

# **Assurance on General Purpose Non-Financial Reports: An International Comparison**

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## **Assurance on General Purpose Non-Financial Reports: An International Comparison**

**ABSTRACT:** Many leading organizations around the world are producing general-purpose non-financial reports (GPN-FRs), including social, community, and environmental and sustainability reports. Only some of these reports are independently assured, and if so, the assurance provider may or may not be a member of the accounting profession. In order to better understand the development of this assurance service from an international perspective, we identify factors associated with the incidence of independent assurance of GPN-FRs and the choice of assurance provider. In particular, we question to what extent country-specific factors explain the demand for assurance and the type of assurance provider while controlling for firm-specific factors. Based on recent insights that governance can serve as a substitute for absent or weak country-level institutions (Durnev and Kim, 2005; Choi and Wong, 2006), we expect that in countries with weaker legal systems there will be a greater likelihood of assurance, and for those that are assured a greater likelihood of assurance by members of the auditing profession. For 2141 listed organizations from 31 countries that produce GPN-FRs, we find 31% are assured and members of the auditing profession assure 42% of these. Our results provide evidence to support the view that organizations domiciled in countries with a weaker legal environment are more likely to have their GPN-FRs assured and for those that are assured, they are more likely to have their GPN-FRs assured by members of the auditing profession. These results contribute to the growing literature on the importance of assurance services outside the financial statement area and of the national legal environment by documenting that the quality of the legal environment is a key determinant of voluntary demand for assurance and the choice of assurance provider.

**Keywords:** Assurance, Audit reports, Non-financial information

## **INTRODUCTION**

In recent years the auditing profession has increased the attention it gives to the provision of assurance on subject matter other than historical financial information (e.g. Elliott 2002, Elliott & Jacobson 2002). For example, the International Auditing and Assurance Standards Board (IAASB) of the International Federation of Accountants (IFAC) recently issued a framework for providing assurance services on information other than historical financial information (IAASB, 2004a). The IAASB also issued a standard that sits underneath this framework, ISAE 3000, for these types of engagements (IAASB, 2004b). While this assurance standard is a generic standard in that it is not aimed at any subject matter, the expectation is that further specific subject-matter standards will develop under this framework. For instance, the IAASB recently convened an expert panel, primarily with the objective of identifying suitable reporting criteria for assurance on environmental and sustainability reports (a major perceived roadblock), and to work with the Global Reporting Initiative (GRI) as it revises its extensive criteria to help ensure that these are auditable. There have also been significant initiatives undertaken by groups outside the profession, in particular, The Institute of Social and Ethical Accountability (AccountAbility). Established in 1995, AccountAbility has quickly developed a significant profile in the non-financial reporting assurance area and has developed assurance standards in the area, with its “AA1000 Assurance Standard” (AA1000AS), issued in March 2003.

The large amount of fanfare about the emergence of this service is unequally matched by the paucity of research related to this assurance service. The aim of this research is to attempt to redress this imbalance and provide evidence on the market for assurance that is provided on publicly available General Purpose Non-Financial Reports (GPN-FRs). While

acknowledging that there is a great deal of assurance provided on special purpose reports (primarily for internal decision-making), we restrict our research to reports that are made publicly available. This is a high profile assurance service for the profession, and there is a greater public interest element associated with this category of reports. This study has two main aims.

The first aim of this study is to identify, for entities producing GPN-FRs, those characteristics which are associated with the decision to have these reports independently assured. As independent assurance is a costly process, we expect to see incidence of assured GPN-FRs to correlate with organizations for whom the benefits are greater. In particular, we question to what extent country-specific factors explain the demand for assurance while controlling for firm-specific factors. It is expected that the benefits will be greater in specific environments.

The second aim of the study is to identify, for entities having their GPN-FRs assured, those characteristics which are associated with the decision to have members of the auditing profession<sup>1</sup> as their assurance provider. We argue that the profession is a higher quality (but potentially higher cost) assurance provider, and therefore we expect to see the choice of a professional will be more likely for organizations where the benefits of a higher quality assurance provider are greater. Again, we are particularly interested to see to what extent country-specific factors explain the type of assurance provider, while controlling for firm-specific factors. Choi and Wong (2006) state that: “There is a growing body of accounting and finance research documenting that national legal environments are among the key determinants of financial market development, corporate ownership structures, corporate policies, and the

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<sup>1</sup> We evidence “members of the auditing profession” from the signing of the assurance report by either a member of accounting firm or an individual who holds accounting qualifications.

properties of accounting information around the world (see Shleifer and Vishny, 1997; La Porta et al., 2000; Ball et al., 2000; Hung, 2000; and Leuz et al., 2003)”. The purpose of this study is to contribute to this literature by examining the impact of the legal environment on the voluntary demand for assurance and the choice of assurance provider. Two competing arguments can be put forward. On the one hand, one could argue that the role of assurance is limited in a weaker legal environment as it may suffer from credibility. On the other hand, one could argue that assurance can serve as a substitute for a weak legal environment and that it is also more affordable due to lower litigation risk. Recent literature (Durnev and Kim, 2005; Choi and Wong, 2006) provide empirical support for the notion that governance can serve as a substitute for absent or weak legal institutions. Based on these insights, our empirical prediction is that, controlling for firm-specific factors, voluntary demand for assurance and the choice for a member of the auditing profession is higher in countries with weaker legal systems.

