The added value of auditing in a non-mandatory environment
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Chapter 3. Study into variables explaining the demand for audit, hypotheses development and research model

3.1 Introduction

To answer the research question: *what are drivers for the demand for audit in a non-mandatory environment?*, this chapter provides an overview of variables used to explain the demand for audit and the development of the research model. It is concluded in the previous chapter that the agency theory framework still is to be considered the most important paradigm to explain the demand for audit. But also developments in other disciplines were signalled which could have an influence on our current knowledge regarding the drivers for the demand for audit. Whereas chapter 2.2.3 presented an overview of empirical demand for audit research related to the agency theory framework, this chapter provides a more detailed overview of previous empirical research on a ‘relationships-level’ with the demand for audit (section 3.2), which subsequently will serve as the basis for the hypotheses development and research model of this study (section 3.3).

Figure 3.1 Overview of the structure of the study
3.2 Overview of previous empirical research into variables explaining the demand for audit

As originally the focus of explaining the demand for audit within the agency theory framework was on external agency conflicts, the so-called ‘classical agency relationships’\(^{48}\) (see also chapter 2.3.1.3), the structure of this section is divided in three categories, namely: external agency relationships, internal agency relationships and other considerations. The external agency relationships are divided in the two potential agency conflicts described in Jensen and Meckling (1976) seminal paper “Theory of the Firm”:

- the agency costs of outside equity (the (shareholder) owner – manager relationship);
- the agency costs of debt (the existence of debt in the capital structure of the company).

3.2.1 External agency relationships

3.2.1.1 Shareholder (owner) – manager relationship

Empirical research has viewed the relationship between the shareholder (owner) and manager from two different angles, namely: from the manager point of view (the classical view) and from the point of view of the shareholder. The classical example of the principal – agent relationship is the relationship between shareholders and managers of the firm and is viewed as a bonding mechanism (Jensen and Meckling, 1976).

Based on aforementioned theory, Chow (1982) hypothesized that the smaller the manager’s ownership share in the firm, the higher the probability that the firm voluntarily engages external auditing because when the manager only owns a small portion of his firm’s equity shares, he has incentives to allocate firm’s resources in ways that may harm the interest of non-managing shareholders. Chow examined a sample of NYSE and OTC companies in the USA for the year 1926. However, due to measurement problems an adequate test on management ownership share was not possible. Buijink (1992) replicated the study of Chow in a Dutch setting and found no significant differences between audited and non-

\(^{48}\) As already noticed in footnote 24, the distinction between external agency relationships, internal agency relationships and other considerations is deliberately chosen. Following Foss and Klein (2006) in their historical analysis of the theory of the firm literature the choice between external agency relationship and the other relationships (including internal agency) is made as the external agency relationships (“the classical agency relationships”) represents the originally focus of Jensen and Meckling (1976) in their development of the theory of the firm.
audited firms to support the hypothesized relationship between manager’s ownership share\textsuperscript{49} in the firm and the demand for audit. Whereas the studies of Chow and Buijink used data of public companies, Senkow et al. (2001) used data of private companies but they also found no direct evidence that the level of management ownership was significantly related to the likelihood of retaining an audit. Seow (2001) conducted an exploratory study and found that in private companies a positive relationship exists between the presence of non-management-shareholders and the demand for audit. Also auditor choice studies show mixed results between audit (choice) and the percentage of management ownership. Simunic and Stein (1987) and Niskanen et al. (2009) found a (marginally) positive relationship. However, Francis and Wilson (1988) and Lennox (2005) found no significant- nor non-linear relationship (negative within the low and high regions of managerial ownership).

The use of a ‘non-family management’ variable can be considered as a further specification of the management ownership variable. Carey et al. (2000) used data of private companies and in particular of ‘family businesses’. They argue that when family owners delegate responsibility to non-family members, this can be seen as a loss of control and therefore they will exhibit greater demand for monitoring to reduce management shirking due to information asymmetry\textsuperscript{50}. The results showed that the demand for audit is positively correlated with the proportion of non-family management. Others also found a positive relationship between the level of family-ownership and the demand for audit (Collis et al, 2004; Niemi et al., 2009; Collis, 2010).

