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# The auditor's opinion modifications around domestic and global financial crises

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## Abstract

**Purpose** – The purpose of this study is to investigate the effect of company characteristics such as the level of financial distress, client size and type of auditor on the propensity to issue modified audit opinions and to assess comparative differences in audit opinions during two significant economic crises in Turkey.

**Design/methodology/approach** – Logistic regression model is used to test the incremental contribution of each company characteristic on issuing the type of audit opinion for crisis periods. Additionally, to understand the reasons for differences in audit opinions between two types of crisis periods, the authors adopt Francis and Krishnan's (2002) approach in which an auditor's propensity to issue modified opinion may be jointly based on changes in client characteristics and auditor reporting strategies in that period.

**Findings** – The results indicate that there is a positive relationship between financial distress and the likelihood of receiving modified opinions in both crisis periods. Additionally, client size affects audit opinions negatively in both periods significantly. Auditors show higher propensity to issue a modified opinion during the domestic than the global financial crisis period, which could be explained by the changes in client characteristics more than their reporting strategy.

**Practical implications** – This study provides supportive evidence that the company characteristics including the financial distress can be very useful predictors for the auditors' decisions while issuing their opinions.

**Originality/value** – The findings of different auditor behaviors during crises periods and possible reasons are the main contributions of this study for international and domestic regulators, investors, audit firms, academics and standard setters in emerging economies.

**Keywords** Financial stress, Financial distress, Going-concern, Modified opinions

**Paper type** Research paper

## Introduction

An audited financial report set is a fundamental tool for reporting relevant financial information to the stakeholders. Many companies count on auditors' reports to certify their



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information to attract investors, obtain loans and improve public image. Financial statement users such as regulators and investors tend to believe that audit opinions convey information about the current financial health of a company, i.e. a “unmodified/clean” opinion shows that the company is financially healthy, and that they provide early warning signals of company failures although audit opinions are not designed for this purpose (Carcello *et al.*, 1995). Casterella *et al.* (2000) succinctly state that while auditors do not possess magic with which to predict the future of a company, they should work on developing an early warning tool to satisfy users’ needs. Recent views from the finance and accounting regulators show an increasing interest in the role of audit opinion to signal the financial health of company globally (Doty, 2012; Chasan, 2012; Franzel, 2016).

Audit scandals in the past decade caused stakeholders lose trust in audited reports that they “truly” reflect the financial strength of a company. Geiger *et al.* (2014) address this issue and examine auditors’ going-concern opinions for bankrupt companies and find that auditors issue more going-concern opinions following the global financial crisis (GFC) of 2007.

Turkey has experienced two financial crises between 2000 and 2010. The first was a domestic fiscal crisis (DFC) that began in late 2000 and continued to 2002, and the second was an extension of the GFC that started in 2007 and ran through 2009. The first crisis, which is referred to as a currency and banking crisis, led to important restructuring in the Turkish capital and money markets due to liquidity shortages and loss of wealth in the financial market.

In times of crises, the type of audit opinion issued immediately before a company went bankrupt and whether that opinion reflected the company’s financial status become extremely important. Sultanoglu, Simga-Mugan and Oran[1] (2005) initially investigated the auditors’ opinion during the domestic financial crisis of 2001. Our findings regarding auditor opinions for financially stressed companies before, during and after DFC are very similar to the results obtained by Geiger *et al.* (2014) for bankrupt companies. In this paper, we further analyze the association between audit opinions and economic crisis of different origin by investigating the factors that affect auditors’ opinions during two types of crisis periods in Turkey. Investigating such a relationship in Turkey is an interesting exercise because although usually the audit regulations are country specific, Turkish authorities require the use of international auditing standards. Hence, the findings of this study may have implications in other emerging economies as well.

The purpose of this study is to expand on previous research related to the effect of client characteristics such as the financial distress level, client size and type of auditor on the propensity to issue modified opinion by testing whether there is an association between the type of economic crisis and the audit opinion.

Additionally, to understand the reasons for differences in audit opinions between two types of crisis periods, we adopt Francis and Krishnan’s (2002) approach in which an auditor’s propensity to issue modified opinion may be jointly based on changes in client characteristics and auditor reporting strategies in that period. Therefore, we aim to shed light to how audit opinions differ in domestic and GFC and the related auditor behavior.

Our findings reveal that there is a higher rate of modified opinions during the DFC period which can be explained with the existence of smaller companies with greater financial distress. The results indicate that there is a positive relationship between financial distress and the likelihood of receiving modified opinions in both domestic and GFC periods, that is, the more financially distressed a company, the more its chance of receiving a modified opinion from its auditor. We also found that client size affected audit opinions in both periods significantly, while the type of auditing firm – Big 4 or not – failed to make a

significant difference in any type of crisis period. ISA 570 “Going-Concern” requires the company’s auditors to detect issues related to the appropriateness of management’s use of going-concern assumption and determine the implications for the auditor’s report. Keeping this in perspective, our further analysis demonstrates that there is a higher probability to receive a modified opinion during a domestic financial crisis period than the global one, and this can be explained due to changes in client characteristics more than auditor’s reporting strategies.

### Turkish context

Domestic *versus* global financial crisis affecting Turkey

The domestic financial and fiscal crisis started in November 2000 when a medium-sized Turkish bank liquidated its high-volume government securities. During this period, the Turkish Lira (TL) depreciated significantly against major currencies and interest rates rose sharply. These led to a collapse in the banking sector due to their exposure to direct interest rate and indirect exchange rate risks (Comert and Colak, 2014). Despite being labeled as a banking crisis, the macroeconomic shocks hit many private and publicly held companies. Consequently, the costs of this crisis in 2000-01 crisis were mainly real gross domestic product (GDP) decline by 5.7 per cent and drop of economic activity in the manufacturing sector by 9.4 per cent.