Based on 2141 publicly-available GPN-FRs for which we were able to gather other required information, we find that Japan (533 organizations), the UK (392 organizations) and the US (339 organizations) lead the way in this form of public reporting. In total, 666 (31%) of these public reports are assured, and members of the auditing profession assure 282 (42%) of these. Our multivariate results support the view that organizations domiciled in countries with a weaker legal environment are more likely to have their GPN-FRs assured, and choose a member of the auditing profession as assurance provider. Hence, these results imply that voluntary assurance and the choice for a member of the auditing profession as assurance provider for a GPN-FR appear to serve as a substitute for a weak legal environment.

The remainder of this paper is organised as follows. In the next section, we provide a literature review. Subsequently, we develop our hypotheses, followed by a description of our data and empirical models. Finally, we present the results and conclude.

## **LITERATURE REVIEW ON VOLUNTARY ASSURANCE**

This study attempts to understand why organizations that produce GPN-FRs, decide to have this information assured. Further, we analyse these organizations choice of assurance provider. The effectiveness of disclosures in reducing information asymmetry between the organization and the market hinges on the perceived and actual credibility of the information. This is where assurance plays an important role, especially in the case of voluntarily disclosure (most of the disclosures in the GPN-FRs are voluntary), where there may be little or no regulation dictating information content, formatting and reliability. This section examines the findings in the literature on the market's demand for assurance, the value obtained by employing assurance, and the incremental value associated with 'high quality' assurance.

### **Demand for, and value in, assurance**

Only a small number of empirical studies have examined the demand drivers for voluntary adoption of assurance. The reason behind the small number of studies is that in most developed market economies such as Australia, and the US, the studies have concentrated on assurance of financial reports, which has been mandated by law for the better part of the twentieth century. Chow (1982) was one of the first major studies examining voluntary assurance, and investigated this issue from the agency theory perspective for the year 1926, prior to the introduction in the U.S. of a legal mandate for assurance on historical financial

information. He documents that proxies for agency costs associated with both shareholders and creditors, such as leverage, the frequency of accounting numbers used in debt covenants, and size, are positively associated with the voluntary adoption of financial statement audits.

Abdel-khalik (1993) undertakes a different perspective and views the demand for assurance as an effective within-firm control mechanism to compensate for the loss of control induced by organizational design and the resultant loss of observability of subordinate behaviour. It is argued that this may potentially give rise to moral hazard problems and an increasing likelihood of distorted communication. Consistent with the 'organizational design' hypothesis, the findings indicate that larger organizations are more likely to voluntarily demand assurance.

Blackwell et al (1998) determines that the demand for assurance stems from the need to mitigate information asymmetry with institutional creditors. Blackwell et al finds assurance to be perceived by institutional creditors as an effective means of control. Carey et al (2000) examines family businesses in Australia, and finds that the voluntary demand for audit is associated with information asymmetry and loss of control, such that the proportion of non-family managers and non-family directors is positively associated with demand for external audit. Consistent with Chow (1982), Carey et al (2000) finds that demand for auditing is also associated with higher levels of debt.

The above discussion indicates that assurance serves as a useful mechanism to ensure the credibility of disclosed information, in that it reduces the level of noise contained in the disclosed information and facilitates greater user confidence. Hence, it should result in more appropriate resource allocation decisions by information users.

## **Demand for “high quality” assurance**

In most studies to date, differences in the quality of assurance services are distinguished by examining differences between Big N firms and non-Big N firms. This is because they have been undertaken in a setting where the auditing profession has a monopoly to undertake such assurance services. Such a monopoly does not exist in the area of assurance on GPN-FRs. The argument around quality differentials for the Big N and non-Big N is that the Big N audit firms have a greater investment in reputational capital at stake when quality is in question. Therefore, they are less likely to behave opportunistically and are better able to serve as an effective monitoring mechanism for clients when compared with smaller auditors (DeAngelo 1981; Watts and Zimmerman 1986). Moreover, it is argued that due to their size, audit firms are less prone to fall victim to fee dependence, as the costs of compromising independence (litigation and reputation costs) outweigh the benefits (Craswell et al 2002; Barkess et al 2002).

In this study we distinguish between assurance providers who are members of the auditing profession, and other assurance providers (e.g. environmental consultants). Similar to the arguments for the Big N outlined above, we classify members of the auditing profession as the high quality assurance providers. The auditing profession has put in place standards and quality control mechanisms to ensure the quality of any assurance reports that are issued by their members. The combination of these factors causes people to generally regard members of the auditing profession as high quality assurance providers. However, there is usually an increased cost associated with having assurance provided by members of the profession as opposed to other providers, and as such the client chooses which assurance provider to use on a cost versus benefit basis.

