Gregor Krämer (Germany)

Combating money laundering by German banks – results of an empirical survey

Abstract

In the recent decades money laundering has evolved to a severe problem, threatening the integrity of the worldwide financial system. The immense problem of money laundering requires extensive and effective Anti-Money Laundering (AML) measures. Especially banks play a vital role in combating money laundering as they operate at the interface where money launderers introduce their illegal profits into the financial system. However, there is only little data available concerning banks' AML measures. In a large survey many of the German financial institutions were questioned about their AML measures. This paper presents some of the main data and findings of this examination.

As financial institutions have to bear the costs of fighting money laundering the current AML costs and their expected future development are analyzed as well as banks' means to meet increased costs by way of outsourcing AML measures. Furthermore, the German banking supervisory authority calls upon banks to implement computer-based research systems in order to automatically identify suspicious transactions. Hence, the paper also analyzes the utilization of computer-based research systems in the financial sector differentiating between rule-based and self-learning research systems. It turned out that computer-based research systems have to be improved significantly in order to permanently reduce the future misuse of financial institutions by money launderers.

Keywords: money laundering, computer-based research systems, outsourcing, banking supervision, financial system.
JEL Classification: G18, G21, G28, K14, K23, K42.

Introduction

Not only since September 11, 2001, terrorist attacks on the United States of America money laundering and the financing of terrorism have become a severe problem, threatening the integrity of the worldwide financial system. The volume of money laundering transactions has been estimated by the International Monetary Fund (IMF) at approximately two to five percent of the global GDP, i.e. roughly USD 800 billion to USD 2,000 billion (Financial Action Task Force on Money Laundering, 1998). On the basis of the upper figure, dirty money is being laundered in a scale exceeding Italy's GDP in 2006 (USD 1,852.585 billion) (IMF, 2007).

In combating money laundering, an extensive regulatory framework – the so called 40 Recommendations – has been set up by the Financial Action Task Force on Money Laundering (FATF), the world-wide leading standard setter in the fight against money laundering and terrorist financing. These 40 Recommendations have been implemented in national Anti-Money Laundering (AML) legislation by many countries (Krämer, 2008). As banks operate at the interface where money launderers introduce their illegal profits into the financial system, the 40 Recommendations as well as national AML regulations require banks to establish specific AML measures. However, there is only little data available concerning banks' AML measures and their implementation costs. For this reason, I conducted a large survey, questioning many of the German financial institutions about their AML measures. This paper summarizes some of the main findings.

1. Survey design

1.1. Survey population. When we designed the questionnaire in 2005, the German financial system comprised 2,438 banks (more precise: credit institutions as defined in section 1 paragraph 1 of the German Banking Act (Gesetz über das Kreditwesen)) and 697 financial services institutions (as defined in section 1 paragraph 1a of the German Banking Act). These 3,135 financial institutions represented the population of the survey. Commendably the German Central Bank (Deutsche Bundesbank) and the German banking supervisory authority (Bundesanstalt für Finanzdienstleistungsaufsicht) put the names and addresses of all the banks and financial services institutions at our disposal thus saving us a lot of data capture. From the population we drew a sample of 1,310 financial institutions: 1,023 banks and 287 financial services institutions corresponding to 41.96% of the banks and 41.18% of the financial services institutions respectively. In consideration of the very sensitiveness of a subject like AML measures, we did not expect a high quota of financial institutions to take part in the survey. Therefore, we consciously drew a rather large sample.

Table 1. Numbers of questionnaires sent to groups of institutions

Financial institutions	Questionnaires
Special purpose banks[1]	56
Regional institutions of credit cooperatives	2
Big banks	5
Credit cooperatives	567
Landesbanken[2]	12
Savings banks	193
Mortgage banks[3]	29
Regional banks and other commercial banks	92
Branches of foreign banks	67
Financial services institutions	287
Total	1,310

Notes: [1] Including guarantor banks and investment companies. [2] Including the DekaBank Deutsche Girozentrale. [3] Including the group of building and loan associations.

When compiling the sample, we selected in a first step the 100 biggest German banks since we wanted them to be entirely included in the sample. In a second step we randomly drew 923 banks from the remaining 2,338 banks as well as 287 financial services institutions. The composition of the sample is given in Table 1. When setting the number of questionnaires to be sent to the different groups of institutions, we tried to keep up the ratio each group of institutions had relative to the total number of financial institutions. More detailed information about the sample and the survey can be found in Krämer (2007).

