) and
- (6) the data collection methodology (making a report for each transaction or bundling the transactions of one money laundering operation together).

This would support the conclusion that at the moment different countries' statistics on the number of reports disclosed to FIUs cannot actually be compared with each other and cannot be used as an indicator for money laundering or anti-money laundering policy.

Although the FATF seems to be aware of the problems with this statistic, we see that they still use this statistic to compare countries with each other and use it as an indicator for the effectiveness of their anti-money laundering policy (see the examples below).

**Example 1: STRs in Denmark and Hungary**

In the Third Mutual Evaluation Round on the Kingdom of Denmark, the FATF compared the Danish level of STR reporting on the basis of statistics with a great number of other European and non-European countries. The FATF mentioned the fact that a comparison based on absolute numbers alone would not provide a good comparative basis, but still undertook this comparison.<sup>3</sup> The FATF concluded that the number of reports was significantly lower in Denmark than in the countries being compared. Although the statistics were not a conclusive factor, the FATF noted the low level of STR reporting as a shortcoming of Recommendation 13 that consequently lowered the compliance rate.

Denmark was for instance compared with Hungary. While the number of reports in 2004 for Hungary was 14,120, the number of Danish reports was 413. Although this divergence is indeed considerable and cannot be fully explained, it is not so surprising when the definition of STRs in the two countries is considered. While in Denmark the level of knowledge required for reporting was based on a suspicion of money laundering in connection with a criminal offence punishable by imprisonment of one year or more,<sup>4</sup> the applicable AML/CTF Act at that time in Hungary referred to ‘any data, facts or circumstances indicating money laundering’, thus setting a lower threshold of suspicion than in Denmark.<sup>5</sup>

This may have been one of the reasons that explain the different reporting numbers and shows that the absolute number of reports only cannot be compared.

**Example 2: German STRs and UK SARs**

In the German FATF evaluation of 2010, the FATF expressed its concerns about the effectiveness of the German reporting system.<sup>6</sup> It compared the absolute number of reports with those in France, Italy, the United Kingdom and Canada. These countries were chosen because they are

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<sup>3</sup> In fact, it then continued to compare the number of STRs by commercial banks, arguing that those institutions would be defined similarly across countries and would have more experience of AML/CTF reporting. See FATF (2006a), pp. 116–17.

<sup>4</sup> FATF (2006a), p. 116.

<sup>5</sup> See MONEYVAL (2005), p. 42. The definition in the current AML/CTF Act has remained unchanged in this respect.

<sup>6</sup> FATF (2010e), p. 170.

'FATF member countries with a substantial financial sector'.<sup>7</sup> However, the table in the report showed that the number of reports in the United Kingdom diverged considerably from the number of reports in Germany (in 2008, 210,524 reports in the UK against 7,312 reports in Germany).<sup>8</sup>

This difference can be explained by various factors, as indicated in Table 3.1. For example, one sees that the level of knowledge required for disclosing a report to the competent authorities is actually somewhat higher in Germany. Moreover, in the United Kingdom activity has to be reported, while the reporting obligation in Germany is confined to transactions.

Moreover, though this is not clear from the table, an interesting difference from the reporting obligation in Germany is that in the United Kingdom the basis for reporting lies in several provisions of the Proceeds of Crime Act (POCA), and hence in criminal law. Of the four applicable provisions (Sections 327–30 POCA), the first three relate to all people and not only to the institutions subject to the Money Laundering Regulations 2007. Therefore, the scope of application is considerably wider in the UK than in Germany, where only institutions subject to the AML/CTF Act have to send a (copy of the) report to the FIU.

Here, too, it can be concluded that due to the various differences in the reporting systems in Germany and the United Kingdom, the absolute number of reports cannot be compared with each other. The FATF indeed gave consideration to the fact that variation in reporting levels is due to differences in the regime design and methods used to count STRs, but the number of German reports was so low that assessors found it difficult to conclude that the German system was adequate.<sup>9</sup>

### Example 3: UTRs

In the Netherlands the type of report used is called an unusual transaction report (UTR). Only after analysis by the FIU may these reports be declared suspicious. The unusual character of a transaction generally has a lower threshold of knowledge or suspicion of money laundering than applies to the STRs used in other European countries (see Table 3.1). Moreover, while STRs in most countries are merely based on subjective suspicion, Dutch UTRs may also be disclosed in case of objective thresholds. To make it even more interesting, the objective thresholds differ

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<sup>7</sup> Ibid.

<sup>8</sup> Ibid.

<sup>9</sup> Ibid., p. 171.

per category of institutions. For example, money transfers offices must disclose a UTR to the FIU in case of cash transactions of 2,000 Euros or more, while sellers of high-value goods have to report to the FIU in cases of transactions where vehicles, vessels, art objects, precious metals, gems and jewellery are paid in total or partially by means of cash, where the amount to be paid is 25,000 Euros or more.<sup>10</sup>

Another country that uses UTRs is Latvia. Both UTRs and STRs have to be reported to the FIU. However, the meaning of UTRs in Latvia is entirely different from the meaning of UTRs in the Netherlands. In Latvia, UTRs are only disclosed in case of objective indicators (thresholds).<sup>11</sup> And, as in the Netherlands, the thresholds vary according to the category of institutions.<sup>12</sup> For example, the (cash) threshold for the sale or purchase of precious metals, precious stones and articles is 10,000 LATs (approximately 12,000 Euros). Money transfer offices must disclose a UTR to the FIU in case of cash transactions of 25,000 LATs or more (approximately 30,000 Euros).<sup>13</sup> When comparing the thresholds with the thresholds set by the Dutch legislator for similar categories of entities, one will notice that they diverge considerably.

All in all, merely comparing UTRs with STRs in absolute numbers is thus impossible. In the first place because the level of knowledge is considerably lower in the case of UTRs and in the second place because UTRs are not limited to subjective suspicion only, but may relate to threshold reporting as well. Likewise, a comparison of the number of UTRs in the Netherlands with the number of UTRs in Latvia would also not reflect the real situation, because the thresholds set differ considerably and in the Netherlands UTRs are also based on a subjective suspicion.