## **Assurance on general-purpose non-financial reports**

Very little is currently known about assurance on GPN-FRs, with the exception of some descriptive research which has been undertaken. KPMG (1999, 2002, 2005) has examined whether the Top 100 companies in a number of different countries produce publicly available GPN-FRs, and whether these are assured. The comparison of these three studies suggests that the frequency of these types of reports is increasing, and they are more commonly assured. CPA Australia (2004) has undertaken an identification and categorisation of 161 generally available assurance reports on GPN-FRs. It shows a marked variation over geographic regions with respect to who provides assurance on these reports. For example, in the 4 major regions classified in the CPA Report, accounting firms provided 87% of reports in Japan, 60% in continental Europe, 23% in the UK, and 15% in Australia. It is acknowledged that few such assurance reports are issued in the US and Canada, although the numbers in these markets are also increasing<sup>2</sup>.

With the increasing emphasis that is being given to this type of engagement, there is also evidence of increasing demand for assurance on this type of service. A survey of 388 fund managers and analysts and 80 investor relations officers conducted by Deloitte and others, shows that half believe consideration of social and environmental performance will become a significantly important aspect of mainstream investment decision within the next three years, and 70% think social and environmental information should be assured by a third-party<sup>3</sup>. Another survey, of 1700 individuals representing employees, academics, NGOs and other

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<sup>2</sup> "Of the 100 identified reporters (in Canada), 13 provide some form of verification or assurance statements in their reports, more than double the number identified in 2001." Stratus Inc. "Building Confidence" [www.stratos-sts.com](http://www.stratos-sts.com), accessed 2004.

<sup>3</sup> [http://www.deloitte.com/dtt/press\\_release/0,2309,sid%253D1018%2526cid%253D29213,00.html](http://www.deloitte.com/dtt/press_release/0,2309,sid%253D1018%2526cid%253D29213,00.html) accessed 2004.

interest groups, found that external formal verification and honesty in declaring negative aspects were key to producing a successful Corporate Sustainability Report (CSR)<sup>4</sup>.

Evidence about the trend in North America shows that assurance on these reports is less common than other places. A comparison of the KPMG's surveys referred to earlier shows that the US was one of small handful of countries where the number of Top 100 companies issuing a GPN-FR decreased between 2002-2005 (32% in 2005, down from 36% in 2002). In Canada there was a significant increase in the number Top 100 companies producing such reports (Canada: 41% in 2005; 19% in 2002). With respect to assurance on such reports, the KPMG report notes that the US and Canada both have an exceptionally low proportion of their sustainability reports assured: US-3% and Canada-10%, relative to UK-53%, Australia-43%, continental Europe-41% and Japan-31%. This low rate in the US may partly be a result of the US attestation standards prohibiting the auditing profession from providing assurance on these reports (mainly because of concerns about lack of suitable criteria), although this explanation must be associated with an inability of other types of assurance providers to fill the void.

## **DEVELOPMENT OF HYPOTHESES**

### **Assurance on general-purpose non-financial reports**

The first aim of this study is, for those entities that produce publicly available GPN-FRs, to identify the characteristics of the entity that are associated with the decision to have these reports independently assured. As independent assurance is a costly process, we expect to see the decision to have these reports assured to be more likely utilised by organizations for which the benefits are greater. Our work is supported by the research on the voluntary demand for audit, (Chow 1982, Abdel-khalik 1993, Blackwell et al 1998, Carey et al 2000) which

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<sup>4</sup> [http://www.csreurope.org/news/stakeholdersurvey\\_page4973.aspx](http://www.csreurope.org/news/stakeholdersurvey_page4973.aspx) accessed 2005.

outlines why organizations may decide to have assurance on publicly available information. In particular, these studies find that higher agency costs reflected by size and leverage are positively associated with the voluntary demand for audit. Hence, we include these variables in the models that we estimate.

As this research involves an international comparison, we are particularly interested to identify those environments in which the benefits of assurance are likely to be greater. In the accounting and finance literature, there is growing evidence of the importance of the national legal environment in financial market development, corporate ownership structures, corporate policies and the properties of accounting information around the world (Choi and Wong, 2006). In this respect, Francis et al. (2005) provide evidence that governance structures are to some extent endogenous to broader country-level institutions and that firm-specific incentives do not entirely explain variation in governance structures. We contribute to this literature by examining the impact of the national legal environment on the voluntary demand of assurance on GPN-FRs. On the one hand, one could argue that the role of assurance is minimal in a country without a strong legal environment because it may lack credibility, as suggested by Ball (2001). On the other hand, one could argue that assurance may play a stronger governance role in a weaker legal environment because they may be substitutes for legal protection of outside stakeholders and assurance may be more affordable due to lower litigation risk. Durnev and Kim (2005) document that governance can serve as a substitute for absent or weak country-level institutions. Furthermore, Choi and Wong (2006) show that Big N auditors fulfil a strong governance function in weak legal environments. Following this recent evidence, our empirical prediction is that the demand for assurance is greater in countries with weaker legal systems. We therefore hypothesise:

H<sub>1</sub>: Organizations domiciled in countries with a weaker legal environment will be more likely to have their GPN-FRs assured.