1.2. Return of questionnaires. There were 311 filled in questionnaires returned in all, corresponding to 23.74% of the sample or 9.92% of all German financial institutions. Obviously, a high number of financial institutions was willing to participate, thus showing the importance of the survey. While many other examinations about banks' AML measures lack a sufficiently large database (e.g., BearingPoint's (2004) survey was based on 45 financial institutions only; in KPMG International's (2004) global AML survey merely 209 banks from all over the globe participated, rising just to 224 banks in the 2007 survey (KPMG International, 2007)), the relatively high number of returned questionnaires gives this survey an outstanding meaningfulness.

Taking a closer look at the return rates one can see that the quota of questionnaires returned by the financial services institutions lies below the average of 23.74%. Even more extreme are the return rates of the regional institutions of credit cooperatives and the big banks. These banks did not participate in the survey at all even when asked to do so a second time. The highest return rates showed the mortgage banks (48.28%) and the Landesbanken (41.67%) (see Figure 1 for details).

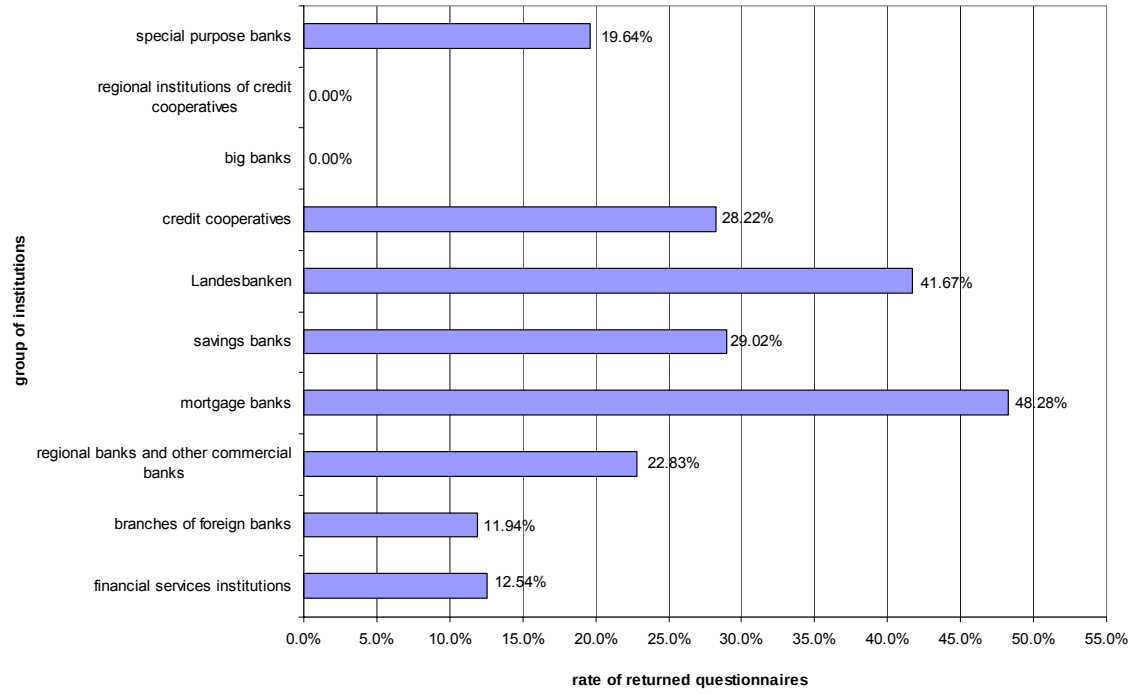

Fig. 1. Rates of return according to groups of institutions

Figure 2 shows the distribution of returned questionnaires according to the balance sheet total of the respective financial institution. More than three quarter of all answering financial institutions had a balance sheet total of up to EUR 2.5 billion, thus reflecting the specific structure in size of the German financial sector. With more than a quarter, the proportion of very small financial institutions

(balance sheet total ≤ EUR 100 million) is relatively high. This group of very small financial institutions is mainly composed of credit cooperatives (58%) and financial services institutions (33%). Compared to the very big banks there obviously is a by far greater willingness to disclose information on AML measures the smaller in size the respective financial institution is.