Due to the successful improvements and reforms in macroeconomic policy implemented after the 2001 crisis, Turkey’s economy was sound with an average 7.2 per cent statistic of GDP growth rate in 2002-2006. Turkish economy did not experience a large financial account shock in 2002-2008. Moreover, the economic growth was boosted by cheap credit borrowed by banks and non-financial firms (Comert and Colak, 2014).

However, the first hints of GFC for Turkey became visible in 2007 and resulted in annual GDP growth rate decline to 4.5 per cent, which was 6.9 per cent in 2006. Although the crisis initially affected the developed economies, it quickly spread all over the world.

During the GFC, GDP growth rate decelerated to 0.7 per cent in 2008 and then to a -4.9 per cent in 2009 which was the steepest decline among the OECD countries. The main triggering factor of this decline was the collapse in world trade and therefore an enormous negative foreign demand shock from the European Union. Main characteristic of the GFC is the export shock, which led to a severe decline in production in addition to the worsened credit conditions in the country. This decline led to a deep slump in Turkish exports and to net capital outflows, liquidity shortages, significant depreciation of Turkish Lira against major currencies and significant decrease in stock prices. Combined effect of these factors resulted in loss of wealth in the financial market and sharp losses in investor and consumer confidence in the country.

The financial stability achieved in the aftermath of the 2001 crisis because of the monetary and fiscal policies helped to strongly protect Turkish financial sector against the global financial shock. Compared to 2001 crisis period, there were moderate fluctuations in exchange rate and risk premium in the sense that Turkish Lira depreciated by around 15 per cent against to major currencies in the second half of 2008, whereas it was around 35 per cent in the domestic financial crisis period.

When all these are considered, the domestic and global financial crises periods are quite different from each other. 2001 crisis was domestically generated financial and fiscal crisis with its significant effects for the manufacturing sector. However, 2007 crisis was predominantly externally originated and had significant negative impact on the manufacturing sector due to enormous negative foreign demand shock more than the effects on the financial sector.

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*Overview of the Turkish auditing environment*

In the Turkish environment:

- The accounting and auditing systems are both code-based.
- The auditing environment is relatively non-litigious.
- Audit firms are hired for a finite period.

Audit firms are required to carry out their procedures in accordance with the Turkish Auditing Standards, which follow International Auditing Standards, and provide an opinion about whether a company's financial statements and the accompanying notes are prepared in accordance with Turkish Accounting Standards, which are direct translations of International Financial Reporting Standards (IFRS).

Currently, the regulatory body that sets and issues national accounting and auditing standards in compliance with international standards for both the public companies listed in Borsa Istanbul (BIST) (earlier Istanbul Stock Exchange-ISE) and the small- and medium-sized enterprises (SMEs) in Turkey is the Public Oversight, Accounting and Auditing Standards Authority since its formation in 2011.

The BIST/ISE is still an emerging market that attracts domestic and foreign investors. However, the stock market is not the main financing source for most companies; banks provide most of financing. In this sense, Turkey resembles a continental European country where governmental authorities prescribe accounting and auditing rules and regulations (Kunt and Ross, 1999). Most of the companies on the stock exchange were and continue to be family owned and financed mainly by banks; hence, bankers are the main users of audit reports. BIST/ISE is still an emerging market where equities of companies from various sectors such as manufacturing, merchandizing, finance, technology and others attract domestic and foreign investors. In terms of ownership, in 2000, when ISE composite index was increasing, foreign shares were 69 per cent. However, foreign ownership dropped to an average of 21 per cent during and after domestic financial crisis period (2001-2004), then back again to an average of 66 per cent between 2005 and 2007.

During the period under study, the regulatory body that set auditing standards for companies listed and/or traded on the ISE in Turkey was the Capital Markets Board (CMB). The CMB's accounting standards were in line with IFRS [2]; reports issued by Turkish auditors are like those of their Anglo-Saxon counterparts. Along with sample audit reports, some guidelines were provided in CMB regulations regarding the circumstances that would require a modified report.

In 2006, in its newly established code about auditing standards, CMB required that audit firms provide only assurance services; there are clear clauses in the code that prohibit audit firms from also providing consulting services. Moreover, the code states that any consulting and/or accounting companies that are controlled by audit firms cannot provide services to the clients of that audit firm. [3] Until 2009, companies hired audit firms for a period of two to four years, with a customary duration of three years and renewals allowed indefinitely. In 2009, there were 93 auditing firms practicing in Turkey. In addition to the Big 4, there are audit firms that are affiliations of other foreign audit firms (25), as well as national audit firms (64). [4]

In 2009, the CMB amended this requirement to a maximum of seven years with the same audit partner, after which the same audit company could continue with a new audit partner in charge of the account [5]. However, this change does not affect our study period.

### **Literature review and hypotheses development**

Faced with expectations of investors, creditors and the public regarding signs of impending bankruptcies via audit opinions, auditors are under great pressure not to err in issuing

modified opinions including going-concern reports. Previous research has shown that issuing going-concern reports has costs for companies and audit firms (Kida, 1980; Mutchler, 1984; Geiger *et al.*, 1998, 2005; and Blay and Geiger, 2001). The most important cost to a firm is the possible loss of customers, valuable suppliers and key employees of the firm (Purnanandam, 2008). Opler and Titman (1994) argue that financially distressed firms lose more market share than their competitors. On the auditor's side, issuing a going-concern report for a company that remains viable subsequently may lead to the loss of valuable customers whereas failing to issue a going-concern report when one is called for may lead to fines, litigation and loss of trust (Hopwood *et al.*, 1994; Raghunandan and Rama, 1995; Carcello *et al.*, 1995; Geiger *et al.*, 2005; Lennox, 1999a).