### **Choice of assurance provider**

The second objective of this study is to provide empirical evidence as to the reasons why organizations publishing GPN-FRs decide to choose a specific quality assurance provider. In this study we draw on the arguments of those who have examined the quality of the assurance provider (e.g. DeAngelo 1981, Watts and Zimmerman 1986), and we distinguish between assurance providers who are members of the auditing profession, and other assurance providers (e.g. environmental consultants). As outlined earlier, the auditing profession has developed a reputation as assurance providers, and the profession has put in place standards and quality controls to ensure the consistent quality of engagements that are being undertaken by their members.

It is expected that the extent of benefits arising from assured GPN-FRs will vary between different environments. Again we draw on the insights from recent literature (Durnev and Kim, 2005; Choi and Wong, 2006) that governance can serve as a substitute for absent or weak country-level institutions. Hence, we anticipate that organizations operating in countries with a weak legal environment, will be more likely to have their GPN-FRs audited by a member of the auditing profession. We therefore hypothesise:

H<sub>2</sub>: Organizations domiciled in countries with a weak legal environment will be more likely to choose a member of the auditing profession to assure their general-purpose non-financial reports.

## **DATA**

An attempt was made to identify as many publicly available GPN-FRs. The major source of these reports was corporate register, ([www.corporateregister.com](http://www.corporateregister.com)), which is a comprehensive directory of published corporate environmental and social reports. This source was supplemented by the Global Reporting Initiative database ([www.globalreporting.org](http://www.globalreporting.org)) and the organizations on the Dow Jones sustainability index ([www.sustainability-index.com](http://www.sustainability-index.com)), other databases and general searches. Approximately 2834 observations were identified at this stage of the study.

For the purposes of testing the hypotheses for this study, the data for each reporting entity was supplemented by the entity's financial data, which was gained from Global Compustat and Datastream. We eliminated entities belonging to the same group in one year, to avoid any problems with independence of observations (e.g. BAA Southampton, BAA Stansted). A number of other observations were eliminated for which no financial data was available. Table 1 illustrates how the final sample was determined.

- Insert Table 1 about here-

The above procedure resulted in the identification of 2141 GPN-FRs from 31 countries. Of these reports, 666 (31%) contained independent assurance reports. We identified that the assurance provider was a member of the auditing profession in 282 (42%) cases.

## **EMPIRICAL MODELS**

Hypothesis 1 examines factors associated with the decision as to whether an organization has their GPN-FRs assured. This is tested by the following model:

$$\text{ASSURANCE} = \beta_0 + \beta_1 \text{ROA} + \beta_2 \text{LEV} + \beta_3 \text{LN(SALES)} + \beta_4 \text{MINING} + \beta_5 \text{PRODUCTION} + \beta_6 \text{UTILITIES} + \beta_7 \text{FINANCE} + \beta_8 \text{YEAR\_03} + \beta_9 \text{YEAR\_04} + \beta_{10} \text{PROTECTION} + \beta_{11} \text{ENFORCEMENT} + \beta_{12} \text{EFFICIENCY} + \beta_{13} \text{COMLAW} + \varepsilon$$

The dependent variable is whether the GPN-FR is assured or not (ASSURANCE). Organization characteristics that we control for are profitability measured by return on assets (ROA), leverage (LEV), organization size measured by the natural logarithm of total sales (LN(SALES)), industry (MINING, PRODUCTION, UTILITIES, FINANCE) and change over time during the period 2002-2004 (YEAR\_03 and YEAR\_04). Our variables of interest relate to the quality of the legal system. In particular, we measure the quality of the legal system using 4 variables. First, we consider the degree of legal protection (PROTECTION), which is measured using the “antidirector right” score from La Porta et al. (1997). Secondly, we consider the degree of legal enforcement (ENFORCEMENT), which is measured using the “rule of law” score from La Porta et al. (1997). Thirdly, we consider the efficiency (EFFICIENCY) of the legal system for which we use the “efficiency of the judicial system” score from La Porta et al. (1998). Finally, we consider whether the organization is domiciled in a common-law country (COMLAW) which is associated with a stronger legal environment. Given the high degree of correlation between these four institutional variables, we include each of these variables separately in the model and see whether we obtain robust results.