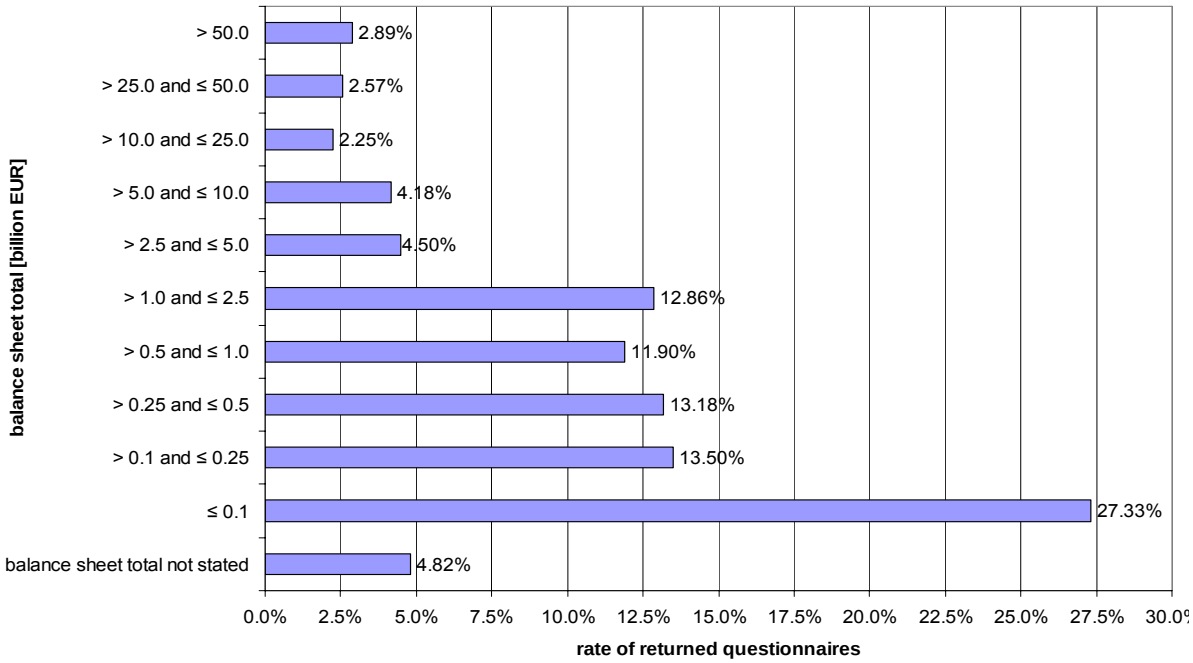

Fig. 2. Distribution of returned questionnaires according to balance sheet total

With regard to the origin of answering institutions the main focus lies on southern Germany. About 44% of all answering institutions are located in Bavaria or Baden Wurttemberg. Besides that, financial institutions with headquarters in Hesse, North Rhine-Westphalia, and Lower Saxony have participated in the survey in a relatively high extent. These five federal states of Germany are the ones with the highest populations. By the end of 2007 more than two thirds of the German population lived in these five federal states (Der Fischer Weltalmanach, 2009, 2008).

2. Costs and outsourcing of AML measures

2.1. Costs of AML measures. German AML legislation obliges financial institutions to implement a variety of AML measures. The costs caused by these AML measures are to be borne by the financial institutions. When asked for their AML costs in the years 1995, 2000, and 2004, financial institutions indicated that there had been a constant increase in AML costs that was independent of the size of enterprise. However, it turned out that financial institutions with a balance sheet total of more than EUR 1 billion had a substantially bigger increase in AML costs than smaller ones. Between 2000 and 2004, the AML costs of financial institutions with a balance sheet total of more than EUR 1 billion had increased by more than 106% in average, while in the same period the AML costs of smaller financial institutions had increased by only about 18% in average.

As Figure 3 shows, 86% of the financial institutions expected a further increase in AML costs in the near future while just 1% was expecting a decrease in AML costs. Remarkably, 64% of the answering financial institutions expected AML costs to increase in the near future with an even higher rate.