Seow (2001) noticed that with the agency costs arising from the ownership – manager relation it is commonly argued that:

- agency costs increase in relation to size and complexity, or the situation where an audit may be demanded by shareholders (Simunic and Stein, 1987); or
- an audit is perceived to improve the quality and credibility of the financial statements (Wallace, 1981).

It can be questioned if this is also the case in an SME setting. Agency costs in a SME company may arise in the situation where the company has shareholders who are no company directors as these shareholders are unable to directly observe or control the activities of management. The results of the exploratory study of Seow show some support for the hypothesis that shareholders who were remote

\textsuperscript{49} To measure management ownership share Buijink used a proxy, namely: the proportion of common and preferred (cumulative) shares issued that is listed.

\textsuperscript{50} It can be argued to which extent other (intrinsic) motivations and factors (e.g. culture, belonging to the same ‘blood’ line) drives this demand besides information asymmetry.
from the day-to-day operations of the company were more willing to demand an audit. Collis (2010) also tested the relationship whether the existence of shareholders without access to internal financial information has a positive relationship on the demand for audit. Collis only found some support for this relation in the UK sample but not in the comparative Danish sample\textsuperscript{51}.

Collis (2010) also studied the relation between shareholders’ need for audited financial statements and the decision for a voluntary audit if the company would classify for an audit exemption. These results show that this variable was highly significant in the Danish sample but not significant in the UK sample, Collis did not provide an explanation for this difference. From audit fee studies it is known that the existence of majority shareholders reveals mixed results and the conducted meta-analyse showed an insignificant result (Hay et al., 2006).

3.2.1.2 Existence of debt in the capital structure of the firm

Introduction

Besides the relationship between shareholders and management according to agency theory the relationship between shareholders and bondholders may give rise to conflicts of interest. Chow (1982) argues that when a firm has debt outstanding, shareholders or managers, acting in the interest of shareholders, have incentives to undertake financing, investment or production activities that benefit themselves at the expense of bondholders. Changing the firm’s variance of return and diluting the coverage on existing debt by issuing new debt with a higher priority, are activities which are examples of wealth-transfer mechanisms. However, bondholders will include the expected losses while pricing the bonds in an efficient capital market according to Jensen and Meckling (1976). As a result, the shareholders will ultimately bear the costs of their expected wealth transfers from bondholders. The wealth transferring activities, caused by the shareholder-bondholder conflict of interest, is ultimately a negative-sum game. According to Chow (1982) these transfers of wealth by shareholders from bondholders can result in a decline of firm value, because they involve suboptimal investment policies. Jensen and Meckling (1976) state that when shareholders would contract to limit their own ability to transfer wealth from bondholders, they would benefit from an increase in firm value. Namely, such contracts have the ability to reduce the probability of suboptimal investment activities. In addition, they would also receive a higher price for the bonds. In order to prevent the transfer of wealth

\textsuperscript{51} As possible explanations for the difference found between the UK sample and the UK sample, Collis refers to a lower level of trust with unrelated shareholders in the UK and to the existence of company law in the UK that protects the needs of minority shareholders for audited financial statements.
activities, debt covenants or lending requirements can be used to limit the shareholder-bondholder conflict of interests. A common negotiated requirement is the firm’s ability to pay dividends only when minimum solvency ratios are met. The following variables are used in previous empirical studies to test the company – ‘debt capital provider’ relationship:

- audit enhanced the credibility of the company towards external users;
- leverage;
- the existence of debt covenants/lender requirements;
- cost of debt capital;
- improvement of credit rating.

Enhancing credibility
The main function of auditing is adding credibility to the financial information of companies and as a result (external) users of the financial information ‘can put more trust’ in this information. Also in an economic setting trust plays an important role for companies. Because of the trust others have in the company they can get ‘credit lines’, long-standing relations with customers, etc. Therefore management has an incentive to enhance credibility to third parties by showing voluntary cooperative behaviour even if this is not formally requested by these third parties and even if management does not know explicitly that the benefits will outweigh the costs. Qualitative research by Humphrey and Stuart (1986) regarding the nature of the audit in small companies revealed that management believed that bank and inland revenues would use audited financial statements but management also add that they did not know exactly what they would rely on the audit, although a number of interviewees refer to reputation as something these external users would rely on. Collis et al. (2004) also found that perception of management that audit plays a supportive role in the agency relationships of the company with the bank and inland revenue are factors management considers in their decision to opt for a voluntary audit.