Following various audit scandals in the Western hemisphere, it was widely questioned whether auditors' misclassifying failing companies meant that companies filing bankruptcy receive unmodified audit opinions (Geiger *et al.*, 2005; Fargher and Jiang, 2008). Previous research concluded that the weaker the financial health of a company, other things being equal, the higher the probability that an audit firm would issue a modified opinion including going-concern qualification (McKeown *et al.*, 1991; Hopwood *et al.*, 1994; Carcello *et al.*, 1995; Vanstraelen, 1999; Barbadillo *et al.*, 2004; Geiger *et al.*, 2005; Fargher and Jiang, 2008). Thus, we form our first hypothesis as:

- H1.* Independent of the type of crisis, financially stressed companies are more likely to receive modified opinions from their auditor.

We test this hypothesis through our independent financial distress variable using Zmijewski's (1984) model, where we expect to see a positive association between the increased levels of financial distress and modified opinions.

The other widely discussed issue is whether there is a significant relationship between the size of the audit firm and the type of the audit opinion; whether Big 4 audit firms deliver less modified opinions than non-Big 4 ones (Barbadillo *et al.*, 2004; Geiger *et al.*, 2005; Ryu and Roh, 2007; Fargher and Jiang, 2008; Xu *et al.*, 2011; Xu *et al.*, 2013). These studies reveal that, Big 4 audit firms pay serious attention on the delivery of better audit quality, and they are more competent on discovering a failure in an accounting system, otherwise they know that their reputation will be negatively affected. This line of research leads to forming our second hypothesis:

- H2.* *Ceteris paribus*, there are systematic differences in issuing modified opinions for their clients between Big 4 and non-Big 4 auditors.

In testing this hypothesis, we include the type of audit firm as an independent variable in the model and test for a negative coefficient.

Client size is found as negatively related to having a modified opinion (McKeown *et al.*, 1991; Carcello *et al.*, 1995; Mutchler *et al.*, 1997; Barbadillo *et al.*, 2004; Geiger *et al.*, 2005; Ryu and Roh, 2007; Geiger *et al.*, 2014). Large clients may be less likely to fail or auditors may not want to lose valuable companies because of mainly substantial audit fees, hence decreasing the probability of issuing modified opinions for those clients. Therefore:

- H3.* Independent of the type of crisis, we believe that the larger the client size, the less likely companies will receive modified opinions.

We test this hypothesis by the independent size variable included in the model, and test for a negative coefficient. Geiger *et al.* (2005) and Fargher and Jiang (2008) also determined that there is an increasing number of modified opinions for bankrupt and financially stressed



companies after December 2001 than in the earlier recessionary period in the USA and Australia and concluded that auditors' decisions became more conservative in that period due to changes in auditor reporting strategies. Similar to their studies, we aim to know whether the type of crisis – domestic or global – has an effect on auditors' decision process in Turkey. Hence, our next hypothesis is formulated as:

- H4. The auditor's propensity to issue modified reports is affected by the general economic conditions prevalent, and it will be different between the domestic and GFC periods.

Previous literature discussed the issue that auditors became more conservative in their judgments after the auditing crisis to protect their reputation or to avoid litigation costs or government intervention in Australia (Fargher and Jiang, 2008). In addition, Xu *et al.* (2011) and Xu *et al.* (2013) found similar results after GFC in Australia. Similarly, Geiger *et al.* (2005) find that auditors were more likely to issue going-concern audit opinions to bankrupt firms after auditing crisis in the USA. Following the 2007 financial crisis, Geiger *et al.* (2014) found that after the "global" but what is in essence started as a domestic crisis in the USA, auditors' propensity to issue going-concern opinion increased. Turkey lived through two financial crises – domestic and global – and felt the effects of auditing crisis as well. Hence, we explore the effects of 2001 domestic and 2007 – global financial crises; and expect that the auditors' decision to issue modified reports would be different.

## Research design

### Methodology

First, we carried out univariate tests to see whether there are significant differences between the findings in domestic and GFC periods. Then, we used the following logistic regression model consistent with prior research (Geiger *et al.*, 2005; Geiger *et al.*, 2014; Fargher and Jiang, 2008) to test the incremental contribution of each factor on issuing the type of audit opinion:

$$Prob.(modified\ opinion) = f(\text{financial distress, client size, auditor type}) [6]$$

Here:

Modified opinion = 1 if a company received a modified opinion due to going-concern or an accounting issue; 0 otherwise.

Financial distress (bstar-b\*) = distress score based on Zmijewski's (1984) weighted probit model.

Client size (lnsales) = natural logarithmic transformation of company sales.

Auditor type (Big 4) = 1 if Big 4; 0 otherwise.

Crisis type = 1 if DFC; 0 otherwise.

Modified opinion includes audit opinions having a going-concern statement and the other types of qualifications, i.e. adverse, disclaimer or any other reason for qualification statement. ISA 705 establishes three types of modified opinions, namely, a qualified opinion, an adverse opinion and a disclaimer of opinion where the decision regarding which type of modified opinion is appropriate depends upon the nature of the matter giving rise to the modification, the auditor's judgment about the pervasiveness of the effects or possible effects of the matter on the financial statements. In addition to this, ISA 706 requires the auditors to give an Emphasis of Matter paragraph in the auditor's report in certain circumstances, such as going-concern, where the auditors' responsibility is to detect issues related to the appropriateness of management's use of going-concern assumption and determine the implications for the auditor's report (ISA 570).