#### **Example 4: Polish STRs and SARs, UK SARs**

Poland has a rather unique AML/CTF reporting system as regards the type of reports used. Besides STRs, SARs (suspicious activity reports) also

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<sup>10</sup> Annex to Implementing Decree of the Dutch AML/CTF Act (Uitvoeringsbesluit Wet ter voorkoming van witwassen en financieren van terrorisme, Stb. 2008, 305).

<sup>11</sup> In that respect, for comparative purposes it would have been more convenient to call them cash transactions reports.

<sup>12</sup> Cabinet of Ministers Regulation No.1071 On the List of Indicators of Unusual Transactions and the Procedure according to which Reports on Unusual and Suspicious Transactions shall be made, approved by the Cabinet of Ministers on 22 December 2008.

<sup>13</sup> Financial and Capital Market Commission (2010), p. 15.

form part of the system. Seemingly, the only difference between the two types of reports is the number of transactions involved in the report. If a report concerns a suspicion of money laundering in the case of a specific transaction, the STR format is used. When a suspicion of money laundering arises only after a series of transactions, the SAR format is used.

While STRs relate to just one suspicious transaction, a comparison of Polish STRs with STRs in other countries would not provide the full picture, because in other countries an STR may contain several individual transactions.

With respect to the SARs, Table 3.1 indicates that there are no similarities whatsoever with the SAR as used in the United Kingdom. As explained above, the SAR reporting system in the United Kingdom is entirely based on criminal law. Therefore, it is not only the persons that are subject to the Money Laundering Regulations that have an obligation to report, but all people should report if they wish to have a defence against any of the principal money laundering offences stipulated in Sections 327–29 POCA.

Hence, a direct comparison based on absolute numbers of SARs between these countries would not be possible.

### **Example 5: Polish and Slovenian Threshold Reports**

Poland also has a reporting threshold in place. All transactions above the equivalent of 15,000 Euros and 1,000 Euros in the case of some categories of institutions must be reported to the FIU. This low threshold, combined with the fact that it is not restricted to cash transactions, means that the Polish FIU received information on about 31 million transactions contained in no fewer than 82,000 threshold reports in 2009.<sup>14</sup> This is considerably different from the threshold reporting system in Slovenia. In this country, cash transactions exceeding 30,000 Euros have to be disclosed to the Slovenian FIU. Up until 2008 the threshold was equivalent to 21,000 Euros, but the Slovenian legislator raised the threshold after consultation with the obliged institutions to lower their burden.<sup>15</sup> In 2009, 16,846 cash transactions were reported to the FIU.<sup>16</sup> Once again the incomparability

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<sup>14</sup> General Inspector of Financial Information on implementation of the Act of 16 November 2000 on counteracting money laundering and terrorism financing in 2009 (FIU (2009), Annual Report, at § 1.2).

<sup>15</sup> Indicated by several stakeholders during interviews held in the course of the ECOLEF project.

<sup>16</sup> Office for Money Laundering Prevention, Data from the report on activities of the Office for Money Laundering Prevention of the Republic of Slovenia for the year 2009, at § 2.1.

of absolute numbers becomes clear: the 16,846 cash transactions reported in Slovenia are in no way proportionate to the 31 million transactions reported in Poland.

### **Last Remark on the Number of Reports**

As a last remark on this statistic, we have to report that during our research we discovered that the EUROSTAT report<sup>17</sup> had the number of STRs in Hungary wrong. In table 15, EUROSTAT reports that the amount of STRs in 2007 is 13 and in 2008 it is 62. This is, according to the Hungarian representatives, probably the number of cases forwarded by the FIU to the LEAs. The actual number of STRs received by the Hungarian FIU was 9,480 in 2007, 9,940 in 2008 and 5,440 in 2009.

## 10.3 THE WAY FORWARD: HOW TO MAKE THESE STATISTICS CROSS-COUNTRY COMPARABLE?

The most intuitive solution is to push for uniform legislation such that the notion of a report is a uniform concept in all the countries in the world. This of course needs to be done by means of legislative changes, which takes time and effort, and political negotiations are involved. Changing the classification schemes of administration might involve other policy fields as well and might be very difficult. Therefore, this policy option might be a long-term solution or even a utopian ambition.

Alternatively, we propose a restructuring of the current units of measurement such that they are better comparable across countries; more specifically: to measure and compare the amount of money and the number of natural persons involved in the suspicion reports, instead of the number of reports. Clearly there will still be some degrees of freedom on how to interpret money laundering tasks and time devoted to it, but at least it would take away the differences in the data collection method, which is the least transparent characteristic of the current reports sent to the FIU.

We made a start by taking stock of which countries already have statistics on the numbers of people and the amount of money involved in the number of reports. Table 10.1 shows these statistics next to the average number of reports that are sent to the FIU each year.

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<sup>17</sup> EUROSTAT (2010).