Leverage
Chow (1982) focuses on the proportion of debt in the capital structure when stating, along the line of Jensen and Meckling (1976), that shareholders have a greater incentive to transfer wealth from the bondholders as the proportion of debt in a firm’s capital structure increases and therefore shareholders tend to be

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52 Jensen and Meckling (1976: 334) reason that agency costs arise form the capital structure of the firm as they noticed that if firms are financed almost entirely with debt type claims (i.e., non-residual claims) this would have a negative effect on the owner-manager’s behaviour. Potential creditors will not loan $ 100,000,000 to a firm in which the entrepreneur has invested of $ 10,000. With such at financial structure the owner-manager will have a strong incentive to engage in activities (investments) which promise very high payoffs if successful even if they have a very low probability of success. If they turn out well, he captures most of the gains, if they turn out badly, the creditors bear most of the costs.
more willing to bonding contracts to raise additional debt. Chow further argues that whether the shareholders of a given firm would offer monitoring/bonding contracts to its bondholders depends on the severity of their conflict of interest and it is expected that the higher the proportion of debt in a firm’s capital structure is the severity of their conflict increases. Therefore Chow hypothesized that the higher the proportion of debt in a firm’s capital structure, the higher the probability that the firm voluntarily engages external auditing.

Chow (1982) researched the relation between leverage and voluntary audits for a sample of public firms. Chow’s positive and significant results imply that the higher the proportion of debt in a firm’s capital structure, the higher the probability that the firm will voluntarily purchase audit services. The results from Chow’s study confirm the idea that leverage may act as an explanatory variable in relation to voluntary audits. Buijink’s (1992) results also indicated that the proportion of total debt, the leverage ratio, is higher for audited public firms.

Leverage as an explanation for the demand for (voluntary audit) is also tested in a number of other studies. Ettredge et al. (1994) used leverage to explain the demand for quarterly reviews, Carey et al. (2000) if there is a relationship between leverage and voluntary auditing by family businesses and Hay and Davis (2004) in their study of the demand for voluntary audit by incorporated societies. The findings of these studies confirm a positive relation between leverage and the demand for audit. However, Seow’s (2001) study of the demand for audit in small companies in the UK and the Senkow et al. (2001) study of the effects of deregulation in Canada, did not show a significant association between the debt-to-asset ration and the likelihood of retaining an audit.

Debt covenants / Lending requirements
To mitigate the agency problems arising from the existence of debt in the capital structure of the firm shareholders and/or management have an incentive to limit their behaviour through the inclusion of requirement in lending agreements. As accounting numbers are of importance in these lending requirements and accounting numbers are derived from the financial statements the shareholders (and management) will provide these accounting numbers to the debt providers, which are audited by independent auditors (Chow, 1982). Therefore Chow hypothesized that the more different accounting numbers are used in debt covenants the higher the probability would be that the firm voluntarily engages external auditing. Using data of public listed debt of NYSE and OTC companies Chow found a positive significant relationship. Abdel-khalik (1993) looks at the existence of a lender requirement as an explanatory variable for the demand for audit in private companies. He proposes that the owners would voluntarily
demand external audits in order to comply with constraints placed on the organization by lenders. An empirical model is used to test the relationship between lenders’ requirement of audited financial statements and audit fees. He found that the lender’s requirement is a significant determinant for the demand for audit and that this lender’s requirement might be related to the concern of lenders about the existence of loss of control.