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## MEDAR

A company is labeled as financially distressed if it experiences at least one of the following signals:

- negative working capital in the sample year;
- negative retained earnings in the sample year or previous two years; and
- net loss before interest and taxes in the sample year or prior two years (Hopwood *et al.*, 1994; Pryor and Terza, 2002; Geiger *et al.*, 2005).

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These effects are reflected in the financial distress score where higher values of  $bstar$  (i.e. values that are around 0 or are positive) denote greater financial distress.

We used Zmijewski's (1984) weighted probit distress prediction model to determine the  $b^*$  statistic.[7] We chose this model because it is based mainly on non-stressed companies and our sample includes mostly non-stressed companies as well.

Bankruptcy prediction models also use the relation between the financial position of a company and the audit opinion (Hopwood *et al.*, 1994; Blocher and Loebbecke, 1993; Altman, 1993; Koh, 1991; McKee, 1989; Dugan and Zavgren, 1988, among others). In search of a model that would outperform auditors' judgments regarding bankruptcy, Hopwood *et al.* (1994) considered factors such as financial distress score and financial ratios and concluded that neither bankruptcy models nor auditor judgments are good indicators of bankruptcy on their own.

Financial ratios have been used as indicators of performance in a large number of previous bankruptcy studies, including Beaver (1966a), Altman (1968), Altman and McGough (1974), Ohlson (1980), Zmijewski (1984), Mutchler (1984, 1985, 1986), Levitan and Knoblett (1985), Menon and Schwartz (1987), Koh (1991) and Hopwood *et al.* (1994). The main aim of such research was to establish and test the link between the bankruptcy prediction models and the auditors' opinion decisions for the bankrupt companies and concluded that these models can be very useful predictors for the auditors while issuing their opinions. However, there is a selection bias that focuses only on bankrupt companies, not financially distressed ones.

Ohlson (1980) was among the first users of the logit model for predicting financial distress, putting more emphasis on client size. Zmijewski (1984) used financial ratios as indicators of profitability, leverage and liquidity in his weighted probit model to predict financial distress. Both models have the advantage of examining the non-linear effects of the independent variables. Zmijewski's (1984) model has been used in various bankruptcy studies (Carcello *et al.*, 1995; Reynolds and Francis, 2000; Grice, 2000; Grice and Dugan, 2001; Bamber *et al.*, 1993; Wheeler *et al.*, 1993; Chen and Wei, 1993; Geiger *et al.*, 2005; Geiger *et al.*, 2014, among others). Zmijewski's  $b^*$  statistic is calculated as follows:

$$bstar = -4.803 - 3.6(Net\ Income/Total\ Assets) + 5.4(Debt[8]/Total\ Assets) - 0.1(Current\ Assets/Current\ Liabilities).[9]$$

Grice (2000) examined the consistency of these models with going-concern opinions, concentrating on the distressed companies by comparing three well-known bankruptcy prediction models (Altman, 1968; Ohlson, 1980; Zmijewski, 1984) and concurred that these models can be useful tools for auditors.

As the financial distress score calculation stated above does not include a size variable, we incorporate client size into our model because it is one of the major factors affecting auditors' decisions (Ohlson, 1980; Geiger *et al.*, 2005; Ryu and Roh, 2007, among others).

Finally, we include the Big 4 indicator variable to test the effect of audit firm on the type of opinion because prior research found non-conclusive differences between the decisions of

Big 4 and non-Big 4 audit firms (Mutchler *et al.*, 1997; Vanstraelen, 1999; Reynolds and Francis, 2000; Hunt and Lulseged, 2005; Geiger *et al.*, 2005; Ryu and Roh, 2007, among others).

### *Data*

Our sample selection started with all the publicly traded manufacturing companies available on the BIST for the years 2000, 2001, 2002, 2007, 2008 and 2009. Financial institutions and insurance companies are excluded because their financial statements are unique to their industries. Furthermore, some company reports in different years were deleted from the data set due to incomplete data, being de-listed from the BIST or being a party to an acquisition in that year. We collected data on companies' auditors' reports showing the type of audit opinion and its reason and the auditor. As a result, our data set includes 225, 224 and 208 companies in 2000, 2001 and 2002, respectively, for the DFC period (a total of 657); for the GFC period, we have 220, 217 and 217 for 2007, 2008 and 2009, respectively (a total of 654). In total, our data set comprises 1,311 firm-period observations.

## **Empirical results**

### *Descriptive statistics and univariate analysis*

Table I provides the descriptive data on modified/unmodified reports during the DFC and GFC crisis periods:

The univariate results for modified opinions indicate that the mean differences in all variables, except Liquidity and Lnsales, are significantly different between DFC and GFC. However, only ROA is insignificant in the case of unmodified opinions. The results also show that there are significant differences in all variables, except Big 4 between the two crisis periods for the full sample.

As expected, in DFC, the companies were financially distressed as depicted by higher bstar values and smaller company size, which may have resulted from higher leverage ratios due to large bank loans, sharp decreases in liquidity ratios and lower profitability ratios due to the high amount of foreign exchange losses and financial expenses. As Turkish companies' global investment efforts are considerably less than European or American companies', the effect of the GFC was not as severe as the effects of the domestic financial crisis.

None of the variables are highly correlated, except the financial ratios and the bstar (Table II). Therefore, we decided to run a second financial distress model using the financial ratios instead of bstar statistic.

