

SECTION 4
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PROFILING WHITE-COLLAR CRIME:
EVIDENCE FROM GERMAN-SPEAKING COUNTRIES

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Abstract

White-collar crime is a notable phenomenon attending economic activity. But although both prominent individual cases and more systematic statistics on claims indicate a considerable and pressing problem, rather little is known about particular types of offenses, patterns of response, situational contexts, or offender profiles. Nor is much known about which instruments effectively prevent and fight white-collar crime. Utilizing an extensive dataset of 329 organizations and over 400 case descriptions from Germany, Austria and Switzerland, this analysis offers a first detailed inquiry into the relevance and characteristics as well as prevention and redress of five basic kinds of white-collar crime: corruption, fraud, theft, anti-competition, and money laundering. In addition to an explication of overarching commonalities and specific differences, we strive to show that these five types can furthermore be reorganized into two differing classes that are each internally rather homogenous. This finding is of great relevance and importance to effective strategies for preventing and countering white-collar crime.

Keywords: White-Collar Crime, Corruption, Fraud, Theft, Anti-Competition, Money Laundering

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Introduction

In view of its ever recurrence, white-collar crime occupies not only decision-makers in both the political and economic world, but it is also attracting increasing public interest. Spectacular cases of the German-speaking world such as the Mannesmann process or the VW affair as well as charges of corruption against German firms in the context of the Oil-for-Food Programme in Iraq and (currently) against Siemens represent only the highly visible tip of the proverbial iceberg (e.g. Volcker *et al.*, 2005). According to German authorities, fraud cost Germany alone some 5.62 bn Euros in 2004, representing 54% of total damages attributable to criminality in that year – this despite the fact that fraud constitutes a mere 1.2% of all registered instances of crime (BKA,

2005).¹⁰⁴ Even given this statistic, it is reasonable to assume that reported instances represented in the official statistics in fact represent less than the totality of all such instances, whereby the bulk of attempts have either gone unreported or remain as yet undiscovered.¹⁰⁵

¹⁰⁴ Cases of corruption are not included in this figure, since exact damages are as a rule unascertainable; such estimates are therefore not given by the BKA (German Federal Criminal Police Office).

¹⁰⁵ Complicating matters remains the fact that even with respect to those registered cases of white-collar crime, the resultant damages reported are frequently drastically underestimated. This is due on the one hand to the fact that actual levels of damage can be reconstructed only with difficulty. Most notable however is immaterial damage, such as loss of reputation, impaired business relations, or effects on employee morale, which frequently significantly

Given the gravity of the problem, it is perhaps astounding how little is known about particular types of offenses, patterns of response, situational contexts, and offender profiles (e.g. Wells, 2004). Similarly sparse is our knowledge about which instruments effectively fight and prevent white-collar crime (e.g. Ivancevich *et al.*, 2003). The paucity of scientifically oriented and empirically based inquiries with respect to this subject is certainly imputable to want for available data.¹⁰⁶ Since the effects of potential damages to reputation can readily overrun the material damage itself, accordant internal information is handled most restrictively.

The following study circumvents this problem by involving the affected parties directly. Through cooperation with the German Institute for Internal Auditing (*Deutsches Institut für Interne Revision e.V.*, IIR), the Institute for Internal Auditing Austria (*Institut für Interne Revision Österreich*, IIRÖ), and the Swiss Institute of Internal Auditing (*Schweizerischer Verband für Interne Revision*, SVIR) we were able to access the comprehensive findings of that department of the firm which works to accumulate all knowledge about relevant cases: the department for internal auditing. On the basis of responses from 329 firms and over 400 individually described cases we can characterize particular types of offenses in appropriate detail. This helps not only to close the identified gap in the research sketched above, but it also provides decision-makers in the private sector an indispensable foothold from which to consider an effective strategy for response and prevention.

The Concept of White-Collar Crime and its Forms

Yet another possible reason for the scarcity of systematic inquiries on the subject of white-collar crime takes account of the extreme heterogeneity of the phenomenon and of the difficulty of differentiating the general evidence. Under the jurisprudential system of the German-speaking countries, the established legal definition of economic criminality includes all acts

- that are committed in the context of actual or pretended economic activity
- and that, beyond causing injury to individual parties, impact economic life
- and/or the performance of which or capacity for which requires particular commercial knowledge.¹⁰⁷

To further delineate and structure this rather

exceed material damages and which do not lend themselves to measurement.

¹⁰⁶This deficit cannot be corrected for by studies commissioned by auditing agencies. Moreover, as they have a vested interest in creating awareness of both the problem and their own consulting services on the basis of limited numbers of cases and rather rudimentary methodology. See for example Fischer *et al.*, 2003 and Wilkinson, 2005.

¹⁰⁷See BKA, 2004: p. 18 and Füss *et al.*, 2006: pp. 5-11.

vaguely delimited branch of criminality, we segment economic criminality in our approach into five subtypes, which we characterize more clearly in **Table 1**. Our approach yielded in the course of our study the surprising result, insufficiently considered in the literature, that these five types furthermore lend themselves to further sub-grouping into two internally homogenous groups that each differs significantly from the other (see section 3.4).

- Table 1 about here -

(Delict-)Type-Specific Results

Company Survey and Sample Description

Toward the empirical assessment of patterns of response, offender profiles and situational contexts within individual economic criminal types, an online poll among members of the above-named three institutes was conducted during the period from 11 July to 28 August 2006.¹⁰⁸ In addition to general questions about the firm, its business environment, and its internal organizational framework, the poll focused its questions on the nature, extent, causes and consequences of white-collar crime as well as its prevention and counteraction. The response rate to the questionnaire of 55 questions amounted to 18.6% for Germany, 21.3% for Austria and 4.8% for Switzerland and resulted in a sample of 329 firms, whereby 263 (80%) were headquartered in Germany, 56 (17%) in Austria, and 10 (3%) in Switzerland.¹⁰⁹

Relevance and Characteristics of Types of White-Collar Crime

Responses to the question about the frequency of the individual criminal types described in **Table 1** casts an unambiguous picture: over a third of the firms reported instances of fraud (35%) and theft (34%) in their firms, forms that can therefore be described as broadly recurrent. Corruption emerged as the third-most named type, but was relevant among only 12% of the sample firms, whereas the occurrence of anti-

¹⁰⁸The population was defined as the 1,415 member firms of the Deutsche Institut für Interne Revision e.V. (IIR), the 262 member firms of the Institut für Interne Revision Österreich (IIRÖ), and the 210 member firms of the Schweizerischer Verband für Interne Revision (SVIR).