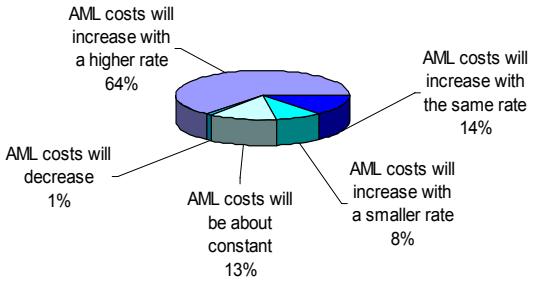

Fig. 3. Expected development of AML costs

Considering the different types of costs, there are some distinctions between banks and financial services institutions. While 69% of the banks and only 21% of the financial services institutions expected especially IT costs to increase in the next two years, 76% of the financial services institutions and just 49% of the banks saw a rise of staff expenditure.

According to the German banking supervisory authority, a financial institution can generate synergies by linking measures for preventing money

laundering with other internal risk management measures (Bundesanstalt für Finanzdienstleistungsaufsicht, 2005a). On the other hand, 78% of the banks and even 98% of the financial services institutions saw no such synergies.

2.2. Outsourcing of AML measures. As most of the financial institutions regard AML measures as mere cost drivers that have no benefits for the financial institution it is interesting to see their reactions. According to section 7 paragraphs 1 and 2 of the German Money Laundering Act (Geldwäschegesetz), financial institutions are allowed to outsource certain AML measures. In contrast to their differing expectations about the future development of AML costs, banks and financial services institutions agreed on the cost reduction potential of outsourcing AML measures. More than three quarters of the financial institutions believed that outsourcing AML measures can reduce staff expenditure while not even one third of the financial institutions saw a possible reduction of IT costs. According to this, one would expect many of the financial institutions to utilize the possibility of outsourcing at least some of their AML measures. Astonishingly, only about 8% of the banks stated to have actually outsourced AML measures while approximately 5% of the banks planned to outsource AML measures in the near future. The questioned financial services institutions had used outsourcing on an even smaller scale. None of them had already outsourced AML measures but nearly 7% of them had plans to do so in the near future.

Between about 8% and 11% of the German savings banks, regional banks and other commercial banks, special purpose banks, and credit cooperatives had – as Figure 4 shows – outsourced at least some of their AML measures whereas the German Landesbanken, mortgage banks, and branches of foreign banks had not yet made use of the possibility to outsource AML measures at all. Thus, between the groups of banks which had outsourced AML measures there is no great difference in their respective outsourcing rate.