Hypothesis 2 examines factors associated with the choice of a member of the auditing profession as the assurance provider. To test Hypothesis 2, we use the following model:

$$\text{ASSUR.PROV} = \beta_0 + \beta_1 \text{ROA} + \beta_2 \text{LEV} + \beta_3 \text{LN(SALES)} + \beta_4 \text{MINING} + \beta_5 \text{PRODUCTION} + \beta_6 \text{UTILITIES} + \beta_7 \text{FINANCE} + \beta_8 \text{YEAR\_03} + \beta_9 \text{YEAR\_04} + \beta_{10} \text{PROTECTION} + \beta_{11} \text{ENFORCEMENT} + \beta_{12} \text{EFFICIENCY} + \beta_{13} \text{COMLAW} + \beta_{14} \text{LITIG} + \varepsilon$$

The dependent variable is the type of assurance provider (ASSUR.PROV). We distinguish between members of the auditing profession as assurance providers and other assurance providers (e.g. environmental consultants). Our variables of interest are the characteristics of the legal environment in which the organization is domiciled, measured, as explained above, by degree of legal protection (PROTECTION), degree of legal enforcement (ENFORCEMENT), degree of efficiency of the legal system (EFFICIENCY) and a common law country (COMLAW). Furthermore, we include the litigation risk (LITIG) for auditors, measured using the Wingate (1997) index. One could argue that in countries with a higher auditor litigation risk, auditors will be less willing to provide assurance. Consistent with prior research on auditor choice we include the following control variables: profitability measured by return on assets (ROA), leverage (LEV), and size measured by the natural logarithm of total sales (LN(SALES)). Furthermore, we control for industry and change over time.

## **RESULTS**

### **Descriptive results**

As outlined earlier we identified 2141 GPN-FRs from 31 countries for the testing of hypothesis 1. Table 2, Panel A, shows that the three main countries represented were Japan (533 observations), the UK, (392 observations), and the US (339 observations). Table 2, Panel B, shows that the major industries represented were production (1177 observations), utilities (367 observations), finance (277 observations), and mining (134 observations). Table 2, Panel C, shows that 711 of these reports relate to year 2004 reports, 729 relate to 2003 reports, and 701 observations relate to reports from year 2002 (the last search for GPN-FRs for this paper was July 2006).

Furthermore, Table 2, Panel B, shows that 666 (31.11%) of these publicly available GPN-FRs were identified as containing independent assurance reports. Hence, this is our sample for testing hypothesis 2. For 282 (42.34%) cases, the assurance provider was a member of the auditing profession, as shown in Table 2, Panel D. Table 2, Panel E shows that all assurance by the auditing profession was provided by the Big N, with the major assurance provider being PWC, accounting for 34% of assurance provided by the auditing profession.

- Insert Table 2 about here -

The descriptive statistics are shown in Table 3. These show that the mean sales value is \$14,960 million in US Dollars. The organizations in general have a return on assets of 3.0%, and their level of long-term debt to total assets is 19%.

With regards to the variables of interest for the 2 hypotheses, the legal protection score is 3.95 on average in our sample. It is recalled that the legal protection score is the “antidirector right” score from La Porta et al. (1997). The average legal enforcement score is 9.03, where legal enforcement is the “rule of law” score from La Porta et al. (1997). The average efficiency of the legal system is 9.52 , which is the “efficiency of the judicial system” score from La Porta et al. (1998). Furthermore, 48.6% of the organizations in our sample are domiciled in a common-law country. Finally, the mean litigation risk index for auditors (Wingate index, 1997) in our sample is 7.91.

- Insert Table 3 about here -

## **Multivariate results**

### **Decision to have GPN-FRs assured**

The logistic regression analysis for whether or not the GPN-FRs are assured or not is outlined in Table 4. With respect to our variables of interest, we see that all but one of the institutional variables related to the quality of the legal system is significantly negatively associated with the probability of assurance. In particular, there is a significant negative association between the likelihood that a GPN-FR is assured and the degree of legal protection, the degree of legal enforcement, and the fact that the organization issuing the GPN-FR is domiciled in a common-law country. Hence, consistent with Hypothesis 1, these results provide evidence to support the view that organizations domiciled in countries with weaker legal systems will be more likely to have their GPN-FRs assured. This may suggest that voluntary demand for assurance is greater in countries with weaker legal systems and that assurance can serve as a substitute in a weak legal environment.

In examining the control variables it was found that large companies are significantly more likely to have their GPN-FRs assured compared to small firms. In addition, significant differences across industries appear to exist. In particular, we find significantly more GPN-FRs assured in the mining, utilities, and finance industry. Following the theory of Power (1997 and 1999) related to trust, these industries can be considered to be “low-trust” industries since these industries have a reputation for high or potentially high social impact. Hence, it is likely that organizations in these industries have a higher incentive to have their GPN-FRs assured, as they need to rebuild this trust. In this way, voluntary assurance represents a signal of quality or reliable information. Finally, Table 4 suggests that the percentage of organizations with assured

GPN-FRs is increasing. In the year 2004, there were significantly more organizations with assured GPN-FRs compared to the year 2002.