¹⁰⁹Nearly a third of the sample is constituted of firms from the credit and financial services sector (30%), followed by industrial (27%) and insurance (11%) firms. Service providers and public administration each constitute 9% of the sample. The majority of firms are legally classified as either corporations (AG) (40%) or limited liability corporations (GmbH) (18%). The overwhelming portion of the sample firms (80%) are not listed on the stock market. Those firms listed (67 entries) are mostly listed on national exchanges (42 entries), while the rest of the listed firms are listed by the SEC (16) or other international exchanges (9 entries). With respect to the criterion of size "number of employees", middle-sized firms (500 to 3000 employees) are significantly over-represented in the sample, while by the criterion of annual sales the predominant count of sample firms lies above the 100 million Euro threshold.

competition (7%) and money laundering (4%) tends to be negligible. Fraud occurs more frequently among firms in the insurance (85%), industrial (81%) and credit and financial (70%) sectors, while corruption plays an important role in the public administration (50%). The number of cases estimated by the firms to go unreported runs parallel to the number of reported cases of each type; that is to say, the most frequently reported criminal types are also those in which higher numbers of cases are estimated to go unreported. Furthermore, projected risks of occurrence over the next five years show no shifts in the relevance of the individual criminal types. Internal reviewers in Austria estimate the risk of occurrence across all types lower than their German counterparts, as shown in **Figure 1**. Furthermore, they appear to anticipate a greater occurrence of theft, while in the Federal Republic of Germany (FRG) fraud remains in the estimates the leading type.

- Figure 1 about here -

Lastly, firms were asked to list the average level of gross damages per criminal type as well as the level of compensation, from which net damages were derived. Figure 2 shows that the most frequently recurrent forms of white-collar crime, fraud and theft, are associated with comparatively marginal average damages, whereby the rather less common forms of criminality, anti-competition and corruption, exhibit an extremely high potential for damage. Nonetheless, all forms similarly lead to very high net damages; that is to say, a substantial level of compensation is possible in the least frequently encountered cases.

- Figure 2 about here -

To supplement the heretofore rather global inquiry into the relevance of individual types with more detailed characterizations, type-specific surveys were integrated into the overall survey. This procedure allows us to ascertain type-specific attributes (susceptible business sectors and firm divisions, offender profiles, disclosure, damages, etc.) in the form of profiles. A total of 413 instances were illustrated in detail, whereby the preponderant number of instances were to be found in the areas of fraud and balance manipulation (179 cases), theft (133 cases) and corruption (62 cases). In comparison, it should be noted that with respect to the forms of anti-competition (25 cases) and money laundering (14 cases), the explanatory power of our results is difficult to assess in light of the limited representativeness. The poll was designed such that the respondents could themselves describe the representative attributes of each of the criminal types (for instance the most affected business types or the typical offender profile) according to their actual experience. The resultant profiles per type, extracted from the data, are summarized in **Table 2**.

- Table 2 about here -

The criminal type *fraud* occurs most frequently in the divisions of sales and marketing, materials management and purchasing, whereas the sectors

procurement and money transfer are particularly vulnerable. In terms of committing the crime, systematic planning and the use of conventional means (e.g. rather "classic" forgery of documentation as opposed to use of modern IT-based means) dominate. Incidence of the criminal type is predominantly sporadic and repeated, and the average period is estimated at 9 years. The primary offenders include mainly male employees between the ages of 31 and 50 who have vocational training, an *Abitur* (secondary school degree), or a vocational training degree. These employees tend to have tenure of 6 to 10 years at the firm, have been in the relevant position for 3 to 5 years, and have no managerial responsibilities. Among their motives are typically financial need or personal problems, an expensive standard of living, and greed and need for recognition. The opportunity for action may be attributable to working alone (monopoly of qualification, esoteric knowledge), an excess of power (management 'overdrive') and insufficient internal controls. With respect to actual perpetration, fraud is frequently linked with a deficient sense of value and justice. The average proximate gross damages amount to 50,000 EUR, whereby in a third of the cases approximately 20% of financial losses can be recovered, mostly via arrest and mandatory compensation; in a fifth of cases losses can be limited (on average) in this way to half. In comparison to fraud, the profile for *theft* displays the following characteristics: Susceptible divisions now include administration. Initiation occurs here rather under spontaneous circumstances. The period of the cases is somewhat shorter on average, occurring rather over an interval of 6 years. The implicated main offenders are between 31 and 40 years of age, most have a vocational training or a *Haupt-/Realschule* (secondary) degree, and they tend to have tenure with the firm of between 3 and 5 years. With respect to motive, addictive behaviors and lifestyles slip into the foreground. While excessive anonymity within the firm first allows the opportunity for perpetration, rationalizations frequently include a deficient normative sense and sense of justice and an "invitation" as the result of deficient controls. Gross damages due to theft amount on average to under 10,000 EUR and are thereby decidedly less than with respect to fraud. In one third of all cases, damages cannot be compensated at all; in another third, damages can be recovered only to the amount of 20%. Offenders tend largely to be discovered through internal indicators.

In highlighting the differences between *corruption* and the foregoing characterized types, one notes that in addition to sales and marketing and materials management, purchasing now emerges as a susceptible department and order processing as a vulnerable sector. Analogous to fraud, implementation is systematically planned, whereas the interval length until discovery now extends to 13 years. Offenders are as a rule much older (31-60 years) and have a higher level of education (university

degree or *Abitur*/vocational degree). Both tenure at the firm (6-20 years) and in the relevant position (6-10 years) are considerably longer, and the offenders are more frequently in positions of lower- and middle management. In parallel with fraud, offenders find opportunity in working alone. Given the firm divisions and sectors affected, gross damages can reach much higher levels in the range from 10,000 to 250,000 EUR. Immaterial damages also result in the form of loss of reputation, disincentive effects (i.e., sapped motivation) and damage to business relations. Recovery of damages through arrest and mandatory compensation as a portion of gross losses is generally limited, ranging in 41% of the cases from 1 to 20%. In addition to internal indications and coincidence, external tips are relevant to the discovery of corruption, and they are frequently anonymous (e.g., through 'whistle-blowing').

Beyond the aforementioned types of business, cases of *anti-competition* are also more likely to be found in marketing and sales. As with corruption and fraud, anti-competition cases are typically systematically planned, whereas – similar to theft – the average length of period in these cases is estimated to cover the medium term (6 years). The personality attributes of the main offenders indicate that it is typically lower- and middle management that act in collusion with parties external to the firm. In addition to the mentioned motives, performance pressure finds a central role, whereby the opportunity for action arises from an excessive wield of power and the noted collusion with colleagues and external actors. In a plurality of cases (46%) gross damages range from 0 to 50,000 EUR, but damages can also reach – as in 21% of the cases examined – levels of 100,000 to 250,000 EUR. As with cases of corruption, high immaterial damages result in such cases as the result of damaged business relations. In approximately one half of the cases examined here, damage compensation amounts to a mere 1 to 20% of gross damages. Among the relevant indicators count internal review and more importantly senior management and supervisors.