Table 10.1 Average number of reports per year sent to the FIU

	STR	SAR	UTR	CTR	No. of people in reports	Money in reports (€m.)
Austria	1,055					
Belgium	14,052	773				
Bulgaria	737			248,636		311
Cyprus		262				
Czech Republic	2,184					
Denmark	1,440					
Estonia	4,452			9,124	18,500	3,191
Finland		13,356				
France						
Germany	8,753				16,480	
Greece	1,655					
Hungary	9,243					
Ireland	12,500					
Italy	17,485					
Latvia	22,031			14,962		
Lithuania	198					
Luxembourg		1,402			2,898	1,229
Malta	69				101	
Netherlands			224,615			
Poland	46,992	1,836		25,746,538		
Portugal	989			13,944	2,853	
Romania	2,217					
Slovakia			2,017			5,790
Slovenia	182			31,643	206	118
Spain	2,906					
Sweden	9,408					
United Kingdom		224,799				

*Source:* Own database, which is a collection of data collected by online surveys, interviews and desk research on mutual evaluation reports, annual reports of relevant institutions and EUROSTAT (2010). For visibility reasons the numbers reported are averages over the statistics available for the period 2005–10.<sup>18</sup> STR = suspicious transaction report, SAR = suspicious activity report, UTR = unusual transaction report and CTR = currency transaction report. For some countries (BE, CZ, DK, IE, NL, RO, SL, ES and SE), this statistic could include (a small number of) reports on the suspicion of terrorist financing. No. of People in reports means the average total amount of persons mentioned in the reports per year. Money in reports is the average summation of all the value of the transactions reported to the FIU per year. The money in reports in Bulgaria represents the amounts as per newly initiated cases by the FIU for each year on the basis of the reports. These amounts only roughly coincide with the actual amount per STR.

<sup>18</sup> This is a rather crude calculation method to increase data availability. To give some additional insight into our calculation method, let us use two examples.

**Output statistics: Cash Declarations at the Border**

Apart from these reports sent to the FIU by reporting entities, we also have, in the Cash Control Report,<sup>19</sup> statistics on the number of cash declarations at the border. Moreover we have statistics on the number of false cash declarations, i.e. where (more) cash is detected, which might be an even better indication of money laundering. The advantage is that the thresholds and definitions of these reports are uniform across Europe, which means that the drawbacks of the reports sent to the FIU by reporting entities are not present for these reports. This makes the statistics on cash declaration reports much more comparable across countries, but we should remember that these statistics do not represent any money laundering activities per se and are therefore mere indications.

**Output Statistics: Number of Prosecutions and Convictions**

Another statistic that seems to be a logical choice when looking for an indicator for the effectiveness of the fight against money laundering is the number of persons prosecuted/convicted for money laundering. One of the main problems with this statistic is that, when criminals are convicted of money laundering, they are often also convicted of the predicate crime in the same court case. The question then arises whether the convicted criminal will be registered as being convicted for only the predicate crime or also for money laundering. The same holds for the number of prosecutions. Another issue with this statistic is that courts in different EU Member States interpret the term money laundering differently, as has already been pointed out in Chapter 6. The major difference in this respect is of course the criminalization of self-laundering, which could be corrected for, since most Member States that have this statistic can differentiate as to whether the conviction is for self-laundering or third-party laundering

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If we have statistics for a certain country available only for the year 2008 (like Greece), then we present that number in the table. If a country has statistics for the years 2007, 2008 and 2009, then we take the average over those three years and present that average in the table. A potential drawback of this calculation method is that some statistics might be somewhat biased for comparability purposes, because the statistics represent different years. If, for instance, the numbers are rising over time throughout Europe, then the countries with data available only in later years are biased upwards, while countries with data available only in the early years are biased downwards. Due to data unavailability it is hard to identify whether such a trend is present.

<sup>19</sup> European Commission (2010a).

(13 of the 17 countries were able to differentiate<sup>20</sup>). Moreover, an increase in the number of prosecutions and convictions for money laundering does not have to be the result of more effective anti-money laundering policies, since the increase could also be caused simply by an increase in money laundering. Nevertheless, one could still compare this statistic with the number of STRs to measure the effectiveness of the investigation and prosecution stages in the fight against money laundering. This was also the general idea of EUROSTAT when they started to collect these statistics.

Representatives of the Member States have indicated to us that we should be extremely cautious about comparing the number of reports with the number of convictions or prosecutions for several reasons. First of all, many reports sent to the FIU could eventually result in only one conviction, while the opposite is also possible: one report could lead to many convictions. Statistics on how many reports led to how many convictions are rare among the EU Member States. Second, the investigation and prosecution process of a money laundering case could be extremely time-consuming, especially when international cooperation is required. This means that one can still not conclude how many reports that were sent to the FIU in, for instance, 2007 were used to convict money launderers, since some reports might still be under investigation or the case might still be pending in court. Third, a report in a certain country might not lead to a conviction in the same country. It could be that a certain country received a report and did excellent (resource-consuming) investigation work which eventually resulted in the money launderer being convicted in another country. Fourth, convictions can also be the result of regular police work and therefore do not originate from the reporting system.

With all these remarks at the back of our minds, we show in Table 10.2 how many prosecutions and convictions for money laundering and terrorist financing occurred in the EU. Additionally, we report the percentages of numbers of prosecutions compared to the number of reports sent to the FIU, and how the number of convictions relates to the number of prosecutions.

We can conclude from Table 10.2 that the number of prosecutions in Germany is extremely high. A German representative explained to us that this has to do with the fact that prosecutors have an obligation to prosecute any suspicion in cases brought to their attention (principle of compulsory prosecution). This is also clear from a comparison of the number of reports with the number of prosecutions. According to this statistic, there are more prosecutions in Germany than there are reports on

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<sup>20</sup> See EUROSTAT (2010), table 9.

Table 10.2 Average number of prosecutions and convictions for money laundering

	Prosecutions	Convictions	Prosecutions / reports*100%	Convictions / prosecutions * 100%	Convictions per FIU employee	Convictions per million inhabitants	Interpretation of ML definition
Austria	17	10	1.57	60.24	0.77	1.22	Normal
Belgium	1.37		9.60				Normal
Bulgaria	129	12	17.45	9.49	0.38	1.71	Broad
Cyprus	43	24	16.44	56.74	1.16	22.13	Very broad
Czech Rep.	8	27	0.35	348.39	0.77	2.65	Normal
Denmark	532	503	36.95	94.49	27.93	91.14	Very tight
Estonia	17	6	0.01	1200.00	0.38	4.64	Tight
Finland	54	14	0.40	25.00	0.56	2.57	Very tight
France	186	186	0.80	99.73	2.54	2.87	
Germany	10.1	381	116.22	3.75	22.41	4.67	Very tight
Greece	42	34	2.54	80.95	1.17	3.16	Normal
Hungary	5	4	0.05	91.07	0.14	0.43	Normal
Ireland	9	5	0.04	55.55	0.45	1.12	Very tight
Italy							Very tight
Latvia	15	25	0.07	171.19	1.49	11.38	Normal
Lithuania	2	1	0.89	71.43	0.13	0.35	Tight
Luxembourg	48	2	3.42	4.58	0.16	4.42	Very broad
Malta	5	2	6.92	31.25	0.15	3.69	Normal
Netherlands	592	486	0.26	82.20	8.69	28.98	Very Broad