- Insert Table 4 about here -

### **Choice of assurance provider**

The logistic regression analysis for type of assurance provider is contained in Table 5. The results show that organizations domiciled in countries with a weak legal system are significantly more likely to choose an assurance provider who is a member of the auditing profession. In particular, we find a significant negative association between the likelihood of a member of the auditing profession as assurance provider and all but one institutional variables relating to the quality of the legal system, i.e. the degree of legal protection, the degree of efficiency of the judicial system and a common law country. In addition, we find consistent with expectation that the higher the risk of litigation for auditors, the lower the likelihood that assurance of GPN-FRs is provided by a member of the auditing profession. This supports the notion that assurance from a member of the auditing profession is more affordable when litigation risk for auditors is lower. These results provide support for Hypothesis 2.

In the analysis of the control variables, as expected, we find a significant positive association between the size of the organization and the choice for an auditing profession member as assurance provider. Furthermore, organizations with a lower return on assets and a higher leverage tend to be more likely to choose a member of the auditing profession as assurance provider on their GPN-FRs. One could argue that financially weaker organizations have a higher need to build trust in their organization and consequently want to provide a signal of quality of their reporting to the market by choosing a member of the auditing

profession as their assurance provider on their GPN-FRs. In contrast to the demand for assurance, there are no strong industry differences in the choice of assurance provider, except that there is some indication that financial institutions are less likely to choose a member of the auditing profession as assurance provider.

- Insert Table 5 about here -

## **CONCLUSION**

The aim of this research is to provide evidence with respect to assurance services provided on publicly available GPN-FRs. In particular, we examine (a) the characteristics of organizations that decide to have their GPN-FRs assured, and (b) the choice of assurance provider. In particular we are interested to what extent country-specific factors explain the demand for assurance while controlling for firm-specific factors. We identified 2141 entities from 31 countries, which produced GPN-FRs, for which we were able to gather other required information. Of these reports 31% were assured, of which the auditing profession were identified as assuring 42%.

The results of our study support our empirical predictions that the likelihood of voluntary demand for assurance and the choice for a member of the auditing profession as assurance provider is higher in countries with weaker legal systems. This is consistent with the notion that governance can serve as a substitute for absent or weak country-level institutions. Our results contribute to the growing body of literature in accounting and finance showing the importance of national legal environments by showing that the quality of the legal environment is also a key determinant of voluntary demand for assurance and the choice of assurance

provider. In particular, assurance and the choice for a member of the auditing profession as assurance provider appear to serve as substitutes for a weak legal environment. These findings are in line with Durnev and Kim (2005) demonstrating that firms adapt to poor legal environments to establish efficient corporate governance practices. Furthermore, they are in line with the results of Choi and Wong (2006) showing that Big 5 auditors fulfil a strong governance function in weak legal environments.

Our results further show that organizations in low-trust industries like mining, utilities and finance are more likely to have their GPN-FRs assured. This could be explained by Power's (1997, 1999) theory of trust, that associates the incidence of audit with a general decline of trust in society. Hence, organizations that need to rebuild trust and produce GPN-FRs will be more likely to have these reports assured. Finally, our results suggest that voluntary demand for assurance of a GPN-FR is increasing over time.

These conclusions must be moderated by the following considerations. First, while the search techniques for identifying publicly available GPN-FRs were comprehensive, it was not exhaustive. There was especially a bias against reports that were not translated into English. This biased against a number of countries. Nonetheless, there were still a significant number of observations from non-English speaking countries, which is reflected by the fact that the second highest number of observations came from Japan. It is also noted that the representation of countries in this study is similar to surveys showing the level of preparation of these reports. Additionally, the requirement to supplement the reports by financial and other information for the purpose of the analysis means that smaller and unlisted companies that are less likely to appear on the types of databases used to provide the additional financial and other information, and thus are more likely to be excluded.

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**Table 1: Sample Description**

		Number
Total from Corporate Register and GRI		2834
Observations with Financial Data from:		
- Global Compustat	1678	
- Datastream	725	2403
Excluding double ups of observations	23	2380
Excluding observations that are Annual Reports	149	2231
Excluding observations with missing variables	90	2141
Final Firm Sample		2141