A number of studies, focussing on the decision made by the loan officer (Johnson et al., 1983; Berry et al., 1993; Bandyopadhyay and Francis, 1995; Bollen, 1996; Bamber and Stratton, 1997; Wright and Davidson, 2000), have investigated to which extent the loan decision is influenced by the level of attestation of the financial statements. The results of the studies showed mixed results. Whereas the studies of Berry et al. (1993), Bandyopadhyay and Francis (1995), Bollen (1996) and Bamber and Stratton (1997) found that the level of attestation is important in the lending decision, the studies of Johnson et al. (1983) and Wright and Davidson (2000) found no significant relation between the level of attestation and the lending decision. Collis et al. (2004) and Niemi et al. (2009) investigated the relationship between the demand for audit and the existence of an agency relationship with the bank. Both the studies found that the existence of an agency relationship with the bank has a significant influence on the demand for audit. This implies that firms who are seeking for additional debt finance have a higher chance that they will voluntarily engage in audits. Seow (2001) found some evidence that management chose to purchase external audits when lenders had specific requirements or the request to have the financial statements audited. Senkow et al. (2001) found a strong positive relationship between the existence of a lender requirement for audited financial statements and the likelihood of retaining an audit.

**Cost of debt capital**

Blackwell et al. (1998) analyzed if the economic value of auditing leads to reduced cost of debt. They argue that auditing reduces lenders’ monitoring costs interest rates. Competition will force banks to pass along these cost reductions to borrowers in the form of lower interest rates. The empirical results of their study of small private firms in the US showed that voluntary audited companies pay lower interest rates. Kim et al. (2007) complements and extends the study of Blackwell et al. (1998) using Korean data of privately held companies and also concluded that private companies with voluntary audits pay significantly lower interest rates. However, Willekens (2008) found no evidence to support the relationship between the cost of debt capital and the demand for auditing, using a Belgian sample of private companies.
Other studies (Johnson et al., 1983; Bandyopadhyay and Francis, 1995; Bamber and Stratton, 1997; Wright and Davidson, 2000) searching for the relation between the cost of debt capital and auditing (additionally) focused on:

- the decision making process of loan officers; and
- the perceptions of loan officers and/or companies management of the effect of auditing on the cost of debt capital.

Reasoning that audited financial statements would reduce risk and uncertainty of loan officers and as a result influence interest rates charged, Bamber and Stratton (1997) found that loan officers in an experimental setting associate uncertainty-modified audit reports with a greater likelihood of loan rejection, higher risk assessments and higher interest rates. Bandyopadhyay and Francis (1995) found also evidence that interest rates are related to the level of attestation. However, Johnson et al. (1983) in their experiment found no significant relation between interest rates and auditing. Wright and Davidson (2000) also conducted an experiment with loan officers to test if auditing influences the interest rates charges and also concluded that no significant relationship was found between interest and auditing.

**Improvement of credit rating**

Similar to the reasoning behind the ‘cost of debt capital’-assumption, it is argued that agency problems related to obtain supplier credits and debt financing persuade private firms to improve the precision and credibility of their financial information and subsequently their credit rating. Fortin and Pittman (2007) studied in a private firm setting if auditor choice positively affects the obtained credit rating from qualified credit agencies, but they failed to find a significant relationship. Collis (2010) found that if management of companies perceive that there is a beneficial effect of the audit on the company’s credit rating score, this perception subsequently significantly influences the choice to audit or not to audit. Lennox and Pittman (2011) studied for private firms, in a non-mandatory audit setting, if auditing affects the obtained credit rating. They found support that voluntarily audit companies receive significantly higher credit ratings.

**3.2.1.3 Size**

To explain the relationship between the size of the firm and the demand for auditing ‘economy of scale’-theory can be used. Chow (1982) argues that as the total amount of potential wealth transfers increases, the related benefits of undertaking monitoring increase and furthermore the marginal costs of monitoring systems are believed to decrease with firm size. When a firm is twice the size of another company that is audited, it does not take double the costs to audit. The amount of wealth transferred and the marginal costs in relation to size,
leads to the hypothesis that the larger a firm, the higher the probability that it will have its financial statements audited. Although this hypothesis sounds plausible, research on the factor size led to contrasting results. On one hand, Chow (1982), Ettredge et al. (1994), Collis et al. (2004) and Collis (2010) found support for the importance of firm size. However, research by Carey et al. (2000), and Senkow et al. (2001) found that size is no significant factor in explaining voluntary demand of audits.

3.2.2 Internal agency relationships

Introduction
Besides the relationships labelled as ‘external agency relationships’ in the previous section a number of other relationships, using the agency framework, have been identified in previous empirical literature. The following relationships are in this study labelled as ‘internal agency relationships’:
- loss of control;
- the existence of outside directors;
- auditing as a substitute for internal control;
- improvement of quality of financial information / earnings management.