Poland	87	35	0.34	39.85	0.77	0.90	Normal
Portugal	107	7	10.79	6.33	0.23	0.63	Normal
Romania	27	7	1.22	24.07	0.07	0.30	Normal
Slovakia	60	10	2.96	17.28	0.34	1.89	Normal
Slovenia	13	1	6.89	4.00	0.03	0.25	Normal
Spain	104		3.56				Normal
Sweden	94	36	1.00	38.03	1.32	3.94	Very tight
UK	2.16	1.003	0.96	46.24	13.72	16.09	Broad

*Source:* Own database, which is a collection of data collected by online surveys, interviews and desk research on mutual evaluation reports, annual reports of relevant institutions and EUROSTAT (2010). For visibility reasons the numbers reported are the averages of the statistics available in the period 2005–10.<sup>21</sup> The reports statistic that is used is the aggregate of the number of STRs, SARs and UTRs. CTRs are not included because of their (even more) distinct nature. The broadness of the money laundering definition comes from our own research described in Chapter 6 (France is not classified).<sup>22</sup>

<sup>21</sup> This is a rather crude calculation method to increase data availability. To give some additional insight into our calculation method, let us use two examples. If we have statistics for a certain country available only for the year 2008 (like Greece), then we present that number in the table. If a country has statistics for the years 2007, 2008 and 2009, then we take the average over those three years and present that average in the table. A potential drawback of this calculation method is that some statistics might be somewhat biased for comparability purposes, because the statistics represent different years. If, for instance, the numbers are rising over time throughout Europe, then the countries with data available only in later years are biased upwards, while countries with data available only in the early years are biased downwards. Due to data unavailability it is hard to identify whether such a trend is present.

<sup>22</sup> The population statistics used are from Heston et al. (2011).

suspicious of money laundering. This probably has to do with the fact, mentioned above, that prosecutions and convictions can be the result of regular police work and therefore do not necessarily originate from a report sent to the FIU. We also see such extreme statistics (more than 100%) for certain countries when comparing the number of prosecutions with the number of convictions. This could be due to the above-mentioned observation that convictions might happen in a different year from a prosecution.<sup>23</sup>

As an aside, we have to report that during our research we found that the EUROSTAT (2010) had the number of convictions for the Czech Republic wrong. In its table 9, EUROSTAT reports that the number of convictions in the Czech Republic is more than 600 each year, while table 10 mentions that the total number of sentences is between 21 and 31. The Czech representatives indicated that more than 600 convictions a year is definitely not correct, and that the total number of sentences seems to be the correct statistic. This would mean that the number of convictions in the Czech Republic are 21 in 2003, 26 in 2004, 31 in 2005, 29 in 2006 and 21 in 2007.

Now that we have the statistics on the number of convictions, the question arises as to whether we are able to explain the differences between Member States. Why are there so many convictions in the UK, Denmark and the Netherlands and why is the number of convictions in Lithuania and Slovenia so low? The first idea that comes to mind is of course that bigger countries have more crime in absolute terms and that they therefore have more convictions in absolute terms. Something else that comes to mind is that the money laundering definition is interpreted differently in different Member States (see Chapter 6) and that countries with a broader definition probably have, all else equal, on average more ML convictions. To verify these hypotheses, we show in Table 10.2 the number of convictions related to the size of the country and the size of the FIU and classified by the broadness of the money laundering interpretation.

We can see from Table 10.2 that the big difference in the number of money laundering convictions indeed diminishes when we take into account the size of the country (measured in FIU staff or the number of inhabitants). While the difference between the lowest and the highest absolute number of money laundering convictions is of a factor of around 2,000, for relative conviction statistics this difference is of a factor of

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<sup>23</sup> Note that we use averages to calculate these statistics, so the years from which we use data might differ not only from country to country but also between certain statistics within a country.

around 1,000 and 400, respectively, in relation to the number of FIU staff and the number of inhabitants. This hypothesis is also supported by a statistical analysis with pairwise correlations that show very significant positive relations between the absolute number of money laundering convictions and GDP and population statistics.<sup>24</sup>

The idea that the differences in convictions for money laundering are related to the broadness of the money laundering definition is not confirmed. Although the numbers 2 (NL), 3 (CY) and 4 (UK) in terms of relative number of convictions have a broad or very broad money laundering definition, the contrary is true for the number 1 (DK). Actually, Table 10.2 shows that the countries with a tight money laundering definition have, in both absolute and relative terms, quite a high number of money laundering convictions. Also a statistical analysis with pairwise correlations shows that the broadness of the money laundering definition does not explain the differences in conviction statistics significantly.<sup>25</sup>

This leaves us with the question of what else can explain why the number of money laundering convictions is high in certain countries and low in others. We therefore conduct a statistical analysis with pairwise correlations between the number of convictions for money laundering and all the other statistics that we gathered in this project (over 200 variables). We report the most interesting results here. The absolute number of convictions for money laundering is positively significantly related to the amount of threat, the corruption index of the World Bank, the number of suspicion reports sent to the FIU<sup>26</sup> and the number of prosecutions for money laundering.<sup>27</sup>

The fact that the number of convictions is related to the amount of

<sup>24</sup> The correlation between the number of convictions and GDP is 0.6066 with a P-value of 0.0008. The correlation between the number of convictions and population is 0.5238 with a P-value of 0.0050.