**Table 2: Frequency of general purpose non-financial reports***Panel A: Country*

	Not assured		Assured		Total	
	Frequency	%	Frequency	%	Frequency	%
Australia	55	3.73%	47	7.06%	102	4.76%
Austria	9	0.61%	8	1.20%	17	0.79%
Belgium	15	1.02%	3	0.45%	18	0.84%
Brazil	8	0.54%	5	0.75%	13	0.61%
Canada	99	6.71%	17	2.55%	116	5.42%
Denmark	9	0.61%	12	1.80%	21	0.98%
Finland	29	1.97%	12	1.80%	41	1.91%
France	48	3.25%	33	4.95%	81	3.78%
Germany	60	4.07%	13	1.95%	73	3.41%
Greece	15	1.02%	1	0.15%	16	0.75%
Hong Kong	8	0.54%	7	1.05%	15	0.70%
India	2	0.14%	6	0.90%	8	0.37%
Italy	22	1.49%	39	5.86%	61	2.85%
Japan	354	24.00%	179	26.88%	533	24.89%
Malaysia	1	0.07%	3	0.45%	4	0.19%
Netherlands	29	1.97%	17	2.55%	46	2.15%
New Zealand	8	0.54%	3	0.45%	11	0.51%
Norway	14	0.95%	4	0.60%	18	0.84%
Pakistan	1	0.07%	0	0.00%	1	0.05%
Philippines	3	0.20%	0	0.00%	3	0.14%
Portugal	9	0.61%	1	0.15%	10	0.47%
Singapore	3	0.20%	0	0.00%	3	0.14%
South Africa	49	3.32%	5	0.75%	54	2.52%
South Korea	7	0.47%	8	1.20%	15	0.70%
Spain	21	1.42%	16	2.40%	37	1.73%
Sweden	20	1.36%	3	0.45%	23	1.07%
Switzerland	31	2.10%	31	4.65%	62	2.90%
Taiwan	2	0.14%	0	0.00%	2	0.09%
Thailand	6	0.41%	0	0.00%	6	0.28%
UK	220	14.92%	172	25.83%	392	18.31%
US	318	21.56%	21	3.15%	339	15.83%
<b>Total</b>	<b>1475</b>	<b>100%</b>	<b>666</b>	<b>100%</b>	<b>2141</b>	<b>100%</b>

*Panel B: Industry*

	Not assured	Assured	Total	Proportion Assured
	Frequency	Frequency	Frequency	
Production	852	325	1177	27.61%
Utilities	232	135	367	36.78%
Finance	180	97	277	35.02%
Mining	76	58	134	43.28%
Other (services, etc)	136	51	187	27.27%
<b>Total</b>	<b>1475</b>	<b>666</b>	<b>2141</b>	<b>31.11%</b>

*Panel C: Year*

Year	Not assured		Assured		TOTAL
	Frequency	%	Frequency	%	
2004	469	31.80%	242	36.34%	711
2003	506	34.31%	223	33.48%	729
2002	500	33.90%	201	30.18%	701
<b>TOTAL</b>	<b>1475</b>	<b>100%</b>	<b>666</b>	<b>100%</b>	<b>2141</b>

*Panel D: Type of assurance provider*

Auditor	Frequency	Percentage
Auditing profession	282	42.34%
Outsider auditing profession	384	57.66%
<b>Total</b>	<b>666</b>	<b>100%</b>

*Panel E: Auditing profession assurance providers*

Firm	Frequency	Percentage
Deloitte & Touche	51	18.09%
Ernst & Young	64	22.70%
KPMG	75	26.60%
PWC	97	34.40%
<b>Total*</b>	<b>282</b>	<b>100%</b>

\* Six reports assured by more than one auditor

**Table 3: Descriptive statistics**

	Mean	Median	Std.deviation
Return on Assets	0.030	0.028	0.091
Leverage	0.190	0.173	0.145
Sales (millions USD)	14,960	5,883	27.485
Protection	3.958	4	1.245
Enforcement	9.037	8.98	1.170
Efficiency	9.522	10	1.168
ComLaw	0.486	0	0.499
Litig	7.917	6.22	3.782

## Variable definitions:

Return on Assets: net profit (loss)/total assets

Leverage: long-term debt/total assets

Protection: legal protection measured as the “antidirector right” score from La Porta et al. (1997)

Enforcement: legal enforcement measured as the “rule of law” score used in La Porta et al. (1997)

Efficiency: efficiency of the legal system measured as the “efficiency of the judicial system” score from La Porta et al. (1998)

ComLaw: organization domiciled in a common-law country = 1, else 0

Litig: auditor litigation risk measured as the Wingate litigation index for auditors (1997)

**Table 4: Logistic regression analysis for factors influencing the assurance of general-purpose non-financial reports (n = 2,141)**

	Coeff. (signif., 2-tailed)	Coeff. (signif., 2-tailed)	Coeff. (signif., 2-tailed)	Coeff. (signif., 2-tailed)
CONSTANT	-1.536 (0.000)	-1.130 (0.012)	-2.431 (0.000)	-1.879 (0.000)
ROA	0.210 (0.709)	0.032 (0.953)	0.145 (0.791)	0.412 (0.488)
LEV	0.255 (0.481)	0.145 (0.686)	0.088 (0.805)	0.312 (0.392)
LNSALES	0.117 (0.000)	0.144 (0.000)	0.125 (0.000)	0.109 (0.000)
MINING	0.942 (0.000)	1.028 (0.000)	0.948 (0.000)	1.064 (0.000)
PRODUCTION	0.023 (0.897)	0.095 (0.592)	0.062 (0.725)	-0.021 (0.906)
UTILITIES	0.414 (0.039)	0.491 (0.014)	0.490 (0.014)	0.457 (0.023)
FINANCE	0.393 (0.065)	0.380 (0.073)	0.416 (0.050)	0.494 (0.021)
YEAR03	0.085 (0.469)	0.070 (0.552)	0.080 (0.492)	0.083 (0.479)
YEAR04	0.237 (0.045)	0.215 (0.068)	0.229 (0.052)	0.230 (0.051)
PROTECTION	-0.162 (0.000)			
ENFORCEMENT		-0.143 (0.000)		
EFFICIENCY			0.019 (0.632)	
COMLAW				-1.879 (0.000)
Log likelihood	-1293.54	-1296.71	-1302.93	-1293.34
LR chi <sup>2</sup> (signif., 2-tailed)	67.56 (0.000)	61.21 (0.000)	48.77 (0.000)	74.95 (0.000)