Money laundering understandably occurs more frequently in the accounting sector, and here in the context of money transfer and order processing. As with corruption and fraud, the planning and implementation stretches over the long term (10 years) and occurs rather – as with cases of anti-competition – among lower- and middle management in collusion with parties external to the firm (contractors, business partners). The resultant gross damages range along a bandwidth of 0 to 100,000 EUR, whereby anywhere from 0 to 20% of gross damages can be recovered in approximately one quarter of all cases. Relevant instruments to the discovery of money laundering were named to be process-oriented as well as independent internal controls. In addition to internal auditing, the police and state prosecutors are usually involved in discovering the crime.

As already suggested, the relevance of instruments and persons to the discovery of the various criminal types is rather variably pronounced. Analysis of variance indicates that with respect to the relevance of risk management systems, employee/responsibility alternation (e.g., through substitution, illness) as well as coincidental circumstances and internal indicators exhibit no differences. While with respect to their importance in the discovery of criminality the first two instruments range from minimally to moderately important, coincidence and internal indicators play greater roles across all case-types. Utilizing unidirectional analysis of variance, **Table 3** indicates those instruments and persons who, with respect to their importance to discovery, evince significant differences among the various criminal types.

While data analysis software and external auditing are generally estimated to be of little value to the detection of criminality, their importance to the discovery of money laundering seems great. The rest of the instruments named in **Table 3** register a rather higher significance in the discovery of criminal activity, whereby internal auditing most clearly shows this potential. Overall, each instrument achieves its greatest effectiveness in detecting money laundering. On the other hand, process-oriented internal controls with respect to corruption and process-independent controls with respect to crimes of theft and anti-competition seem to play a lesser role. And finally, whereas internal auditing is least effective in uncovering theft, external tips have little relevance to the discovery of fraud.

- Table 3 about here -

Common Characteristics of the Different Criminal Types

As already made apparent in the aforementioned characteristics, the various criminal types share essential commonalities, particularly with respect to the affected divisions of the firm and transaction types, but also with respect to the resulting damages.

- Figure 3 about here -

As **Figure 3** shows, three *organizational divisions* are particularly affected by white-collar crime: materials management, sales and marketing, and purchasing. The percentage of reported cases in each of the criminal types lies above 10% (excepting purchasing with respect to theft). This is attributable to the high degree of autonomy frequently given offenders and the limited opportunities for supervision by senior management and its control organs, as well as to the omnipresent opportunity afforded by the specificities of these divisions (handling of goods and money, power relations, etc.). Less affected divisions include personnel and human resources management as well as logistics. The much more complex transaction field and opportunities for control in these divisions make criminality difficult. If one examines further the most affected sectors of business, the findings above are corroborated: Procurement and sales, money transfer

and order processing are each over-proportionately susceptible to each of the investigated criminal types. Procurement assumes here a particularly exposed position, whereby nearly 50% of all reported cases of corruption and 32% of all reported cases of theft occur within its domain. Money transfer, on the other hand, is particularly susceptible to money laundering. Still, the processing of payroll, accounting services, and asset management seem to be less correlated with such crimes. These results can also be ascribed to apparent opportunities for delinquency, to disadvantageous power relations and to poor means for control by senior management.

In addition to commonalities among affected organizational divisions and transaction fields, each of the types above exhibit similarities also with respect to *damages*. Notable is that similarly high damages are found across the board, due too in part to repeated offenses. Here minority and majority offenses (see section 3.4) are differentiable. All types have in common that as a rule only 1 to 20% of damages are recoverable, mostly via arrest and mandatory compensation. Furthermore, each type also involves via the negative effects on employee and work morale and/or damage to the reputation of the firm high immaterial damages. To the offenders, the resultant damages are apparently inconsequential: Offenders act mainly out of greed or of financial need and an overly-expensive standard of living which they finance through their crime. With respect to the damaged firm, other motives such as desire for revenge, mass layoffs, or performance pressure are seldom connected.

Grouping of Criminal Types

After evaluating the criminal type-based portion of the survey, not only the above similarities of characteristics became clear, but two differing groups of types also emerged. On the one hand, this difference concerns so-called *majority types* that frequently emerge (as a 'majority among the reported cases'), that are connected to a comparatively smaller level of damages, and which are overwhelmingly committed by employees without managerial responsibility who tend to have lesser degrees of education ('majority of workers'). This group correlates with the types fraud and theft. Perpetration of these acts occurs mostly in the context of spontaneous circumstances (with a slight tendency toward systematic planning with respect to fraud), the acts are frequently sporadic or repeated, and they are over-proportionately committed by males between the ages of 31 and 50. Offenders typically have no managerial responsibilities whatsoever, and they overwhelmingly have a vocational training or a (higher) school degree. Damages left in the wake of majority types are lesser in comparison with those of other types, and recovery of damages at low levels is somewhat easier, despite the frequent involvement of offenders external to the organization or firm. Immaterial damages play a lesser role and affect the

organization largely internally, in that work and employee morale is affected.

The second group of white-collar crimes includes corruption, anti-competition, and money laundering. These so-called *minority types*, which occur less frequently ('minority among the reported cases') and which correspond to comparatively higher levels of damage are overwhelmingly committed by persons with managerial responsibilities who more frequently have a higher level of education ('minority of workers'). Perpetration is associated in the majority of cases with systematic planning, is generally repeated, and is frequently committed in cooperation with persons external to the firm or organization. Offenders are overwhelmingly males of ages from 41 to 60, who in positions of lower- and middle management, and they have a university degree and/or *Abitur* degree. Minority types are associated with greater damages as compared with the majority types, usually in the range of 10,000 to 250,000 Euros. Damage recovery is hindered by the complex nature of these crimes. Immaterial damages with respect to these types are also significant: Crimes of this group affect not only the reputation of the firm, but they also frequently damage business relations with other firms.

- Table 4 about here -

The varying characteristics between majority and minority types are again comparatively stylized in **Table 4**. To test the associations between characteristics and categorical membership, we utilize binary logistic regression in the following. As dependent variable we assign categorical membership (minority types = 0, majority types = 1). The procedure of logistic regression allows us to ascertain to what extent a person with particular characteristics is estimated as an offender of minority or majority types and to which particular category the person tends. The variables age, tenure of employment at firm (in years), and gross damages as well as the features important to the estimation of immaterial damages are measured on the metric scale. The last variables are of course measured on an ordinal scale from 1 (= unimportant) to 5 (= important) but could also be treated as interval-scaled variables, as the distances between the rating levels might be interpreted as equidistant. The variables level of education and position within the firm are on the other hand dichotomized variables. For these, the originally ordinal-scaled variables were rescaled as dichotomized variables (0 = low level of education, 1 = high level of education). In the same way, the variable measuring position within the firm was rescaled, such that a lower position within the firm was coded 0 and a higher position in the hierarchy 1.