Loss of control (complexity)
Although fully private firms do not have the risk of moral hazard emanating from separation of ownership and control, they are subject to problems of moral hazard “internal” to the operation of the firm (Abdel-khalik, 1993). Using agency theory the employees of a company can be considered as agents, whereas management can be considered as principals. In this case, management seeks to exercise control to ensure that employees take actions that are in the interest of the company as a whole. However, the larger the company in number of employees the more hierarchical levels will evolve as there is a limit to the ‘span of control’ a manager is able to exert over employees. The latter limits management in capability and capacity to control all agents, therefore this situation leads to loss of control, which holds the risk of potential losses for the company. The larger the company grows the more complex and difficult the company becomes as an increase in locations and activities may reduce overall efficiency and increasing risk of moral hazard problems of employees as management may not be able to control the operations by direct supervision (Knechel et al., 2008).

Abdel-khalik (1993) was the first to study the relationship between organizational loss of control and the demand for auditing by management as a compensatory control system. Using an audit fee model, the results of his empirical study
showed that the hypothesized relationship appears to be significant. Senkow et al. (2001) researched the existence of a positive relationship between the demand for audit and the potential loss of control in a company but their study did not find a significant relationship. From auditor choice and audit fee research it is known that a positive relationship with the complexity of the organization exists (Hay and Davis, 2004; Knechel et al., 2008). Also the audit fee – meta analysis and the results of Hay et al. (2006), showed a significant positive relationship between complexity and audit fee.

Existence outside directors
To mitigate agency problems next to external auditing there are other monitoring mechanisms available that have the potential to constrain management’s wealth transfer possibilities, such as internal auditing, management control systems and outside directors (Jensen and Meckling, 1976; Anderson et al., 1993). As accounting literature has viewed the monitoring role of the external auditors as endogenous to a contracting equilibrium in a firm (Watts and Zimmerman, 1990: 152), it follows that in an efficient contracting equilibrium a set of monitoring mechanisms will be used to achieve corporate governance (Anderson et al., 1993). It is therefore expected that the existence of outside directors as a monitoring mechanism would have a substitute effect on the demand for external auditing. Buijink (1992) conducted an empirical study to derive to which extent the presence of outside directors affects the demand for audit. Buijink found a positive relationship between the number of outside directors and the demand for audit, suggesting that both mechanisms are complementary. Anderson et al. (1993) also examined the relationship between the existence of both outside directors and auditing as monitor mechanism. They found that the greater (measured by assets in place and size) the firm the smaller the relative expenditure on monitoring from directors compared to auditing, also suggesting that both mechanism are complementary. However, Ettredge et al. (1994) did not find a significant relationship between the percentage of outside directors and the demand for a timely review of financial statements.

From the overview of empirical studies, it is obvious that no conclusive support is found for the substitute hypothesis. Instead, some evidence suggests that the two monitoring mechanisms -outside directors and external auditing- are complementary. Why are the monitoring mechanism of external auditing and outside directors complementary? Eichenseher and Shields (1985) suggest that this is probably because of the increased effects of regulation and liability. As outside directors are generally high-reputation members who have the role of supervising the actions of management and voting on behalf of shareholders, directors have to deal also with the increased effects of regulation and liability.
This may have contributed to the tendency of board of directors to hire (high quality) auditors. Buijink (1992) suggests that this is probably because outside directors are not always a monitoring mechanism, but measures antagonism among shareholder factions.

**Auditing as a substitute for internal control**

Managers, but also all other users, value the integrity of financial information because that allows them to make better decisions. To provide assurance regarding the integrity of financial information, control systems are established and maintained comprised of both internal and external mechanisms (Eilifsen et al., 2001). Control systems reduce the costs of poor decisions as well with information risk in general and although there are many types of control mechanisms (e.g. internal auditors, external auditors, boards, audit committees) their purpose is often similar. Therefore, it seems reasonable that some internal and external control mechanisms may be viewed as substitutes (Jensen and Payne, 2003). The chosen monitoring arrangements are determined by their agency costs and by the relative costs and effectiveness of the various forms of control mechanism available to them (Ettredge et al, 2000). To choose a best option, managers have to decide on an cost-benefit analysis how to design a control system. With regard to the substitution of internal for external auditing, Ettredge et al. (2000) did not found a significant relationship, but the results of the study of Carey et al. (2000) showed the existence for external auditing to be a potential substitute for internal auditing in private family businesses.