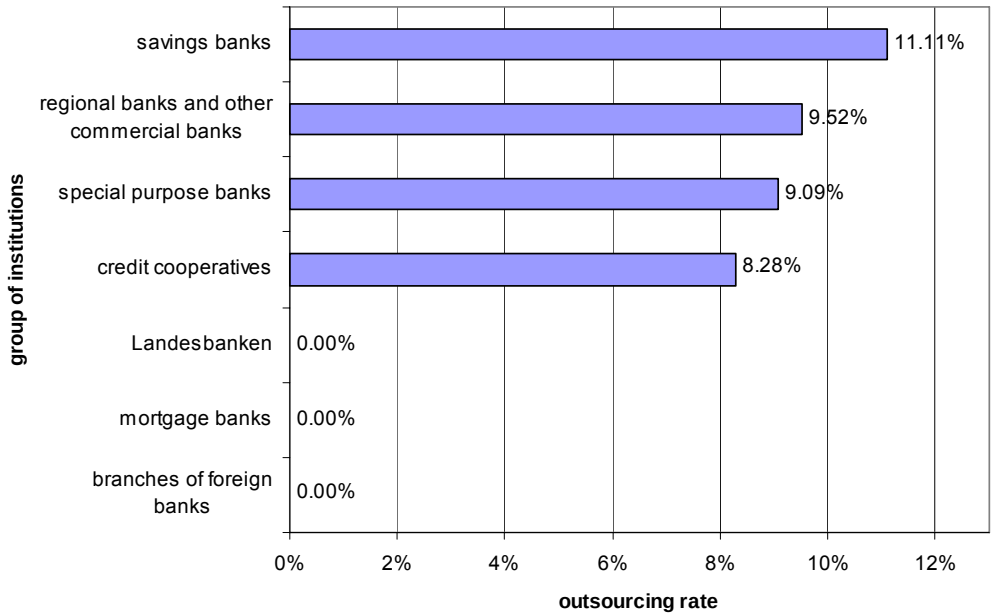

Fig. 4. Outsourcing rates in different groups of institutions

This differs when we look at the banks' balance sheet total. 7.7% of the banks with a balance sheet total of up to EUR 1 billion had outsourced AML measures whereas the outsourcing ratio of banks with a balance sheet total of more than EUR 5 billion was just 2.7%. Medium sized banks (i.e. banks with a balance sheet total of more than EUR 1 billion and up to EUR 5 billion) showed with 15.4% the highest outsourcing ratio. Presumably large banks can profit from economies of scale and therefore outsourcing does not make good economic sense to them. On the other hand, the costs of AML measures for small banks are probably so low that outsourcing is not worth it.

Which AML measures are outsourced most often by banks? According to section 9 paragraph 2 no. 1 of the German Money Laundering Act, financial institutions have to nominate a so called AML officer the national FIU and the criminal prosecution authority can get in touch with. Of all the banks making use of outsourcing AML measures 71% had outsourced the function of the AML officer. Section 9 paragraph 2 no. 3 of the German Money Laundering Act also requires financial institutions to instruct their employees in the duties they have to obey under the Money Laundering Act, and to inform them about the

techniques used by money launderers. This function was outsourced by two thirds of the banks. Compared with this ensuring that employees authorized to carry out cash and non-cash financial transactions act in compliance with the Money Laundering Act was outsourced by only 14%.

2.3. Conclusion. In summary it may be said that only a minority of banks makes use of the legal possibility of outsourcing AML measures. However, an increasing number of financial institutions is expected to outsource AML measures in the near future in order to reduce payroll costs and IT costs. There is reasonable doubt about whether outsourcing of AML measures can really reduce financial institutions' AML costs. Most of the banks having already utilized outsourcing could not give any details on how their payroll costs and IT costs had developed as a result of their outsourcing measures. Considering the banks that could provide this information we noted that their payroll costs were lower after outsourcing while their IT costs had gone up. Therefore, future studies will have to show whether or not the legal opportunity of outsourcing AML measures is an appropriate means to prevent a further increase in financial institutions' AML costs.

3. Computer-based research systems

3.1. Spread of computer-based research systems. Section 25c paragraph 1 of the German Banking Act requires financial institutions to implement adequate business- and client-based safeguard systems and controls to prevent being misused by money launderers. Furthermore, financial institutions are obliged by law to investigate into suspicious transactions. And on top of that the German banking supervisory authority demands them to apply computer-based research systems in order to filter out amongst the mass of non-cash transactions those suspicious factors that indicate possible cases of money laundering (Bundesregierung, 2002; Bundesanstalt für Finanzdienstleistungsaufsicht, 2005b; Bundesanstalt für Finanzdienstleistungsaufsicht, 2005c).

Table 2. Implementation of computer-based research systems

Financial institutions	A computer-based research system has already been installed	Installation of a computer-based research system is planned for the next year
All banks	45 %	25 %
Special purpose banks	50 %	0 %
Credit cooperatives	27 %	38 %
Landesbanken	80 %	20 %
Savings banks	100 %	0 %
Mortgage banks	23 %	0 %
Regional banks and other commercial banks	50 %	15 %
Branches of foreign banks	38 %	25 %
Financial services institutions	22 %	0 %

Interestingly, the survey showed that only 45% of the banks and merely 22% of the financial services institutions that gave details on this topic had implemented a computer-based research system (see Table 2). Amongst the banks, the savings banks and Landesbanken had already reached a high degree of implementation whereas the credit cooperatives and mortgage banks showed a rather low degree of implementation. Regarding mortgage banks, the low degree of implementation may be explained by the fact that the German supervisory authority has classified the money laundering risk of these banks as rather small and therefore is considering computer-based research systems as non-essential for them. The low number of credit cooperatives using computer-based research systems is probably due to the following two facts.

1. These banks have a very small business volume so that the financial transactions can be monitored manually. Therefore, there is no need for a computer-based research system.
2. The acquisition costs as well as the running costs of computer-based research systems are quite high. That's why several of the credit cooperatives with a balance sheet total of more than EUR 250 million stated not to implement such a system.

When asked for their future plans, only few financial institutions stated that they intend to implement a computer-based research system in the course of the next year.