- Table 5 about here -

The results from the (binary) logistic regression confirm as far as possible our summary of characteristics from **Table 4** above for our two categories of criminal types. While the characteristics of age, tenure of employment, position within the firm

and above all gross damages show no significant effects, the results with respect to the level of education indicate that the probability of a minority type crime increases with the level of education of the offender. Likewise, the probability of a minority type increases with the loss of reputation to the firm and/or brand as well as with an increasing damage to business relations. This indicates that an increased loss of reputation allows us to infer the occurrence of a minority type offense, confirming the results gleaned from the descriptive statistics above. The positive regression coefficients for the variables damage recovery and damage to work- and employee morale indicate an increasing classification of a majority type event. In other words, the higher the recovery of damage and the damage to work- and employee morale, the greater the likelihood that the event in question is of the majority type. The level of significance of the variables damage recovery and damage to business relations with other firms indicates their comparatively higher power in explaining classification to the two categories and underscores the greater extent to which these categories differ with respect to these variables. On the other hand, the variables age, tenure of employment (in years), position within the firm, gross damages, impact on stock price and other immaterial damages display no striking power of differentiation for the classification of the two groups.

In total, the accuracy of classification performs well, with 82.4% correct identifications (see **Table 6**). Concretely this means that of the 220 cases examined (the reduced case number results from missing values for individual variables), 182 cases were correctly classified with reference to their characteristics.

- Table 6 about here -

Prevention and Redress

In addition to general questions asking the frequency and relevance of the criminal types, the survey also asked internal auditors about the preventative measures and response strategies with respect to white-collar crime typically used in their respective firm. The goal of this section of the survey was to develop general findings both with respect to the methods and measures used against white-collar criminals and to the handling of offenders after their discovery. We began with the level of information with respect to white-collar crime and preventive measures among the reporting firms as well as with the extent to which professional services of external advisors were used. Given a higher sensibility to these subjects among both management and employees, we might expect *ceteris paribus* a higher probability of discovery of criminal occurrences as well as reduced opportunities for their perpetration in the first place. Moreover, a higher level of information and when possible a comprehensive external consultation are as a rule good bases for the implementation of effective response measures.

The survey, conducted utilizing a five-level ranking format for respondents, showed various deficits in this area. In 41% of the reporting firms, the level of information with respect to white-collar crime and corresponding preventive measures is rather minimal and in a further 36% only moderate. In only 23% of the firms queried is the level of information ranked as high or very high. Recalling the above mentioned importance of an adequate firm sensitivity to the subject, these results indicate considerable deficits. This applies to nearly all firms involved, as indicated by the high portion of responses falling within one standard deviation of 1.0 from the average of 2.8 (average ranking: below-average level of information). With respect to the relative awareness of the problem among upper management, respondents seem, in general, to be rather content. 34% of respondents are of the opinion that the upper management in their firm is aware of the strengths and weaknesses of their implemented measures, and in 29% there is a rather moderate self-assurance of problem awareness. There are recognized deficits in this area in a total of 36% of reporting firms, whereby only 10% of firms reported a minimal level of awareness.

Evaluating the question of demand of professional consulting on the subject of white-collar crime shows that 73% of reporting firms have retained either no or only minimal advisement. In contrast, only 8% of firms retain such professional services with an eye to white-collar crime. On the one hand, this may indicate that firms generally rely upon the know-how of internal actors; it may also infer the potential and limits of external advisors. Such advisors typically lack firm-specific knowledge and familiarity and can perhaps only help with very specialized tasks. Finally, there is also the possibility that firms that are only minimally sensitized to the problematic of white-collar crime retain neither broad internal nor broad external advising.

Following this, we asked on a more concrete level after implemented measures toward prevention and responses to white-collar crime. Thereby, we also requested an estimation of their respective effectiveness. Interesting in this context was that 12% of respondents reported no use of protective measures. The remaining respondents ranked their degree of implementation of individual measures (compare **Figure 4** and **Figure 5**) from 1 (not implemented) to 5 (implemented). The responses to individual measures indicate that familiar arrangements are used in the majority of firms: The more-eyes-principle and functional separation of personnel, as well as systematic documentation of procedures and decisions, requisite declarations in hiring procedures, a high level of formalization for decisions, behavioral codices and special reviews of hires collectively indicate a very high or high averaging implementation and are standard *usus* among the majority of reporting firms.

- Figure 4 about here -

Here it is useful to investigate the international differences between Germany and Austria, made possible through the survey design (and through corresponding inferences). A look to country differences shows that nearly all measures are used to a higher degree in Austria than in Germany, whereby the systematic analysis of public sources and firm guidelines in supporting internal investigations constitute the exception. In particular, a higher degree of formalization in decision-making, systematic documentation of processes and decisions as well as reviews of hires appear to be the measures used more widely against white-collar crime in Austrian than in the German companies (see **Figure 5**).

- Figure 5 about here -

The actions most implemented are those which are regarded as particularly most effective by the expert internal auditors (see **Figure 6**). Particularly striking in this context is that the effectiveness of requisite declarations, despite their widespread use, is estimated to be rather limited. Protection of informants on the other hand, although a very effective means of discovery, seems to be quite infrequently used. Risk management and crisis- and action plans seem to be over-proportionately effective as well, but are used even less frequently.

- Figure 6 about here -

Estimated as least effective are internal technical analyses of crime and systematic analysis of public sources. While the last measures presumably work poorly for their use of very general information, we can only speculate as to the grounds for a lack of efficacy among internal technical analyses. In all likelihood, a lack of internal know-how and the high level of effort required by such analyses have a role to play here. Although the evaluations displayed above show a disparate picture with respect to the effectiveness of applied measures, a majority of respondents regards the implemented measures as at least sufficient. 51% of respondents are of the opinion that those measures implemented in their firm are either rather adequate or adequate, whereas only 25% describe their implemented measures as rather insufficient. If one discerns between minority- and majority types, no significant differences in the degree of implementation of individual measures are to be found via one-way ANOVA. Only the instruments of 'internal training fraud-prevention/response' show a significant difference between the average values at the 1% significance level. With respect to the minority type offenses, this means that there is clearly a greater degree of implementation. On the other hand, offenses of the majority type show a statistically significant higher degree of implementation of the measure 'higher degree of formalization of decision-making'. With respect to the effectiveness of the implemented measures, there is a significant difference at the 10% level only with respect to protection of informants (special hotlines, guidelines for the handling of informants, etc.), whereby

respondents here suspect a significantly higher degree of effectiveness for offenses of the majority type.