### *Multivariate analysis*

Next, we used two logistic regression models with the bstar and without the bstar statistic for robustness. However, hypotheses are tested using model with the bstar statistic (Table III).

Both models are significant and yield the same results regarding the significance of the audit firm and the company size. However, the type of crisis is significant in the bstar model ( $p = 0.1$ ) but not in the second one. The coefficients of financial distress (bstar), auditor type and client size are all significant with the expected signs, i.e. companies that experience greater financial distress and smaller are more likely to receive modified opinions in general. In addition, Big 4 issue fewer modified opinions for their clients than non-Big 4. In the second model, auditor type and client size are found to be statistically different from zero

**Table I.**  
Descriptive statistics:  
continuous and  
discrete variables:  
mean (median) {s.d.}  
[11]

| Variable  | GFC<br>(n = 111) |                | Modified<br>DFC<br>(n = 153) |                | Mean<br>Diff. |                      | Unmodified<br>DFC<br>(n = 504) |          | Mean<br>Diff.        |                      | GFC<br>(n = 654) |  | Total<br>DFC<br>(n = 657) |  | Mean<br>Diff. |  |
|-----------|------------------|----------------|------------------------------|----------------|---------------|----------------------|--------------------------------|----------|----------------------|----------------------|------------------|--|---------------------------|--|---------------|--|
|           |                  |                |                              |                |               |                      |                                |          |                      |                      |                  |  |                           |  |               |  |
| BSTAR     | -0.91            | (-2.32) {5.84} | 0.42                         | (-1.03) {5.79} | -1.32**       | -3.61 (-3.87) {1.99} | -2.26 (-2.63) {3.49}           | -1.35*** | -3.15 (-3.62) {3.18} | -1.64 (-2.31) {4.28} | -1.51***         |  |                           |  |               |  |
| BIG4      | 0.23             | (0.00) {0.42}  | 0.38                         | (0.00) {0.49}  | -0.15***      | 0.52 (1.00) {0.50}   | 0.44 (0.00) {0.50}             | 0.08***  | 0.47 (0.00) {0.50}   | 0.43 (0.00) {0.50}   | 0.04             |  |                           |  |               |  |
| ROA       | -0.11            | (-0.07) {0.26} | -0.19                        | (-0.05) {0.45} | 0.08*         | 0.02 (0.03) {0.17}   | 0.01 (0.05) {0.28}             | 0.01     | 0.00 (0.02) {0.19}   | -0.04 (0.03) {0.34}  | 0.04**           |  |                           |  |               |  |
| LEVERAGE  | 0.68             | (0.45) {0.98}  | 0.85                         | (0.68) {0.80}  | -0.18*        | 0.29 (0.22) {0.29}   | 0.51 (0.47) {0.50}             | -0.22*** | 0.35 (0.26) {0.51}   | 0.59 (0.51) {0.60}   | -0.24***         |  |                           |  |               |  |
| LIQUIDITY | 1.42             | (0.80) {2.71}  | 1.14                         | (0.97) {0.80}  | 0.28          | 2.79 (1.56) {5.30}   | 1.84 (1.49) {1.54}             | 0.95***  | 2.56 (1.46) {4.98}   | 1.68 (1.37) {1.43}   | 0.88***          |  |                           |  |               |  |
| LNSALES   | 17.35            | (17.21) {2.09} | 17.20                        | (17.19) {1.95} | 0.16          | 19.17 (19.10) {1.84} | 17.71 (17.79) {1.58}           | 1.45***  | 18.86 (18.83) {2.01} | 17.60 (17.60) {1.69} | 1.26***          |  |                           |  |               |  |

**Notes:** \*\*\*, \*\* and \* indicates statistically significant at the levels of 1%, 5% and 10%; *Variable Definitions:* *Modified* is the modified opinion, *Bstar* is distress score, *Big 4* is the type of auditor, *ROA* is Net Income/Total Assets), *Leverage* is Debt/Total Assets and *Liquidity* is Total Current Assets/Total Current Liabilities and *Lnsales* is the company size measured as natural log of sales

Global  
financial crises

| Variable         | Modified                                | Bstar                                   | Big 4                                 | ROA                                     | Leverage                                | Liquidity                              | Size |
|------------------|---|---|---------------------------------------|---|---|--|------|
| <i>BSTAR</i>     | 0.294***<br>(0.319***)<br>{0.264***}    |   |                                       |   |   |  |      |
| <i>BIG 4</i>     | -0.130***<br>(-0.212***)<br>{-0.053}    | -0.087***<br>(-0.112***)<br>{-0.059}    |                                       |   |   |  |      |
| <i>ROA</i>       | -0.252***<br>(-0.272***)<br>{-0.254***} | -0.747***<br>(-0.541***)<br>{-0.845***} | 0.055**<br>(0.111***)<br>{0.021}      |   |   |  |      |
| <i>LEVERAGE</i>  | 0.253***<br>(0.289***)<br>{0.242***}    | 0.973***<br>(0.964***)<br>{0.980***}    | -0.091***<br>(-0.106***)<br>{-0.066*} | -0.594***<br>(-0.352***)<br>{-0.723***} |   |  |      |
| <i>LIQUIDITY</i> | -0.118***<br>(-0.103***)<br>{-0.208***} | -0.309***<br>(-0.347***)<br>{-0.425***} | 0.006<br>(-0.020)<br>{0.077**}        | 0.146***<br>(0.129***)<br>{0.321***}    | -0.219***<br>(-0.189***)<br>{-0.395***} |  |      |
| <i>LNSALES</i>   | -0.247***<br>(-0.340***)<br>{-0.130***} | -0.192***<br>(-0.094**)<br>{-0.185***}  | 0.205***<br>(0.419***)<br>{-0.053}    | 0.228***<br>(0.251***)<br>{0.219***}    | -0.180***<br>(-0.081**)<br>{-0.165***}  | -0.110***<br>(-0.195***)<br>{-0.082**} |      |