<sup>25</sup> The absolute number of convictions is significantly related only to the dummy variable for a broad money laundering definition (coefficient of 0.4914 with a P-value of 0.0092) and not with the other four dummies for categories of the broadness of the money laundering definition.

<sup>26</sup> The reports statistic that is used is the aggregate of the number of STRs, SARs and UTRs. CTRs are not included because of their (even more) distinct nature.

<sup>27</sup> The correlation with threat is 0.5051 with a P-value of 0.0072, with corruption 0.4246 with a P-value of 0.0273 (note that a higher score for corruption means better governance performance against corruption), with the average number of reports (STR+SAR+UTR) for the years available is 0.7955 with a P-value of 0.0000 and with the number of prosecutions is 0.4211 with a P-value of 0.0287. When we correct the number of convictions for money laundering for the size of the country by dividing the number by population, the correlation with threat

threat confirms the consideration above that this statistic might not per se say something about the effectiveness of the AML system, but it could also be related to the underlying unknown amount of money laundering in the country.

The relation between money laundering and corruption has been debated in the literature. Walker (1995 and 1999) assumes that criminals do not like (excessively) corrupt countries, because corruption increases the costs of laundering due to necessary side payments and bribes. On the other hand, a very low corruption level might make it difficult to find facilitators for laundering, increasing the transaction costs of laundering. The corruption–laundering literature is ambiguous about the relation. Chaikin and Sharman (2009) give an overview of the various theoretical links between corruption and money laundering. Dreher and Schneider (2010) find this ambiguity empirically for the shadow economy: corruption reduces the shadow economy in high-income countries, but increases it in low-income countries.<sup>28</sup> Our empirical results in this project suggest that there is a positive relation between convictions for money laundering and governance performance against corruption. Hence, in countries where corruption is under better control, the number of convictions is higher. We could come up with different reasons why this would be the case. Probably the most intuitive reason is that when the government has better control over corruption, it probably also has better control over money laundering. Alternatively, one could argue that, in countries with more corruption, money launderers might be able to bribe the police officer who is about to catch them.

The initial idea of EUROSTAT when drafting their report<sup>29</sup> was to show statistically the chain of how reports lead to prosecutions and how many of these prosecutions lead to conviction. This approach has been opposed very often by representatives of the countries we visited (see also the introduction to this section on the number of prosecutions and convictions for money laundering). Our statistical analysis suggests that these statistics are related when we do not correct for the size of the country. When we do correct for the size of the country – by dividing all three statistics by population – the number of reports is no longer significantly related to the number of convictions, which seems to support the view of many representatives that one cannot simply compare the number of reports

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becomes 0.1281 with a P-value of 0.5242 (hence insignificant), and with corruption becomes 0.4574 with a P-value of 0.0165.

<sup>28</sup> Ferwerda et al. (2013).

<sup>29</sup> EUROSTAT (2010).

with the number of convictions. The number of prosecutions and the number of convictions for money laundering continues to be significantly related when corrected for size.<sup>30</sup>

EUROSTAT (2010) also collected statistics on the number of prosecutions and convictions for money laundering. We were able to improve these statistics in two ways. First, we have more recent statistics. Second, we also have the number of prosecutions for Austria, Denmark, France, Greece, Hungary, Ireland and United Kingdom and the number of convictions for Denmark, Greece, the Netherlands and Slovakia, data that was missing in the statistics of EUROSTAT.

## 10.4 INPUT STATISTICS: STAFF AND BUDGET OF THE FIU

Since output statistics for anti-money laundering policy (like the number of reports sent to the FIU or the number of prosecutions and convictions for money laundering) always have the problem that an increase in the statistic can come from an increase in the amount of money laundering or from an improved policy response,<sup>31</sup> it is perhaps better to use input statistics (like resources spent fighting money laundering) as an indicator for the amount of effort made by Member States to fight money laundering. We have tried to gather the following input statistics:

- AML budget of the responsible ministry/ministries;
- FIU budget;
- FIU personnel;
- law enforcement agencies' (LEAs) budget for fighting ML;
- LEAs' personnel for fighting ML;
- budget for judiciary to be spent on AML;
- judiciary personnel for AML;
- reporting costs for obliged entities;
- training and compliance costs for obliged entities;
- budget supervisory institutions for AML;
- personnel for AML in supervisory institutions.<sup>32</sup>

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<sup>30</sup> The correlation between prosecutions/population and convictions/population is 0.4368 with a P-value of 0.0227.

<sup>31</sup> This is a common problem with crime statistics in general.

<sup>32</sup> Note that these statistics are also gathered for the cost-benefit analysis in Chapter 12.

We conclude that the best available input statistic is the amount of personnel in the FIU. All countries are able to provide such a statistic. As can be seen in Table 10.3, some countries were also able to provide us with the budget of the FIU.

Although not all countries were able to provide us with statistics regarding the budget of the FIUs, we can make an estimate based on the number of employees. During our first Regional Workshop we agreed with the country representatives that most of the budget is spent on personnel costs, as in other intelligence-based institutions such as universities. Let us assume that 80% of the budget of each FIU is spent on personnel costs. Furthermore, let us use EUROSTAT statistics on the average gross monthly earnings of legislators in every EU Member State<sup>33</sup> to correct for differences in salaries in the different Member States. Then we can calculate that, for the 11 countries for which we have budget statistics, on average the annual budget per employee is about 15 times the gross monthly earnings of a legislator. If we assume that this average relation applies also to the countries for which we do not have budget statistics, we can calculate an estimated budget for these countries. The statistics gathered and the results of our estimations are shown in the online Table 10.1 (see <http://goo.gl/VZgJb3>).

Our estimates suggest that the cost of having an FIU is probably the highest in Italy with its high number of employees and its relatively high wage level. Unfortunately we do not have statistics on the number of prosecutions and convictions in Italy to see whether this leads to economies of scale or is due to the inefficiency of the FIU.