At the disaggregated level, i.e. at the level of individual criminal types, the implemented measures of **Table 7** show significant differences in the degree of implementation among criminal types. As such, firm-level guidelines to support internal investigations and compliance programs with respect to theft and anti-competition remain merely planned, while they have been realized with respect to the other criminal types. Among firms in which fraud and theft occur, internal training as a preventive measure are hardly present, which tends to speak for the success of such measures. With respect to the rest, informant protection is practically not at all present among firms that have suffered from money laundering, despite the fact that this measure proves highly effective in comparison to the other criminal types.

- Table 7 about here -

Conclusions and Managerial Implications

On the basis of a broad empirical data set with 329 firms and over 400 illustrated cases, this study has undertaken a detailed survey of the relevance, characteristics, as well as prevention and redress of five essential forms of white-collar crime, corruption, fraud, theft, anti-competition, and money laundering. In addition to the ascertainment of overarching commonalities and specific differences, we show that these five criminal types can be categorized into two groups that, while differing vis-à-vis each other, are internally rather homogenous. As such, this analysis offers not only an important contribution toward closing a gap in the existing literature. It also provides decision-makers at the practical level of application knowledge useful to the effective combat and prevention of such crime, which we adumbrate here in closing:

- White-collar crime accompanies high levels of material and immaterial damage. Adequate resources should therefore be devoted to the prevention and combat of such crime, as well as to subsequent damage recovery.
- An effective preventive and response strategy should be risk-oriented. Inasmuch, divisions such as marketing and sales, purchasing and materials management as well as business sectors such as procurement and sales, money transfer and order processing which are susceptible to criminal activity (by virtue of their nature and their degree of room for independent decision-making) should be supervised to a greater extent. Equally important (and possible) is the early identification of potential offenders as allowed under the law so as to then limit their opportunities for delinquency.
- Toward hindering frequently recurrent 'majority type' crimes (fraud and theft) with minimal average damages, employees (particularly at the lowest levels) should be brought into lower levels of hierarchy. Toward hindering the 'minority type' crimes that cause substantially higher levels of damage (corruption, anti-competition and money laundering), opportunities for perpetration at the levels of lower and middle management should be minimized.

• Since all criminal types are committed repeatedly and over long periods of time, even weak indicators of actual or planned offenses should be followed in order to allow for discovery as early as possible.

• Toward the hindrance and discovery of white-collar crime generally, those primary instruments should be implemented which restrict the freedom of action of potential offenders. To these should be added and implemented rules designed to protect informants, particularly so when the occurrence of money laundering presents a real threat (particularly in credit institutions). Internal trainings with respect to these subjects have shown themselves to be effective measures toward the prevention and redress of fraud.

References

1. BKA (2005), *Bundeslagebild Wirtschaftskriminalität 2004*, Bundeskriminalamt, Wiesbaden.
2. Fischer, K., Becker, M. and Lohmeier, M. (2003), *Wirtschaftskriminalität in Deutschland – Nur ein Problem der anderen?*, Ernst&Young, Hamburg.
3. Füss, R., Gundel S. and Hecker, A. (2006), *Wirtschaftskriminalität und Korruption in Deutschland, in Österreich und in der Schweiz*, IIR-Verlag, Frankfurt.
4. Ivancevich, J.M., Duening, T.N., Gilbert, J.A. and Konopaske, R. (2003), "Deterring White-Collar Crime", *Academy of Management Executive*, Vol. 17 No. 2, pp. 114-127.
5. Volcker, P., Goldstone, R.J. and Pieth, M. (2005), *Report on the Manipulation of the Oil-for-Food Programme by the Iraqi Regime*. New York.
6. Wells, J.T. (2004), *2004 Report to the Nation on Occupational Fraud and Abuse*, Austin, Texas.
7. Wilkinson, J. (2005), *Wirtschaftskriminalität in der Schweiz 2005*, KPMG, Zürich.

Appendices

Table 1. Overview and Definition of analyzed Delict Types

| Type of Crime | Description |
|------------------|---|
| Corruption | Corruption understands "the misuse of public office, of commercial function, or of political mandate to the benefit of another, whether at the other's instance or of individual initiative, toward the procurement of advantage for oneself or for another, with the occurrence, or in the expectation thereof, of damage or disadvantage to the general public or to a firm." (BKA, 2005: p. 81, own translation) |
| Fraud | Describes generally the procurement of a private asset or means of advantage through deception or through the neglect of care for the interests of an asset required by duty. In particular, fraud includes heterogeneous forms such as: misappropriation, balance manipulation, insolvency, capital investment fraud. |
| Theft | Theft and embezzlement are regulated as offenses under criminal law and need not fulfill the criteria specific to white-collar crime, since not every case affects economic life beyond damages to the individual. Nonetheless, in industries involving high turnover of cash and consumer goods, sufficiently high damages can result such that one might reasonably speak of economic criminality in the more narrow sense. Theft and embezzlement are the most widespread offenses of this sort. |
| Anti-Competition | Anti-competition offenses include all such acts connected to breaches of anti-trust legislation, of patent law, and of law regulating competition as codified in the StGB. Examples include commercial espionage, betrayal of company and trade secrets, and product piracy. |
| Money Laundering | Money laundering has the purpose of obscuring the origin of assets resulting from particular criminal acts and of concealing it from the grasp of law enforcement agencies and of fiscal authorities, as well as of redirecting gains from the shadow market into the legal domain. |

Table 2. Characteristics of White-Collar Criminal Acts (%) = percentage of all reported cases

| Attributes | Fraud, including Balance Manipulation | Theft | Corruption | Anti-Competition | Money Laundering |
|---------------------------------------|---|---|---|---|---|
| Incidence | | | | | |
| <i>Susceptible Business Divisions</i> | sales and marketing (25%), purchasing (15%), materials management (15%) | materials management (29%), sales and marketing (16%), administration (15%) | purchasing (37%), materials management (23%), sales and marketing (14%) | sales and marketing (41%), purchasing (32%), materials management (19%) | sales and marketing (38%), accounting (31%), materials management (13%) |
| <i>Susceptible Business Sectors</i> | procurement (22%), money transfer (21%), sales (20%) | procurement (32%); sales (20%) | procurement (45%); order processing (24%) | marketing/sales (38%); procurement (35%); order processing (27%) | money transfer (52%); procurement (14%); order processing (10%) |
| Realization | | | | | |
| <i>Initiation</i> | systematically planned (57%) | spontaneous opportunity (71%) | systematically planned (64%) | systematically planned (56%) | systematically planned (71%) |
| <i>Frequency</i> | sporadic (36%) or repeated (33%) | sporadic (40%) or repeated (33%) | repeated (37%) or sporadic (33%) | sporadic (46%) or repeated (32%) | sporadic or repeated (each 36%) |
| <i>Period</i> | 9 years | 6 years | 13 years | 5 years | 10 years |
| <i>Resource</i> | conventional means (74%) | conventional means (83%) | conventional means (83%) | conventional means (80%) | conventional means (71%) |