For some companies the financial benefits of an internal control system will not outweigh the costs of such a system. Chow (1982) argues that due to economics of scale an external auditor may be in the position to perform a task more efficiently than internal auditors. If an internal control system is not beneficiary, other options have to be taken in mind. Also management may demand external audit services caused by management’s need for an independent review or audit on internal controls to decrease the chance of material error and to improve operational efficiency (Wallace, 1981; Collis et al., 2004; Knechel et al., 2008). Collis et al. (2004) state that in a small context setting the likelihood of material misstatements (inherent risk) and the chance of the accounting control detecting any material misstatements (control risk) may be high. Furthermore external auditors may be chosen for internal control purposes if there is a smaller chance that the auditors will conspire with manager’s subordinates. Collis et al (2004) and Niemi et al. (2009) found a significant relationship between the demand for audit and the belief of management that the audit acts as a check on internal

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53 The treatment of external auditing as a substitute for internal control, includes in this study also external auditing as a substitute for internal auditing.
controls. However, Collis (2010) found mixed results for this relationship. From audit fee studies it is known that empirical results also showed mixed results of the relationship between audit fees and internal control (Hay et al., 2006).

The existence of a lack of accounting expertise within the company, based on agency theory combined with the cost-benefit argument, may be a potential driver for management to demand an audit. Jensen and Payne (2003) found empirical evidence for managers viewing external audit (in this case audit quality) as a substitute for at least some elements of the internal control system such as a compensation for the lack of accounting expertise within the company. Seow (2001) tried to test a hypothesized relationship between the demand for audit and the accounting expertise within the company, but due to measurement problems he was not able to test this hypothesis.

**Improvement of quality financial information / earnings management**

Research on the relationship between the quality of the prepared financial information and auditor choice (quality differences) has revealed that auditor choice has a positive effect on the quality of the prepared financial information. Also a number of auditor choice studies have tested the relationship between earnings management and auditor quality, by reasoning the more earning management the lower the quality of the reported earnings (Willekens, 2008). Auditing is a control mechanism (monitoring) to reduce uncertainty of users of financial information about the quality of the presented financial information by management. Willekens (2008) therefore hypothesized that the quality of the prepared financial information will be higher and earnings management will be lower of audited financial statements than not audited financial statements. Willekens empirically tested this hypotheses in a Belgian setting, using the mandatory disclosure of differences between last year’s calculated payable taxes on profit and actual paid taxes in the financial statements and a proxy for earnings management based on a model of abnormal working capital accruals. She found a positive relationship between both the quality of the prepared financial information and earnings management and the demand for auditing. Haw et al. (2008) examined whether a relationship between earnings management and the demand for voluntary interim audits exists. Using data of Chinese public firms, they found also support for the existence of the relationship.

Ettredge et al. (2000) studied whether a voluntarily timely review is associated with the quality of prepared financial information, by looking at the number of adjustments recorded in the fourth quarter. Their empirical results provide evidence that the number of adjustments is positively related to the purchase of a timely review. The relationship between the quality of the financial information
and the demand for audit has also been tested by Collis et al. (2004), Niemi et al. (2009) and Collis (2010), using data from the UK, Finland and Denmark. All these studies showed that, based on the perception of management, an audit provides the benefit of improving the quality of financial information.

3.2.3 Other considerations for the demand for audit

Introduction
The aim of this chapter is to present an overview of relationships used in previous empirical studies explaining the demand for audit with the purpose, as set out in chapter 2.5, to conduct a critical examination of known relationships regarding the demand for audit still holds. Besides the relationships which have been labelled as external or internal agency relationships, previous empirical research have tested also a number of other relationships expected to be drivers for the demand for audit. The following relationships have been tested, which are labelled as ‘other considerations’:

- Audit fee / Cost of audit;
- Dependence on auditor relationship;
- Type of audit report issued in previous year(s);
- Financial health;
- Strategic reasons.