To make the statistics better comparable across countries of very different size, we also show the amount of FIU personnel per million inhabitants and how much the FIU costs on average for each inhabitant per year. These statistics seem to indicate that FIUs have so-called economies of scale, which means that the more inhabitants a country has, the lower the costs per inhabitant are. In this sense, having an FIU is relatively costly for the smaller countries. The five EU Member States with the least inhabitants (Cyprus, Estonia, Luxembourg, Malta and Slovenia) have the highest number of FIU staff per million inhabitants.

Since price levels differ among EU Member States, it would be unfair to look only at absolute FIU budgets. It is more expensive in Sweden to fight money laundering simply because everything is more expensive than,

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<sup>33</sup> See Eurostat Pocketbooks (2009), table 7.1, for gross monthly earnings by occupation in Euros in 2006.

Table 10.3 Number of staff and budget of the FIU

Country	Staff (in FTE)	Budget (in Euros)	Total budget estimate	Staff (per m.)	Price for FIU (per person per year)	Corrected price for FIU (per person per year)
Austria	13		1,375,238	1.6		
Belgium	45	4,257,645	4,843,125	4.1	€0.39	€0.44
Bulgaria	32		275,400	4.4		
Cyprus	21		1,703,756	19.4		
Czech Rep.	35	1,429,473	983,719	3.4		
Denmark	18	No budget	2,000,700	3.3		
Estonia	16		362,700	12.3		
Finland	24	1,565,000	2,196,450	4.6	€0.30	€0.37
France	73	4,981,688	6,524,831	1.1	€0.08	€0.09
Germany	17		1,872,975	0.2		
Greece	29	1,500,000	1,812,863	2.7	€0.14	€0.14
Hungary	30	1,000,000***	711,563	3.0	€0.10	€0.07
Ireland	11		990,825	2.6		
Italy	104	207,000	10,992,150	1.7		
Latvia	17	341,490	265,200	7.6	€0.15	€0.11
Lithuania	10		157,875	2.8		
Luxembourg	14		1,947,488	28.5		
Malta	10	330,107	402,375	24.7	€0.82	€0.67
Netherlands	56	4,800,000	4,226,250	3.4	€0.29	€0.32
Poland	45		1,288,406	1.2		
Portugal	30		1,814,063	2.8		
Romania	96		1,643,400	4.4		
Slovakia	30		694,688	5.6		
Slovenia	18	691,000	999,338	9.0	€0.34	€0.28
Spain	79	11,000,000	5,941,294	1.7	€0.24	€0.24
Sweden	27*	1,400,000**	2,393,550	3.0	€0.15	€0.19
UK	60		6,044,625	1.0		

*Source:* Statistics collected by the ECOLEF project, via interviews, online questionnaires and regional workshops, except: \* = FIU Sweden (2009), p.22 and \*\* = FATF (2006d). \*\*\* = this figure is estimated using the overall budget of the Customs Criminal Investigations Bureau (CCIB); representatives of the Hungarian Ministry of Finance and the Hungarian FIU have said that it seems to be a reasonable estimation. Note that the staff statistics come from different years. Most are from 2011, exceptions being AT 2010, BE 2012, FR 2009, DE 2010, HU 2010, LU 2012, NL 2010, PL 2008, SL 2010, SE 2009, UK 2012. The number of staff for Ireland does not contain the 7 police officers that work alongside the FIU in what is called the Money Laundering Investigation Unit (MLUI). The budget for the Czech Republic omits IT costs and the budget for Italy includes only expenses. FTE = full-time equivalent, per m. = per million inhabitants. The corrected price for FIU is calculated with price level statistics in 2010 (the US price level is the benchmark with 100).<sup>34</sup>

<sup>34</sup> The population statistics used are from Heston et al. (2011). We use the

for example, in Poland. We therefore correct for these differences in price levels by using the price level statistics of the World Penn Table.<sup>35</sup>

We have found it hard to collect the other input statistics mentioned above. Most institutions (ministries, LEAs, judiciary and supervisors) have many more tasks and do not have a separate budget for AML and are unable to make any reasonable estimation for it. For obliged entities these statistics might even be kept secret, because it could be sensitive information for competitors.

EUROSTAT (2010) also collected statistics on the number of staff in the FIU. We were able to improve these statistics in two ways. First, we have more recent statistics. Second, we also have data for the number of staff for Austria, Belgium, Hungary, Ireland, Italy and Poland that was missing in the statistics of EUROSTAT.

## 10.5 CLUSTER ANALYSIS

In this section we want to find out whether we can cluster countries based on the statistics we have gathered. The statistical method that we have chosen for this clustering is hierarchical agglomerative cluster analysis with Ward's algorithm. Hierarchical agglomerative cluster analysis is the dominant method in clustering and results are usually stable according to Leschke (2005).<sup>36</sup> In comparison with other algorithms, Ward's has proved to generate very good results in most cases.<sup>37</sup> The Ward's method is designed to optimize the minimum variance within clusters by making use of the error sum of squares or within group sum of squares.<sup>38</sup> Those cases that result in the minimum increase in the error sum of squares are joined in a cluster. This method leads to relatively homogeneous clusters.<sup>39</sup> The 29 variables listed with their characteristics in Table 10.4 are the basis for the cluster analysis.<sup>40</sup>

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most recent population statistics that were available from this source, which are from 2009. Also their most recent price level statistics are used, which are from 2010.

<sup>35</sup> Heston et al. (2011).

<sup>36</sup> Leschke (2005).

<sup>37</sup> Aldenderfer and Blashfield (1984), pp.60–61 and Backhaus et al. (2000), p. 366.

<sup>38</sup> Aldenderfer and Blashfield (1984), pp.42–3.

<sup>39</sup> Leschke (2005).

<sup>40</sup> We selected primarily ratios and classifications to prevent big countries having high values for all variables and therefore automatically being grouped together.