| Offender Profiles | | | | | |
|-----------------------------------|---|---|--|---|---|
| <i>Personality</i> | predominantly <i>male</i> employees, without managerial responsibilities, between 31 and 50 years of age, also frequently suppliers, contractors, or customers. | predominantly <i>male</i> employees, without managerial responsibilities, between 31 and 40 years of age, also frequently unidentifiable others or customers. | predominantly <i>male</i> employees from lower- and middle-level management, between 41 and 60 years of age, also frequently external actors without relations to the firm or unidentifiable others. | predominantly <i>male</i> employees from lower- and middle management, between 41 and 50 years of age, also frequently others (e.g. former employees) or external actors without relations to the firm. | predominantly <i>male</i> employees from middle- or lower management, between 41 and 50 years of age, also predominantly contractors, business partners or other external actors. |
| <i>Highest Level of Education</i> | vocational training (36%) or Abitur/vocational degree (33%) | vocational training (43%) or Haupt-/Realschule degree (32%) | university degree (48%) or Abitur/vocational degree (27%). | university degree (65%) | unknown |
| <i>Tenure with Firm</i> | 6-10 years, already 3 to 5 years in the relevant position | 3-5 years, already 3 to 5 years in the relevant position | 6-20 years, already 6 to 10 years in the relevant position | 6-10 years, already 3 to 5 years in the relevant position | 6-10 years, already 3 to 5 years in the relevant position |
| Motives | | | | | |
| <i>Motivation</i> | financial difficulties, costly standards of living, greed, personal problems, need for recognition | financial difficulties, greed, costly standards of living, personal problems, addictive behavior | greed, costly standards of living, need for recognition, financial difficulties | need for recognition, performance pressure, greed, financial difficulties | costly standards of living, financial difficulties, addictive behavior, greed |
| Motives - continued | | | | | |
| <i>Opportunity</i> | insufficient internal control, independent work, excessive power | insufficient internal control, independent work, excessive anonymity within firm | insufficient internal control, cooperation of other firm members and external actors, independent work | excessive power, cooperation of other firm members and external actors, insufficient internal control | cooperation of other firm members and external actors, excessive power |
| <i>Justification</i> | deficient awareness of values and justice | deficient awareness of values and justice, perception of insufficient controls as invitation | deficient awareness of values and justice, low threshold of inhibition, perception of insufficient controls as invitation | deficient awareness of values and justice, disavowal of the financial consequences for the firm | deficient awareness of values and justice, deficient loyalty |
| Resultant Damages | | | | | |
| <i>Gross Damages</i> | 1-50,000 EUR (59%) | under 10,000 EUR (71%) | 10,000-250,000 EUR (71%), greatest subgroup thereof 10,000-50,000 EUR (29%) | 0-50,000 EUR (46%) or 100,000-250,000 EUR (21%) | 0-100,000 EUR (93%) |
| <i>Compensation</i> | 1-20% (31%) or 41-60% (22%) of damages, in 76% through arrest/mandatory compensation | 1-20% (33%) or 0% (28%) of damages, in 82% through arrest/mandatory compensation | 1-20% (41%) of damages, in 73% through arrest/mandatory compensation | 1-20% (47%) of damages | 0-20% (76%) of damages |
| <i>Immaterial Damages</i> | minor to moderate, predominantly through impact on employee and work morale and through loss of reputation | very minor to minor, predominantly through impact on employee and work morale and through loss of reputation | moderate to very high, predominantly through loss of reputation, impact on employee and work morale, as well as damage to business relations | rather high, predominantly through damage to business relations, loss of reputation and impact on employee and work morale | rather minor to rather high, predominantly through damage to business relations, loss of reputation, and impact on employee and work morale |
| Disclosure | | | | | |
| <i>Relevant Instruments</i> | internal audit, coincidental circumstance, process independent internal controls | coincidental circumstance, internal indication | coincidental circumstance, external indication, internal indication | internal audit, coincidental circumstance, external indication, internal indication | Process-oriented internal controls, process independent internal controls, internal audit, coincidental circumstance |
| <i>Relevant Persons</i> | internal audit, colleagues | internal audit, colleagues | internal audit, anonymous | internal audit and internal control systems, management | internal audit and internal control systems, police/state prosecutors |

Table 3. Differences in the Relevance of Instruments and Persons in the Discovery of Criminal Acts (One-way Analysis of Variance, ANOVA)

| Instrument | Criminal Type | Mean | F-Statistic |
|---------------------------------------|------------------|------|-------------|
| Process-oriented Internal Controls | Corruption | 2.70 | 2.779** |
| | Fraud | 3.20 | |
| | Theft | 3.00 | |
| | Anti-Competition | 3.04 | |
| | Money Laundering | 3.92 | |
| Process-independent Internal Controls | Corruption | 3.32 | 2.830** |
| | Fraud | 3.56 | |
| | Theft | 3.09 | |
| | Anti-Competition | 3.08 | |
| | Money Laundering | 3.92 | |
| Data Analysis Software | Corruption | 2.09 | 3.957*** |
| | Fraud | 1.45 | |
| | Theft | 1.97 | |
| | Anti-Competition | 2.35 | |
| | Money Laundering | 3.17 | |
| External Audit | Corruption | 1.68 | 3.429*** |
| | Fraud | 1.46 | |
| | Theft | 1.37 | |
| | Anti-Competition | 1.43 | |
| | Money Laundering | 2.18 | |
| Internal Audit | Corruption | 3.54 | 6.150*** |
| | Fraud | 3.79 | |
| | Theft | 3.07 | |
| | Anti-Competition | 3.13 | |
| | Money Laundering | 3.91 | |
| External Tips | Corruption | 3.60 | 7.156*** |
| | Fraud | 2.75 | |
| | Theft | 2.41 | |
| | Anti-Competition | 3.45 | |
| | Money Laundering | 3.42 | |