**Table II.**  
Pearson correlations:  
Full (Global)  
{domestic} samples

**Notes:** \*\*\*, \*\* and \* indicates statistically significant at the levels of 1%, 5% and 10%.

with the expected signs. Additionally, all financial ratios are significant and have expected signs. Therefore, the companies either having lower ROA and liquidity ratios and higher leverage ratios or higher distress scores have higher probability of receiving modified opinions.

| Variable  | Exp. | Estimate | p-value |
|---|------|----------|---------|
| <i>Panel A: Full sample (n = 1,311) (Model 1)</i> |      |          |         |
| Constant  | ?    | 3.982    | 0.00    |
| <i>BSTAR</i>                                      | +    | 0.164    | 0.00    |
| <i>BIG 4</i>                                      | -    | -0.508   | 0.00    |
| <i>LNSALES</i>                                    | -    | -0.255   | 0.00    |
| <i>ROA</i>  | -    | -        | -       |
| <i>LEVERAGE</i>                                   | +    | -        | -       |
| <i>LIQUIDITY</i>                                  | -    | -        | -       |
| <i>CRISISTYPE</i>                                 | ?    | -0.253   | 0.10    |
| Chi-square = 58.22                                |      |          |         |
| Pseudo $R^2$ = 0.11                               |      |          |         |
| <i>Panel B: Full sample (n = 1,311) (Model 2)</i> |      |          |         |
| Constant  | ?    | 4.033    | 0.00    |
| <i>BSTAR</i>                                      | +    |          |         |
| <i>BIG 4</i>                                      | -    | -0.533   | 0.00    |
| <i>LNSALES</i>                                    | -    | -0.260   | 0.00    |
| <i>ROA</i>  | -    | -1.037   | 0.10    |
| <i>LEVERAGE</i>                                   | +    | 0.293    | 0.08    |
| <i>LIQUIDITY</i>                                  | -    | -0.300   | 0.04    |
| <i>CRISISTYPE</i>                                 | ?    | -0.235   | 0.13    |
| Chi-square = 76.14                                |      |          |         |
| Pseudo $R^2$ = 0.13                               |      |          |         |

**Table III.**  
Logistic regression  
results for modified  
opinions

*Financial distress score effect.* With respect to *bstar* variable, there is a significant positive relationship between the financial health and the type of audit opinion issued for a company. Hence, we are able to provide evidence supporting *H1* that the more financially distressed the company, the higher its chance of receiving a modified opinion, regardless of the type of economic crisis. In other words, in general, the auditor's decision is directly influenced by the financial situation of a company.

*Type of auditor effect.* We find a significant negative association between the auditor and the opinion type in general, all else being equal, that Big 4 audit firms deliver less modified opinions than non-Big 4. In search of whether the auditor makes a difference in receiving a going-concern opinion preceding a bankruptcy, Geiger *et al.*'s (2014) findings show a lower likelihood to receive a going-concern from Big 4 although not significant. The association between the auditor type and audit opinion in our sample is also supported by the cross tabulation of the size of the auditor and the opinion type presented in Table IV.

Big 4 issued 31.9 per cent of the modified opinions; and 85.6 per cent of Big 4 reports and 75.1 per cent of the non-Big 4 reports were unmodified (Table IV).

Hence, we find support for *H2* that there is systematic difference between Big 4 and non-Big 4 auditors. Big 4 audit companies are less likely to issue modified opinions for their clients than non-Big 4. One of the reasons is the audit quality. De Angelo (1981) suggests that larger audit firms provide higher quality audits than smaller ones. Another reason is the stringent client selection or client portfolio. Xu *et al.* (2011) speculate that the reason for the systematic difference they find among audit companies during the crisis period as Big 4 auditors consistently issuing a lower percentage of modified audit reports relative to non-Big 4 auditors is the client portfolio. One other reason is the audit company size that leads to having more resources to allocate each client to produce higher quality reports. Lennox (1999b) and Geiger and Rama (2006) investigate the corresponding impact of auditor type, and they support that there is a positive association between auditor size and audit accuracy.

In a study investigating the auditor behavior, Ryu and Roh (2007) take into account the materiality judgments of auditors in issuing going-concern reports. They found that Big 6 (5) audit firms have higher materiality thresholds and therefore less likely to issue modified opinions to their clients than non-Big 6 (5) ones. Although this finding seems contradictory at first glance, it supports the conjecture that Big 4 audit firms have stringent rules of client selection, and larger clients who are expected not have going-concern opinions and thus Big 4 can apply higher materiality thresholds.

*Client size effect.* We find that opinion type and company size are significantly related ( $p = 0.000$ ), regardless of the period where the larger the company, the lower its chance of receiving a modified opinion. These findings are consistent with prior research (Carcello *et al.*, 1995, 2005; Ryu and Roh, 2007) results and provide support for *H3*, which states that large companies receive fewer modified reports.

**Table IV.**  
Opinion type and  
auditor cross  
tabulation

| Opinion      | Big4       | Non-Big 4  | Total        |
|--------------|------------|------------|--------------|
| Modified     | 84         | 180        | 264          |
| Unmodified   | 502        | 545        | 1,047        |
| <i>Total</i> | <i>586</i> | <i>725</i> | <i>1,311</i> |

To further examine the results for client size effect, we provide the median assets, sales and net income/(loss), as well as bstar, for the clients that received modified and unmodified opinions in [Table V](#).