Obviously, the size of a financial institution is a crucial factor concerning the implementation of a computer-based research system. About 75% of the financial institutions with a balance sheet total of more than EUR 1 billion had implemented such a

research system and further 8% had plans to implement one in the course of the next year. Financial institutions of this size that had not yet implemented a computer-based research system are particularly mortgage banks and some credit cooperatives whose reasons for not implementing such research systems were addressed above.

Although not many of the smaller financial institutions had already implemented a computer-based research system, a lot of them had plans to do so in the near future. More than 50% of the financial institutions with a balance sheet total of EUR 250 million to EUR 500 million and 30% of those with a balance sheet total between EUR 500 million and EUR 1 billion aimed at implementing a computer-based research system in the course of the next year. Considering this, the implementation ratio in these classes amounts to about 80%. The sudden willingness of smaller financial institutions to implement computer-based research systems may be traced back to a letter the German banking supervisory authority had sent to the auditing associations in January 2005 (Bundesanstalt für Finanzdienstleistungsaufsicht, 2005d). This letter contains detailed demands on the auditors' reporting on the use of computer-based research systems by the respective financial institution. Probably many financial institutions only then had realized the supervisory consequences related to not implementing a computer-based research system.

3.2. Rule-based and self-learning computer-based research systems. Computer-based research systems can be divided into two groups: rule-based research systems and self-learning research systems. On the basis of certain indications derived from the financial institution's specific money laundering risk profile rule-based research systems search the financial institution's customer-, account-, and transaction-data base for distinctive features. Self-learning research systems by contrast employ modern technologies like data-mining to create a dynamic profile for each customer on the basis of his previous behavior. These systems then automatically identify modifications of a customer's behavior and report to the institution's AML officer.

The survey showed that nearly three quarters of the banks employing computer-based research systems were using rule-based technologies while 20% of the banks had implemented a research system that uses both rule-based and self-learning technologies. Research systems exclusively employing self-learning technologies had been implemented by merely 3% of the banks.

In the past, self-learning computer-based research systems had been criticized for their often incomprehensible results. Obviously, the systems have improved as more than 87% of the banks using research systems with self-learning technologies stated that the AML officer could well understand why the system classified a person as being suspicious.

Considering the number of indications used by rule-based research systems it turned out that about half of the financial institutions had employed 30 to 59 indications. 30% of the financial institutions were using less than 30 indications and 20% were using 60 to 99 indications. 100 or more indications were used by only 2% of the financial institutions. When asked for indications that are best suited for identifying conspicuous behavior financial institutions could give no uniform indications. Nonetheless, indications for identifying high cash transactions, smurfing, and an increased account turnover were named frequently.

Now the decisive question is if the employment of financial and personnel resources for installing and maintaining computer-based research systems can be justified. To answer this question we compare the total number of suspicious transactions reported in 2004 by financial institutions that had employed computer-based research systems with the number of suspicious transactions that were reported in 2004 by financial institutions solely on the basis of the results of computer-based research. As Figure 5 shows, the contribution of computer-based research systems is exceedingly small. The computer-based research systems of 127 financial institutions using such systems had generated just 53 suspicious transactions that were reported to the criminal prosecution authorities. Thus, the suspicious transaction reports that are based solely on the basis of computer-based research add up to not even 8% of the total suspicious transaction reports. Therefore, the bulk of suspicious transaction reports is based on findings not resulting from computer-based research.

In the first half of 2005, 92 suspicious transactions were reported by financial institutions solely on the basis of the results of computer-based research (see Figure 6). So the average number of these suspicious transaction reports rose to 0.72 reports per financial institution in the first half of 2005 from 0.42 in 2004. During the first half of 2005 three financial institutions reported ten or more suspicious transactions on the basis of the results of computer-based research whereas in 2004 it had been just one financial institution.