Table 4. Majority- versus Minority Types

| Characteristic | Majority Types | Minority Types |
|--------------------------------|---|--|
| <i>Criminal Types:</i> | fraud, theft | corruption, anti-competition, money laundering |
| <i>Perpetration:</i> | spontaneous opportunity | systematic planning |
| <i>Offenders:</i> | | |
| • Age | 31-50 years | 41-60 years |
| • Position in Firm | without managerial responsibility | lower- to middle management |
| • Level of Education | vocational training, secondary school degree | university degree, <i>Abitur</i> |
| • Tenure of Position with Firm | 3-10 years | 6-20 years |
| <i>Damages:</i> | | |
| • Gross Damages | < 50,000 EUR | 10,000-250,000 EUR |
| • Immaterial Damages | minor | great |
| • Damage Recovery | 1-20% | 1-20% |

Table 5. Results of Binary Logistic Regression

| Variables | Regression Coefficient B | Wald Statistic | Exp(B) |
|------------------------------|--------------------------|----------------|--------|
| Age | -0.048 (0.031) | 2.392 | 0.953 |
| Level of Education | -0.836 (0.439) | 3.623* | 0.433 |
| Tenure of Employment at Firm | -0.026 (0.034) | 0.552 | 0.975 |
| Position within Firm | -0.515 | 1.264 | 0.597 |

| | | | |
|-----------------------------------|-------------------|-----------|--------|
| | (0.458) | | |
| Gross Damages | 0.000 (0.000) | 0.115 | 1.000 |
| Damage Recovery | 2.889 (0.963) | 9.006*** | 17.982 |
| Loss of Reputation for Firm/Brand | -0.253 (0.153) | 2.721* | 0.777 |
| Damage to Work-/Employee Morale | 0.330 (0.174) | 3.591* | 1.391 |
| Damage to Business Relations | -0.454 (0.168) | 7.294*** | 0.635 |
| Impact on Stock Price | -0.008 (0.384) | 0.000 | 0.992 |
| Other Immaterial Damages | 0.112 (0.239) | 0.221 | 1.119 |
| Constant | 4.213 (1.306) | 10.405*** | - |
| -2 Log-Likelihood | 173.245*** | | |
| Cox & Snell R-Squared | 0.248 | | |
| McFadden R-Squared | 0.265 | | |
| Nagelkerkes R-Squared | 0.376 | | |

***, **, and * indicate significance at the 1%, 5% and 10% levels

Table 6. Classification Matrix

| observed | | Predicted | | |
|------------------------|---------------|------------------------|---------------|--------------------|
| | | Criminal Type Category | | Percentage Correct |
| | | Minority Type | Majority Type | |
| Criminal Type Category | Minority Type | 25 | 25 | 50.0% |
| | Majority Type | 13 | 157 | 92.4% |
| Total Percentage | | 17.3% | 82.7% | 82.4% |

Table 7. Differences among Degrees of Implementation and Estimated Effectiveness with Respect to Criminal Type (One-way Analysis of Variance, ANOVA)

| Action | Criminal Type | Degree of Implementation | | Estimated Effectiveness | |
|---|------------------|--------------------------|-------------|-------------------------|-------------|
| | | Mean | F-Statistic | Mean | F-Statistic |
| Firm-Level Guideline on Support for Internal Investigations | Corruption | 3.79 | 2.444** | 2.59 | 0.972 |
| | Fraud | 3.79 | | 2.77 | |
| | Theft | 3.14 | | 2.78 | |
| | Anti-Competition | 3.18 | | 3.10 | |
| | Money Laundering | 3.79 | | 3.08 | |
| Compliance Programs | Corruption | 3.21 | 4.450*** | 2.79 | 1.186 |
| | Fraud | 3.01 | | 2.90 | |
| | Theft | 2.72 | | 2.94 | |
| | Anti-Competition | 2.24 | | 3.24 | |
| | Money Laundering | 4.54 | | 2.38 | |
| Internal Training Fraud Prevention/Response | Corruption | 2.23 | 2.078* | 2.63 | 1.132 |
| | Fraud | 1.76 | | 2.95 | |
| | Theft | 1.71 | | 2.91 | |
| | Anti-Competition | 2.00 | | 3.05 | |
| | Money Laundering | 2.15 | | 3.23 | |
| Informant Protection (Special Hotlines, Guidelines for | Corruption | 2.75 | 2.631** | 2.04 | 3.152** |
| | Fraud | 2.15 | | 2.63 | |
| | Theft | 2.42 | | 2.50 | |

| | | | | |
|--------------------------------|------------------|------|--|------|
| Handling of Information, etc.) | Anti-Competition | 2.29 | | 2.52 |
| | Money Laundering | 1.31 | | 3.15 |

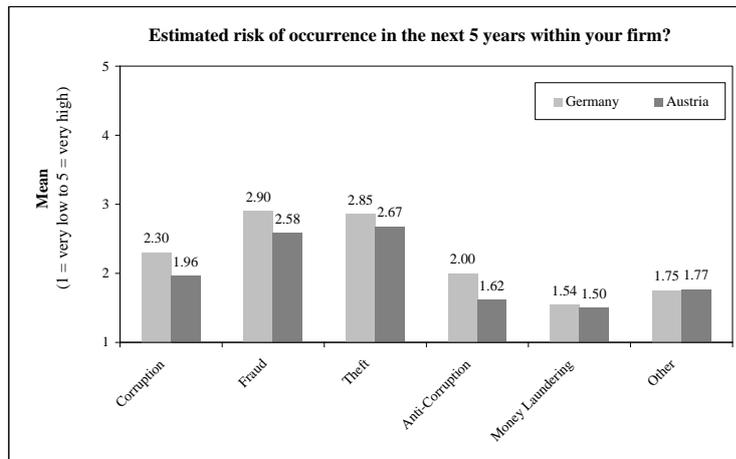


Figure 1. Estimated Risk of Occurrence within the next Five Years among Sampled Firms (by Country)