Variable definitions:

ROA:	return on assets measured as net profit (loss)/total assets
LEV:	leverage measured as long-term debt/total assets
LNSALES:	natural logarithm of total sales
MINING:	industry dummy for a natural resources or mining company
PRODUCTION:	industry dummy for a production company
UTILITIES:	industry dummy for a utility company
FINANCE:	industry dummy for a financial institution
YEAR03:	dummy variable, year 2003 = 1, else 0
YEAR04:	dummy variable, year 2004 = 1, else 0
PROTECTION:	legal protection measured as the “antidirector right” score from La Porta et al. (1997)
ENFORCEMENT:	legal enforcement measured as the “rule of law” score used in La Porta et al. (1997)
EFFICIENCY:	efficiency of the legal system measured as the “efficiency of the judicial system” score from La Porta et al. (1998)
COMLAW:	organization domiciled in a common-law country = 1, else 0

**Table 5: Logistic regression analysis for type of assurance provider chosen to assure general-purpose non-financial reports (n = 666)**

	Coeff. (signif., 2- tailed)	Coeff. (signif., 2- tailed)	Coeff. (signif., 2- tailed)	Coeff. (signif., 2- tailed)	Coeff. (signif., 2- tailed)
CONSTANT	0.480 (0.452)	-1.065 (0.239)	0.741 (0.396)	-0.419 (0.487)	1.133 (0.091)
ROA	-1.808 (0.052)	-2.022 (0.033)	-2.253 (0.018)	-1.352 (0.147)	-1.598 (0.082)
LEV2	-1.725 (0.013)	-1.981 (0.003)	-1.980 (0.003)	-1.698 (0.015)	-1.866 (0.010)
LNSALES	0.168 (0.002)	0.187 (0.000)	0.193 (0.000)	0.104 (0.056)	0.123 (0.023)
MINING	-0.048 (0.907)	0.042 (0.917)	0.007 (0.986)	0.612 (0.158)	0.705 (0.118)
PRODUCTION	-0.291 (0.353)	-0.122 (0.690)	-0.093 (0.762)	-0.222 (0.492)	-0.171 (0.613)
UTILITIES	-0.064 (0.859)	0.189 (0.590)	0.106 (0.765)	0.165 (0.655)	0.393 (0.309)
FINANCE	-0.698 (0.066)	-0.643 (0.079)	-0.605 (0.102)	-0.099 (0.802)	0.191 (0.644)
YEAR03	0.123 (0.564)	0.105 (0.605)	0.100 (0.627)	0.112 (0.599)	0.059 (0.785)
YEAR04	0.146 (0.488)	0.094 (0.640)	0.068 (0.737)	0.089 (0.670)	-0.014 (0.948)
PROTECTION	-0.486 (0.000)				
ENFORCEMENT		-0.055 (0.502)			
EFFICIENCY			-0.247 (0.001)		
COMLAW				-1.517 (0.000)	
LITIG					-0.342 (0.000)
Log likelihood	-406.459	-433.398	-427.601	-403.681	-388.034
LR chi <sup>2</sup> (signif., 2-tailed)	85.60 (0.000)	31.72 (0.000)	43.31 (0.000)	94.25 (0.000)	122.45 (0.000)

Variable definitions:

ROA:	return on assets measured as net profit (loss)/total assets
LEV:	leverage measured as long-term debt/total assets
LNSALES:	natural logarithm of total sales
MINING:	industry dummy for a natural resources or mining company
PRODUCTION:	industry dummy for a production company
UTILITIES:	industry dummy for a utility company
FINANCE:	industry dummy for a financial institution
YEAR03:	dummy variable, year 2003 = 1, else 0
YEAR04:	dummy variable, year 2004 = 1, else 0
PROTECTION:	legal protection measured as the “antidirector right” score from La Porta et al. (1997)
ENFORCEMENT:	legal enforcement measured as the “rule of law” score used in La Porta et al. (1997)

EFFICIENCY: efficiency of the legal system measured as the “efficiency of the judicial system” score from La Porta et al. (1998)  
COMLAW: organization domiciled in a common-law country = 1, else 0  
LITIG: auditor litigation risk measured as the Wingate litigation index for auditors (1997)