Audit fee / Cost of audit
Using economic price theory, it is argued that management will be willing to incur the cost of auditing as long as the marginal benefits exceed the marginal costs. Various studies have described the relationship between audit fee and the benefit of the audit to the client, using an audit quantity or audit quality view (Simunic, 1984; Palmrose, 1986; Hay et al., 2006). Also researchers hold different views on the direction of the relationship of the audit fee and the demand for audit. Senkow et al. (2001) hypothesized a positive relationship between audit fee and the likelihood of retaining an audit, holding the view that when management is willing to pay higher audit fees the higher management perceives the benefits of the audit. The results of their study showed a significant positive relationship. A contrary view of the relationship of audit fee and the demand for audit is held by Collis (2010) and a negative relationship between audit fee and the demand for audit is hypothesized. Also Collis, although opposite of Senkow et al., found a significant negative relationship.
**Dependence on auditor relationship**

In the literature it has been suggested that potential efficiencies exist through the joint production of auditing and other services, due to ‘knowledge spillovers’. Simunic (1984) gathered evidence supporting efficiencies when clients obtain both management advisory services and auditing services. Senkow et al. (2001) investigated whether a company is more likely to retain an audit if other services are provided to the company. It was predicted that the provision of other services may have an impact on the company’s decision as to whether to retain an audit but the results of their study did not support this proposition. Seow (2001) also tested if the company is highly dependent on its auditor for the provision of other non-audit services, the company is more likely to continue the audit? Besides this, Seow tested whether the company is likely to continue the audit if there is a long-standing relationship with the auditor. Based on his exploratory research no significant relationship for both hypotheses was found.

**Type of audit report issued in previous year(s)**

Niemi et al. (2009) argue that the demand for voluntary auditing will also be based upon prior experiences of management from mandatory auditing and the auditor. Holding the view that issuing of a modified audit report the result is of an agency conflict between management and the auditor under a mandatory regime, it is hypothesized that the likelihood of management choosing a voluntary audit decreases with prior conflicts arisen from modified audit reports. However, they found no support for this relationship.

**Financial Health**

Using economic theory it can be reasoned that ‘risky’ companies will gain most from a decrease in information asymmetry between management and users of financial information (Simunic, 1980; Willekens, 2008). As auditing contributes to reducing uncertainty of users of financial information, it can be argued that there is a higher chance that a company engages in voluntary audits when it is financial ‘risky’ due to a bad financial health in order to increase the likelihood of receiving new loans because being audited reduces (partly) the financial risk. In other words the more financial risk the higher the probability users will demand an audit. Willekens (2008) tested the relationship between financial health and auditing and hypothesized that audited companies have better financial performance than not audited companies and found to some extent support for this relationship. Niemi et al. (2009) hypothesised that the likelihood of choosing a non-mandatory audit increases with financial distress but found no support for their hypothesis.

On the other hand, from a cost saving perspective it can be expected that when a company is in bad financial health there is less chance that a company demands
an audit. Following this line of reasoning, Seow (2001) examined whether companies with financial distress are less likely to demand an audit. The results of his study showed no support for this relationship.

**Strategic reasons**

In the decision process whether or not to have the financial statements audited, management may also have ‘strategic’ reasons to opt for a non-mandatory audit, as it has been suggested that companies might engage an auditor to signal good performance. Hay and Davis (2004) tested for a New Zealand sample of incorporated societies whether the strategic reasons may play a role in the demand for audit and found some support.

### 3.3 Hypotheses development and research model

Before the research model used in this study will be described, we start this section with a general hypotheses development of predicted relationships by presenting, based on section 3.2, a chronological overview of relationships tested in previous empirical demand for audit studies. Although, it is argued in chapter 2.5, that only the incorporation of known relationships derived from previous empirical studies in the research model already is justified to see if these relationships still holds, it is the purpose of this study to contribute to the enrichment of our existing knowledge regarding the drivers for the demand for audit (see chapter 1.3). To fill in the calls for a greater integration of literature, chapter two analyzed some of the main criticism against agency theory. In chapter 2.3, using a broader view, some other relationships are presented which may influence the demand for audit also. The general hypotheses development based on the chronological overview will be complemented with some hypotheses derived from the literature review of chapter two.