As seen in [Table V](#), companies that have lower assets, revenues and profit received more modified opinions. Furthermore, bstar statistics for companies modified opinions have is closer to zero indicating unhealthy companies ([Zmijewski, 1984](#)).

*Crisis type effect.* The other question is whether the auditor's propensity to issue modified opinions significantly differs in domestic and GFC periods in Turkey. Chi-square test results confirm that there is a significant difference between the companies that received modified opinion in domestic and global financial crises periods (Chi-square = 8.13,  $p < 0.01$ ) ([Table VI](#)).

Therefore, it appears that a greater number of modified opinions were issued during the DFC period (23.4 per cent). This result may be explained by three reasons: rising worldwide conservatism among auditors in the first crisis period ([Geiger et al., 2005](#); [Fargher and Jiang, 2008](#)) significantly smaller company size and significantly more financially stressed companies existed during the DFC period; and companies may have started to take preventive actions after the domestic financial crisis, which helped to face the effects of the GFC.

Next, we investigated the probabilities obtained from the logistic regression models of both crisis periods to better understand the effect of crisis type on audit opinion ([Table VII](#)).

The coefficients of financial distress score and client size are significant and in the expected direction in both crisis periods; however, auditor type is not a significant in either period, suggesting that there is no difference in propensity to issue a modified opinion between the audit firms.

In both crisis periods, Big 4 audit firms issued fewer modified reports, a finding consistent with prior research. More recently, [Geiger et al. \(2005\)](#) tested the effect of the audit firm size on issuing going-concern reports over the pre- and post-December 2001 periods in their study and did not find it significant, that is, in line with our findings. Hence, we support the hypothesis that the auditor's propensity to issue modified opinions is affected by the general economic conditions prevalent, and we found that they differ between DFC and GFC in Turkey.

*Additional crises analysis.* Following [Nielsen \(1998\)](#), [Francis and Krishnan \(2002\)](#) and [Geiger et al. \(2005\)](#), we adopt the view that a decision to issue a modified report is the result of mainly two factors: that the auditor characteristics or strategy have changed (which we treat as the discriminating factor) and that company or client characteristics have changed. That is, an auditor's propensity to issue modified reports may be jointly based on changes in client and auditor characteristics from one period to another.

|                   | Modified<br>Full sample<br>( $n = 264$ ) | Unmodified<br>Full sample<br>( $n = 1,047$ ) |
|-------------------|--|--|
| Assets            | 60,787,399                               | 107,664,622                                  |
| Sales             | 30,547,466                               | 97,267,158                                   |
| Net income/(Loss) | (1,926,332)                              | 2,790,782                                    |
| Bstar             | -1.45                                    | -3.3   |

**Table V.**  
Clients' median bstar,  
assets, sales and net  
income/(loss)

MEDAR

The probability of client  $i$  at time  $t$  receiving a modified report is formally;

$$P(\text{MRit} = 1) = F(X_{it}, \Omega_t),$$

where

MR is the modified report;

$X_{it}$  = client  $i$  characteristics at time  $t$ ; and

$\Omega_t$  = auditor's discriminating weightings regarding client characteristics.

Using the decomposition of differences as suggested in [Nielsen \(1998\)](#),

$$\overline{P}_g = \sum_{i=1}^{N_g} F[x_{gi}, \hat{\Omega}] / N_g \text{ (average probability of being in the DFC period);}$$

$$\overline{P}_d = \sum_{i=1}^{N_d} F[x_{di}, (\hat{\Omega} + \hat{\delta})] / N_d \text{ (average probability of being in the GFC period); and}$$

$$\overline{P}_d^0 = \sum_{i=1}^{N_d} F[x_{di}, \hat{\Omega}] / N_d \text{ (average probability of being in the DFC period, if the client is treated the same as in the GFC period).}$$

$$\overline{P}_d - \overline{P}_g = [\overline{P}_d - \overline{P}_d^0] + [\overline{P}_d^0 - \overline{P}_g]$$

where the first set of brackets shows the difference in auditor characteristics where client characteristics are unchanged, and the second set of brackets shows the change in client characteristics [\[10\]](#).

**Table VI.**  
Audit opinions: DFC  
versus GFC

| Audit opinion                    | DFC         | GFC         |
|----------------------------------|-------------|-------------|
| Modified                         |             |             |
| <i>Going-concern</i>             | 53 (34.6%)  | 33 (29.7%)  |
| <i>Other (Accounting issues)</i> | 100 (65.4%) | 78 (70.2%)  |
| Total                            | 153 (23.4%) | 111 (16.9%) |
| Unmodified                       | 504 (76.3%) | 543 (83.1%) |
| Chi-square = 8.13; $p < 0.01$    |             |             |

**Table VII.**  
Logistic regression  
results for modified  
opinions: DFC versus  
GFC

| Variable                        | Exp. | Estimate | $p$ -value |
|---------------------------------|------|----------|------------|
| <i>Panel A: DFC (n = 657)</i>   |      |          |            |
| Constant                        | ?    | 1.170    | 0.25       |
| <i>BSTAR</i>                    | +    | 0.127    | 0.00       |
| <i>BIG 4</i>                    | -    | -0.238   | 0.24       |
| <i>LNSALES</i>                  | -    | -0.120   | 0.04       |
| Chi-square = 45.66; $p < 0.01$  |      |          |            |
| Pseudo $R^2 = 0.06$             |      |          |            |
| <i>Panel B: GFC (n = 654)</i>   |      |          |            |
| Constant                        | ?    | 7.57     | 0.00       |
| <i>BSTAR</i>                    | +    | 0.279    | 0.00       |
| <i>BIG 4</i>                    | -    | -0.411   | 0.15       |
| <i>LNSALES</i>                  | -    | -0.450   | 0.00       |
| Chi-square = 128.52; $p < 0.01$ |      |          |            |
| Pseudo $R^2 = 0.22$             |      |          |            |