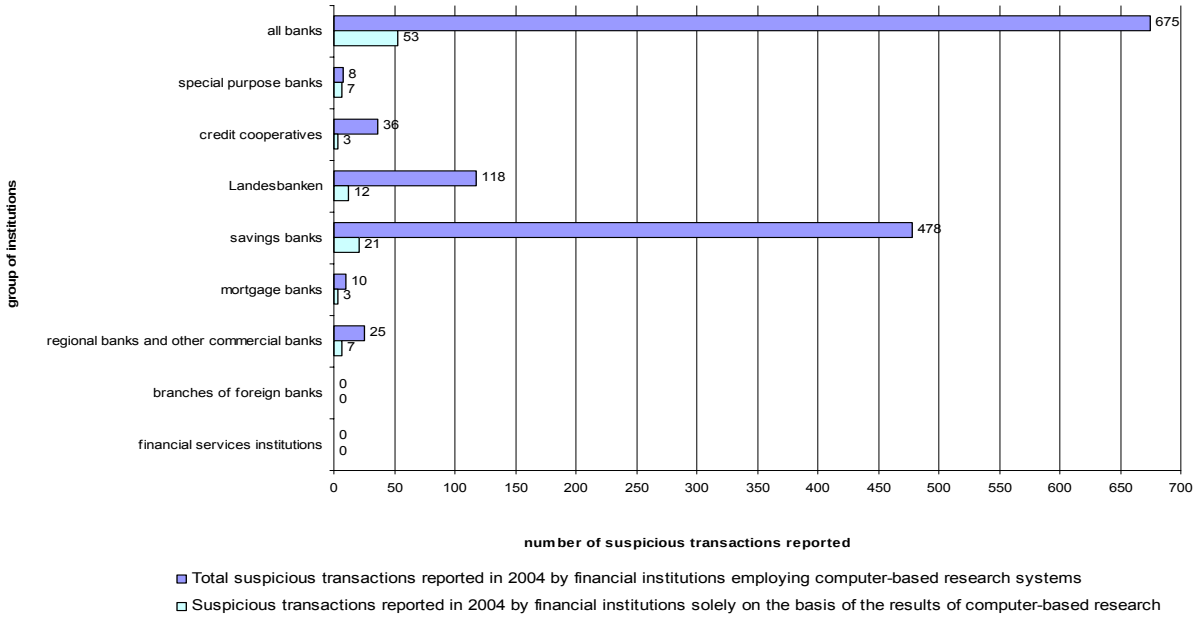

Fig. 5. Comparison of suspicious transactions reported in total and those reported on the basis of the results of computer-based research

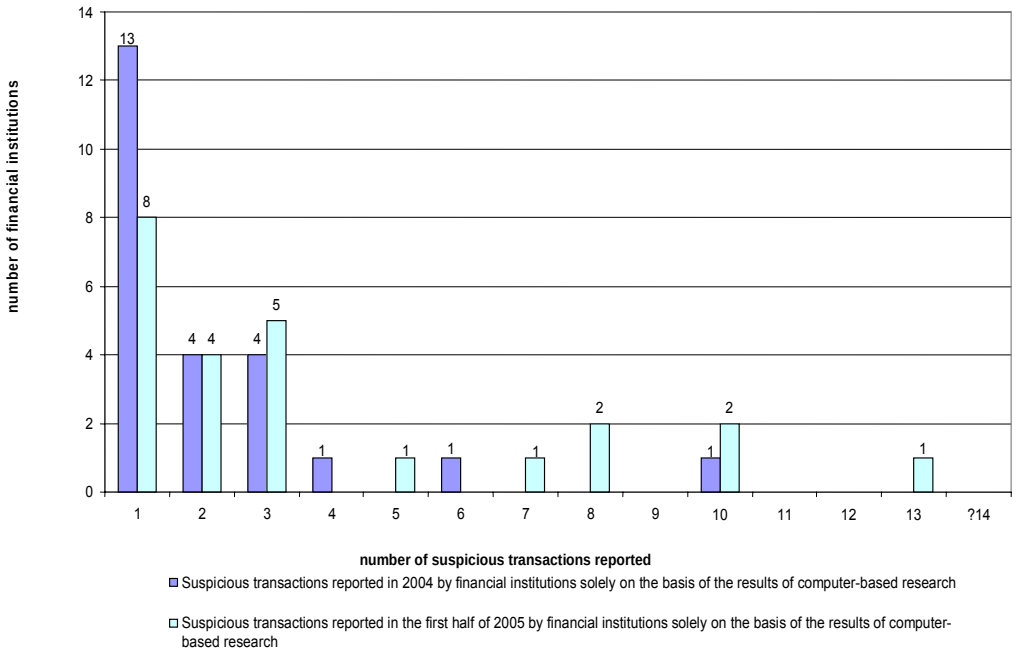

Fig. 6. Number of suspicious transactions reported per financial institution on the basis of the results of computer-based research in 2004 and in the first half of 2005