Table 10.4 The selected variables for cluster analysis

Variable	Obs	Mean	Std. Dev.	Min	Max
GDP (in million US\$)	27	609,175.7	911,378.9	7,955	3,353,000
Threat estimation Walker	27	65.8889	41.0884	15	156
WB index Government Effectiveness	27	1.159767	0.617317	-0.2190219	2.246964
WB index Corruption	27	1.026053	0.8175407	-0.2003449	2.421083
FATF compliance score	27	57.71581	4.86711	45.58465	72.68007
Number of suspicion reports/GDP	27	0.070859	0.1665722	0.0019848	0.8392635
Cash declarations (in €)/GDP	27	6,735.738	15,729.29	2.988389	61,512.86
Detected cash declarations (in €)/GDP	27	38.92524	65.66886	0	297.3413
Prosecutions/suspicion reports	27	0.0901902	0.2287483	0.0001376	1.162177
Convictions/prosecutions	27	0.127371	0.2605056	0.0374521	1.272727
EU founder	27	0.2222222	0.4236593	0	1
EU member in 1990	27	0.4444444	0.5063697	0	1
EU member in 1995	27	0.5555556	0.5063697	0	1
EU member in 2004	27	0.9259259	0.2668803	0	1
Supervision model FIU	27	0.2962963	0.4653216	0	1
Supervision model Internal	27	0.1851852	0.3958474	0	1
Supervision model External	27	0.0740741	0.2668803	0	1
Supervision model Hybrid I	27	0.1851852	0.3958474	0	1
Supervision model Hybrid II	27	0.2592593	0.4465761	0	1
FIU staff	27	35.55556	26.28151	10	104
Administrative FIU	27	0.5185185	0.5091751	0	1
Law enforcement FIU	27	0.3333333	0.4803845	0	1

Table 10.4 (continued)

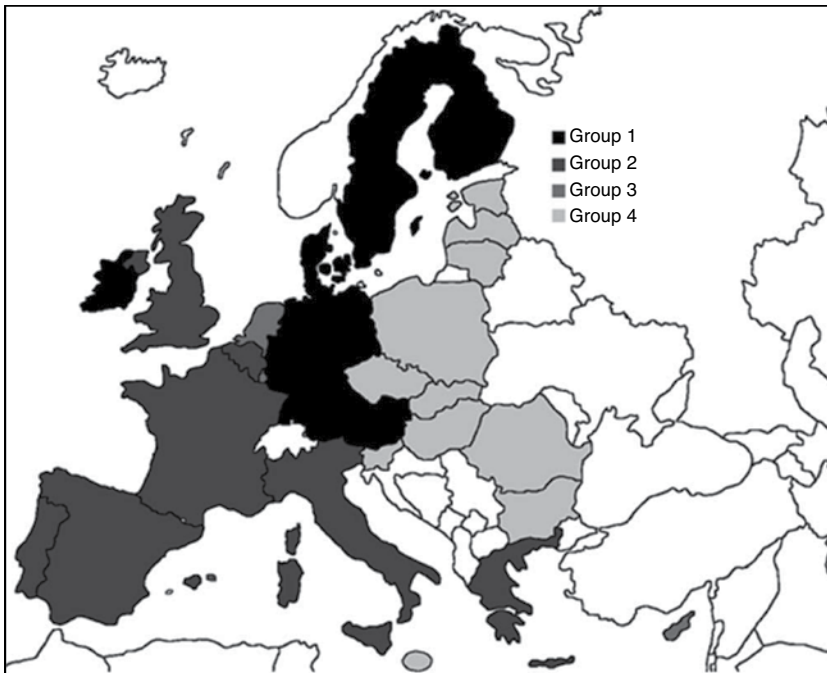
Variable	Obs	Mean	Std. Dev.	Min	Max
Judicial FIU	27	0.0740741	0.2668803	0	1
Hybrid FIU	27	0.0740741	0.2668803	0	1
ML definition very narrowly interpreted	27	0.2222222	0.4236593	0	1
ML definition narrowly interpreted	27	0.0740741	0.2668803	0	1
Normal ML definition	27	0.5185185	0.5091751	0	1
ML definition broadly interpreted	27	0.0740741	0.2668803	0	1
ML definition very broadly interpreted	27	0.1111111	0.3202563	0	1

Source: Own database, which is a collection of data collected by online surveys, interviews and desk research on mutual evaluation reports, annual reports of relevant institutions and EUROSTAT (2010) or otherwise the source listed here.<sup>41,42</sup> GDP statistic comes from the World Penn Table.<sup>43</sup> WB stands for World Bank. Government Effectiveness and Corruption are the Worldwide Governance Indicators from the World Bank.<sup>44</sup> The reports statistic that is used is the aggregate of the number of STRs, SARs and UTRs. CTRs are not included because of their (even more) distinct nature. Obs stands for the number of observations (in this case countries), Std. Dev. stands for standard deviation, Min stands for the minimum value and Max stands for the maximum value.

<sup>41</sup> UNODC (2011).

<sup>42</sup> Cluster analysis needs a full data set. We therefore had to interpolate some missing values. The following interpolation has been done: France gets a normal ML definition (not broad, not tight); France gets 23,420 reports (STR + UTR + SAR), the average of the other 26 countries; Italy gets 229 prosecutions, the average of the other countries (Germany is left out of this average calculation, because it is such an outlier for this statistic); Italy, Spain and Belgium get 112 convictions, the average of the other 24 countries. Heston et al. (2011).

<sup>44</sup> Available at: <http://info.worldbank.org/governance/wgi/index.asp>.



\*note, colors used do not refer to a scaling value.

Group 1: AT, DE, DK, FI, IE, SE
Group 2: BE, EL, ES, FR, IT, PT, UK
Group 3: CY, LU, NL
Group 4: BG, CZ, EE, HU, LT, LV, MT, PL, RO, SK, SL

Figure 10.1 Identified groups by the statistical cluster analysis

All variables are standardized to z-scores with mean zero and standard deviation one, such that all variables have equal importance in the cluster analysis. The resulting four groups<sup>45</sup> are shown in Figure 10.1.