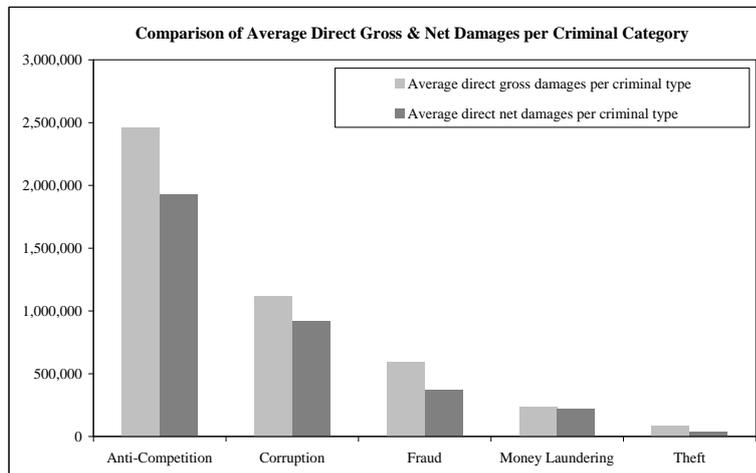


Figure 2. Average Levels of Gross and Net Damages per White-collar Crime Type

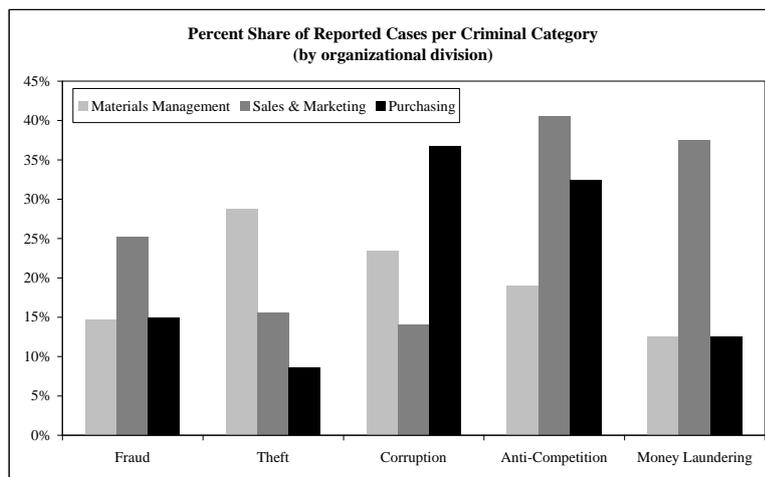


Figure 3. Frequency of Documented Incidence among Criminal Types by Firm Division

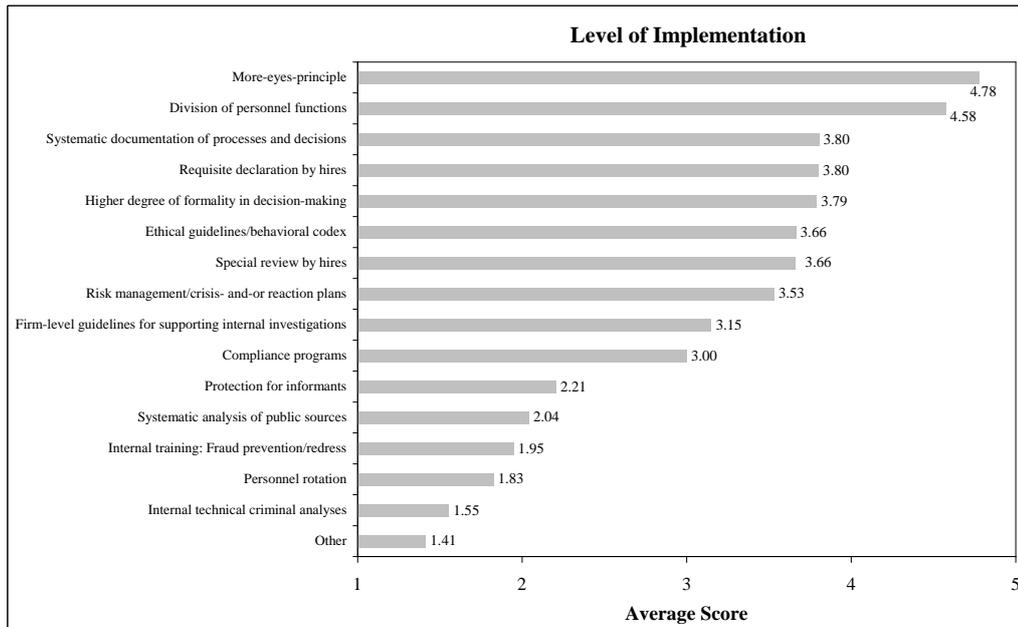


Figure 4. Degree of Implementation of Actions of White-Collar Crime Prevention and Redress

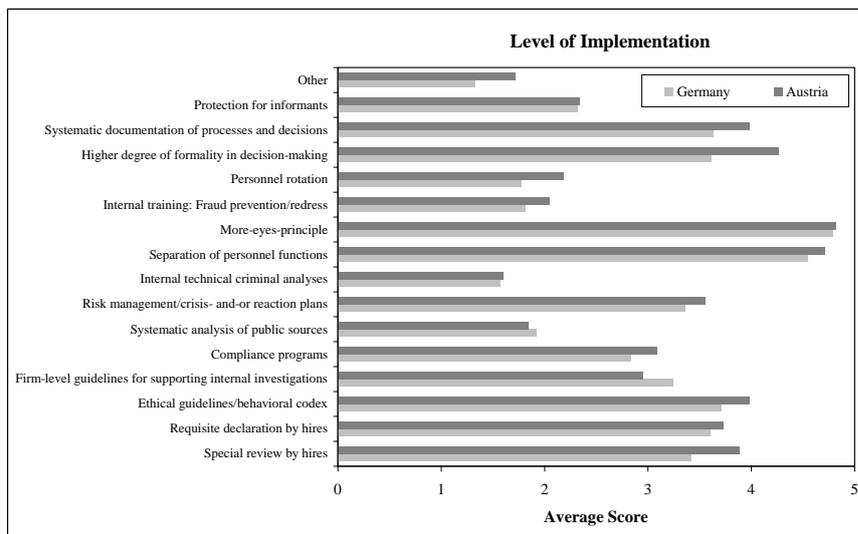


Figure 5. Degree of Implementation of Actions of White-Collar Crime Prevention and Redress (by country)

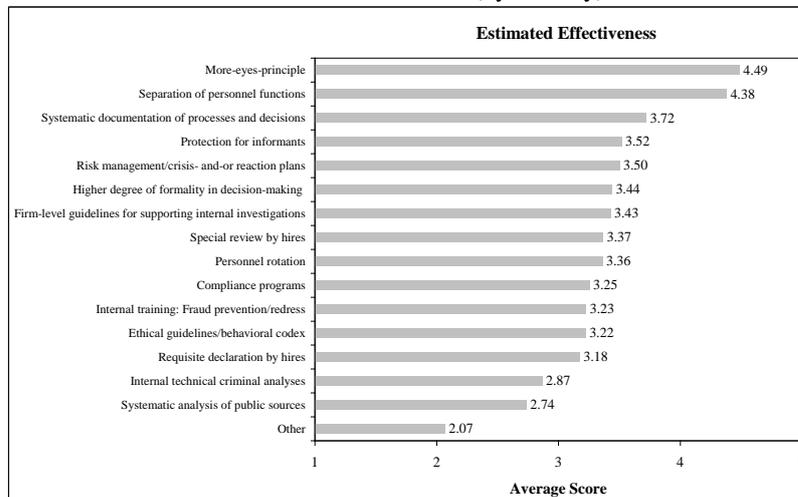


Figure 6. Effectiveness of Implemented Actions of Prevention and Redress on White-Collar Crime