Conclusion

Taking the above results into account one can see a clear disproportion between the financial and personnel costs caused by computer-based research systems on the one hand and their benefits on the other hand. It is not clear why the percentage of suspicious transactions reported on the basis of the results of computer-based research is relatively small. The following reasons seem to be most likely:

1. It is possible that a financial institution draws up an inaccurate assessment of its potential for being misused by money launderers. On this basis, indications are derived which, when used in the computer-based research system, do not properly reflect the financial institution's risk profile.
2. If the financial institution draws up an accurate assessment of its risk profile, it is possible that the indications for use in the computer-based research systems are derived in an incorrect way. Therefore, these indications are unsuitable for detecting a misuse of the financial institution.
3. Maybe the financial institution hasn't employed the computer-based research system long

enough so that the system is not yet equipped with sufficient historical data. Thus, the system is not able to generate meaningful customer profiles without which suspicious behavior of customers cannot be detected.

4. It is possible that the computer-based research system is not sophisticated enough in order to adapt to the ever-changing money laundering techniques.

Whatever the true reasons for the poor performance of the computer-based research systems are: computer-based research systems have to be improved significantly in order to permanently reduce the future misuse of financial institutions by money launderers.

References

1. BearingPoint (2004). Geldwäschebekämpfung. Umsetzung bei deutschen Finanzinstituten. – Frankfurt am Main: BearingPoint GmbH.
2. Bundesanstalt für Finanzdienstleistungsaufsicht (2005a). Annual Report 2004. – Bonn: Bundesanstalt für Finanzdienstleistungsaufsicht.
3. Bundesanstalt für Finanzdienstleistungsaufsicht (2005b). Rundschreiben 8/2005 (GW) – Institutsinterne Implementierung angemessener Risikomanagementsysteme zur Verhinderung der Geldwäsche, Terrorismusfinanzierung und Betrug zu Lasten der Institute gemäß §§ 25a Abs. 1 Satz 3 Nr. 6, Abs. 1a KWG, 14 Abs. 2 Nr. 2 GwG – Anfertigung der institutsinternen Gefährdungsanalyse. – Bonn/Frankfurt am Main: Bundesanstalt für Finanzdienstleistungsaufsicht.
4. Bundesanstalt für Finanzdienstleistungsaufsicht (2005c). Schreiben vom 8. November 2005 – Implementierung von Geldwäschepräventionsmaßnahmen i. S. d. § 25a Abs. 1 Nr. 6 KWG: Verzichtbarkeit auf ein EDV – Researchsystem bei kleineren Instituten. – Bonn/Frankfurt am Main: Bundesanstalt für Finanzdienstleistungsaufsicht.
5. Bundesanstalt für Finanzdienstleistungsaufsicht (2005d). Schreiben vom 3. Januar 2005 – Berichterstattung über EDV-Research-Systeme im Rahmen der Jahresabschlussprüfungen gemäß § 29 Abs. 2 KWG i. V. m. § 17 Abs. 2 Nr. 2 PrüfbV und § 44 Abs. 1 KWG. – Bonn: Bundesanstalt für Finanzdienstleistungsaufsicht.
6. Bundesregierung (2002). Entwurf eines Gesetzes zur weiteren Fortentwicklung des Finanzplatzes Deutschland (Viertes Finanzmarktförderungsgesetz). – Bundestag Document 14/8017, 1-145.
7. Der Fischer Weltalmanach 2009 (2008). – Frankfurt am Main: Fischer Taschenbuch Verlag.
8. Financial Action Task Force on Money Laundering (1998). Annual Report 1997-1998. – Paris: Financial Action Task Force on Money Laundering.
9. IMF (2007). World Economic Outlook Database, April 2007. – Washington: IMF.
10. KPMG International (2004). Global Anti-Money Laundering Survey 2004.
11. KPMG International (2007). Global Anti-Money Laundering Survey 2007.
12. Krämer, G. (2007). Geldwäschebekämpfung durch deutsche Kredit- und Finanzdienstleistungsinstitute. – Frankfurt am Main: Bankakademie-Verlag.
13. Krämer, G. (2008). Die Bekämpfung von Geldwäsche und Terrorismusfinanzierung – Die Tätigkeit der FATF als internationaler Standardsetter. – Baden-Baden: Nomos Verlag.