The clear homogeneity that we can see in group 1 is that almost all of the countries have a law enforcement type FIU, a very tight money laundering definition and the hybrid II supervision model. The countries in group 2 were all members of the EU when the Maastricht Treaty was signed in 1992 and almost all have a normal money laundering definition

<sup>45</sup> Note that this is a purely statistical classification based on the 29 variables that are used. It is up to the researcher to decide what the appropriate number of groups is. We chose to select four groups, in line with the number of supervision models and FIU types.

and an administrative type of FIU. The countries in group 3 all have a very broad money laundering definition. The countries in group 4 are all so-called new members of the EU and most have a normal money laundering definition. We use correlations to find out whether the countries within each group are homogeneous on the other aspects. The countries in group 1 have on average a significantly higher government effectiveness index, a significantly higher corruption control index and significantly more prosecutions/GDP.<sup>46</sup> The countries in group 2 have on average significantly higher GDP and significantly more FIU staff.<sup>47</sup> The countries in group 3 have no significant correlation with any of the variables, probably due to the limited number of countries. The countries in group 4 have on average significantly lower GDP, a significantly lower government effectiveness index, a significantly lower corruption control index and significantly less money laundering threat.<sup>48</sup>

Apart from these characteristics we identify more similarities within certain groups. The countries in group 1 all experience or experienced pressure from the FATF for not having self-laundering criminalized. Apparently, the international standards for money laundering policy do not fit well within their legal system. In some countries in group 2 domestic cooperation might be harder due to the size of the country (such as Spain, France and Italy) and/or distinct regions within the country (such as Belgium, Spain, Italy and the UK). Group 3 consists of relatively small countries with a throughput of large financial flows. Group 4 are mostly Eastern European countries that are relatively recent members of the EU and might therefore face pressure on their institutions to implement and deal with a lot of new international laws and regulations on all kinds of topics (food, health, environment, child labour, etc.). Apparently, these diverse contexts, where countries deal with their own challenges, show up in different statistics to such an extent that a purely statistical analysis groups countries accordingly.

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<sup>46</sup> The correlation of group 1 with the government effectiveness index is 0.5934 with P-value 0.0011, with the corruption control index it is 0.5874 with P-value 0.0013 and with Prosecutions/GDP 0.4051 with P-value 0.0361.

<sup>47</sup> The correlation of group 2 with GDP is 0.4920 with P-value 0.0091 and with FIU staff it is 0.5607 with P-value 0.0023.

<sup>48</sup> The correlation of group 4 with GDP is -0.4644 with P-value 0.0147, with government effectiveness index it is -0.6211 with P-value 0.0005, with corruption control index it is -0.6530 with P-value 0.0002 and with threat it is -0.6530 with P-value 0.0002.

## 10.6 CONCLUSION

Although there are quite a lot of statistics available on AML policy, their cross-country comparability is questionable. The number of reports sent to the FIU is one of the best available indicators, but there are many factors that have to be taken into account when trying to compare these statistics across countries. We identified differences on six aspects, namely the type of report (STRs, UTRs, etc.), the subjective grounds of suspicion (level of knowledge), the objective grounds of suspicion (threshold), the definition of a transaction (narrow or broad), the inclusion of attempt and the data collection methodology of these reports.

Another important indicator is the number of prosecutions and convictions for money laundering. Because these numbers differ greatly between countries, we tried to find out what can explain these differences. As expected, larger countries have more prosecutions and convictions, but to our surprise how broadly the money laundering definition is interpreted is not related to the number of prosecutions and convictions. Moreover, our statistical analysis shows that countries more threatened by money laundering have more convictions for money laundering, which could indicate an appropriate response to this threat. Our statistical analysis also shows that less corrupt countries have more money laundering convictions, which indicates that countries better able to fight corruption are also better able to fight money laundering.

A better indicator for AML policy effort in countries might be how much money is spent on AML policy. The main indicators in this category (mainly because of their availability) seem to be the budget and personnel of the FIU. We were able to gather statistics on the number of personnel working at the FIU for all 27 EU Member States. We were able to collect budget statistics for the FIU in 11 countries and used this information to make an estimation of the FIU budget in all 27 EU Member States. According to our estimations, Italy should have the highest budget due to their high number of employees with a relatively high wage. We showed that there are certain economies of scale associated with having an FIU, and that therefore an FIU is relatively costly for smaller countries, like Cyprus, Estonia, Luxembourg, Malta and Slovenia.

In this chapter we tried to improve on the EUROSTAT (2010) statistics. We were successful in three ways. First, we were able to collect more recent statistics. Second, we also have the figures for number of prosecutions in Austria, Denmark, France, Greece, Hungary, Ireland and United Kingdom and the number of convictions in Denmark, Greece, the Netherlands and Slovakia that were missing in the EUROSTAT statistics. We also have data for the number of staff in Austria, Belgium, Hungary,

Ireland, Italy and Poland that was missing in the EUROSTAT statistics. Third, we corrected the figures for the number of STRs in Hungary and the number of convictions for money laundering in the Czech Republic which were incorrect in the EUROSTAT report.

We have used the statistics we collected during the project to conduct a cluster analysis. Our cluster analysis shows that in terms of AML policy the 27 EU Member States consist of four groups which have their own distinct characteristics. We identify a group of countries (AT, DE, DK, FI, IE, SE) that experience or experienced international pressure due to the fact that they were unable to transpose international standards adequately into their legal system, a group of countries (BE, EL, ES, FR, IT, PT, UK) in which domestic cooperation might be harder, a group of relatively small countries with large financial flows going through (CY, LU, NL) and a big group of mostly Eastern European countries that are relatively recent members of the EU. Apparently, these diverse contexts in which countries deal with their own challenges show up in different statistics to such an extent that a purely statistical analysis groups countries accordingly.