As reported in Table VIII, there was a 15.11 per cent higher chance that a company would receive a modified opinion during the DFC period than the GFC period and it supports our hypothesis that auditor propensity to issue modified opinions is affected by the type of economic crisis. This change can be decomposed into client characteristics, which increased by 10.81 per cent, and the auditor's reporting strategies which increased by 4.3 per cent. Table VIII shows that auditor risk perception (and thus the propensity to issue modified opinions) and client characteristics are significantly different ( $p < 0.01$ ). Besides, 71.5 per cent (10.81/15.11) of the increased likelihood of a modified opinion is due to the changes in client characteristics. Summarizing, we can state that the crisis type affects an auditor's decision process in addition to change in client characteristics in terms of size and financial distress.

### Conclusion

The paper investigates mainly two issues: the factors that may affect audit opinions and whether the factors that affect auditor propensity to issue modified opinions differ between domestic and GFC periods. The results show that significantly more companies received modified opinions during the DFC period than the GFC period. We speculate that two factors are in affect. It may probably be due to greater financial distress levels at that time. A second factor may be the learning effect. During domestic financial crisis, all audit companies had performed additional work which could have helped them during the GFC.

This paper provides evidence that the level of financial distress a company experiences could prove to be very useful in assessing its going-concern: we find that the financial distress indicator of a company (bstar) and the audit opinion it receives are significantly related, independent of crisis type. Furthermore, tests of client characteristics and audit strategies reveal that if auditors used the same strategies during the domestic financial crisis as they used during the GFC, then fewer companies should have received modified opinions in the domestic financial crisis period.

As to the second issue, distress score and company size were found to significantly affect audit opinion in both periods. However, the type of audit firm was not a significant factor in determining whether a modified opinion would be issued or not. Explanation for this finding might be the higher average financial distress levels of companies during the domestic financial crisis may have attracted both types of audit firms (Big 4 and non-Big 4 alike) and led to being more cautious in their future reporting which is also suggested for the USA audit opinions following the crisis of 2007 (Geiger *et al.*, 2014). Further research is necessary to determine whether type of industry affects auditor's propensity to issue modified opinions during different types of crises. In other words, the GFC affected the finance sector generally mainly in 2007 and 2008, but its effects on the manufacturing sector may have been felt later, for example, in 2009 or later. Hence, an extension of this study might test similar issues in the latter periods for the finance and manufacturing sectors.

|                        | Change in overall Probability | Change component due to auditor strategy | Change component due to client characteristics |
|------------------------|-------------------------------|--|--|
| Domestic versus Global | 0.1511*** (8.77)              | 0.043*** (8.50)                          | 0.1081*** (18.98)                              |

**Table VIII.**  
Decomposition of average difference in probabilities between the periods

**Note:** \*\*\*, \*\* and \* indicate statistically significant at the levels of 1%, 5% and 10%, respectively

Our findings provide information for international and domestic regulators, investors, audit firms, academics and standard setters as they evaluate the audit opinions in emerging economies especially.

### Notes

1. An earlier version of this paper was presented at the Second Annual Accounting Conference, 2005 Nov 10-12 MODAV/ AACF Istanbul, Turkey as "Financially Distressed Companies and Going-concern Reports: The Case of Turkey".
2. Until 2003, CMB accounting standards were aligned with the International Accounting Standards; then, some companies voluntarily began using the IFRS. In 2005, it became mandatory that all companies use the translated version of IFRS. The delay of translation has now been overcome, and companies use the IFRS in the form that they are accepted by the European Union.
3. SPK Seri X, No: 22 [www.spk.gov.tr](http://www.spk.gov.tr)
4. [www.spk.gov.tr/msd/msd.htm](http://www.spk.gov.tr/msd/msd.htm)
5. [www.spk.gov.tr/displayfile.aspx?action=displayfile&pageid=590&fn=590.pdf](http://www.spk.gov.tr/displayfile.aspx?action=displayfile&pageid=590&fn=590.pdf)
6. The model does not try to determine causality, although it is shown as a function but to establish the factors that affect the issuance of modified opinions.
7. We selected the weighted exogenous sample maximum likelihood based model because it reduces the estimation bias of the unweighted probit model (Zmijewski, 1984, p. 65 and 68).
8. Debt includes both short-term and long-term debt, excluding accruals.
9. The results were unchanged when we use an alternative measure with three raw ratios (net income/total assets-roa, debt/total assets-leverage and current assets/current liabilities-liquidity), which are defined as independent variables instead of direct bstar score.
10. We chose the GFC period as the standard since all variables were more significant in that period.
11. All continuous variables are winsorized at the fifth percentile.

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### Further reading

International Standard on Auditing (ISA) 570, "Going concern", available at: [www.ifac.org](http://www.ifac.org)

International Standard on Auditing (ISA) 705, "Modifications to the opinion in the independent auditor's report", available at: [www.ifac.org](http://www.ifac.org)

International Standard on Auditing (ISA) 706, "Emphasis of matter paragraphs and other matter paragraphs in the independent auditor's report", available at: [www.ifac.org](http://www.ifac.org)

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