#### 3.3.1 Chronological overview of variables used in empirical demand for audit studies and hypotheses development

As there is a limited amount of empirical research regarding the demand for audit (Willekens, 2008) a chronological overview has been prepared of the relationships tested in previous empirical studies\(^\text{54}\) (see table 3.2). This chronological overview only presents studies which have used the demand for audit as dependent or independent variable. Besides the studies identified in table

\(^{54}\) Footnote 22 describes the ‘search’ method used in identifying previous empirical studies.
2.1 and 2.2. of chapter 2.2.3, this overview also includes three identified working papers using the demand for audit as variable and two published papers using the demand for voluntary interim review as variable. It is decided not to include identified working papers using the demand for voluntary interim review as variable. Also empirical studies using a substitute for the demand for audit, such as audit choice or audit fee, are not included in this overview. For classification purposes it is decided to group more or less identical variables into ‘variable themes’. A total of sixteen previous empirical studies has been identified using the demand for audit as (dependent or independent) variable. Consistent with the evolution of the current ‘paradigm’ explaining the demand for audit, as discussed in chapter two, an initially strong focus on the variables related to external agency relationships in the first empirical studies is noticeable. Also, the number of variables used in studies increased over time, whereby the external agency variables ‘management-ownership share’, ‘leverage’ and ‘size’ are extended with other variables. Whereas the first studies used data of public companies, in recent years a shift to SME companies is noticeable. Overall nineteen variables are identified, being used in previous empirical studies to proxy for predicted relationships with the demand for audit. Based on this overview of previous empirical research the following general hypotheses can be formulated (see also chapter five for a more detailed hypotheses development):
Table 3.1 General hypotheses development based on previous empirical studies

<table>
<thead>
<tr>
<th>External agency variables</th>
<th>Expected sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 The higher the manager’s ownership share (or family ownership share) in the company, the lower the probability that the company demands an audit.</td>
<td>-</td>
</tr>
<tr>
<td>2 The demand for audit increases with the existence of shareholders with no (direct) access to internal financial information of the company.</td>
<td>+</td>
</tr>
<tr>
<td>3 The demand for audit increases with the perception held by management that the audit improves the credibility of financial information.</td>
<td>+</td>
</tr>
<tr>
<td>4 The higher the proportion of debt in the company’s capital structure, the higher the probability that the company demands an audit.</td>
<td>+</td>
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<tr>
<td>5 The demand for audit increases with the existence of debt covenants / lender requirements.</td>
<td>+</td>
</tr>
<tr>
<td>6 The cost of debt is lower when the company will have the financial statements audited</td>
<td>+</td>
</tr>
<tr>
<td>7 The credit rating score of the company is higher when the company will have the financial statements audited.</td>
<td>+</td>
</tr>
<tr>
<td>8 The larger the size of the company, the higher the probability that the company demands an audit.</td>
<td>+</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Internal agency variables</th>
<th>Expected sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 The larger the number of employees (loss of control), the higher the probability that the company demands an audit.</td>
<td>+</td>
</tr>
<tr>
<td>10 The existence of outside directors increases the demand for audit</td>
<td>+</td>
</tr>
<tr>
<td>11 The demand for audit increases when the company considers audit also to be a substitute for internal audit/internal control.</td>
<td>+</td>
</tr>
<tr>
<td>12 The demand for audit increases when the company does not have a financial department or hires employees with low levels of accounting expertise</td>
<td>+</td>
</tr>
<tr>
<td>13 The quality of financial information is higher and earnings management lower when the company will have the financial statements audited.</td>
<td>+</td>
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</tbody>
</table>
Besides these general hypotheses derived from previous empirical studies, based on the conducted literature review of chapter two, this study will add three additional hypotheses. The following hypotheses will be added:

20. The larger the number of shareholders in the firm, the higher the probability that the company demands an audit (additional shareholder-manager variable);

21. The larger the number of relevant stakeholders depending on the financial information of the company, the higher the probability that the company demands an audit (based on chapter 2.4.2);

22. The demand for an audit increases with the perception held by management that the audit of financial statement is desired by existing shareholders (direct variable, based on chapter 2.3.2).
Table 3.2 Chronological overview of variables\textsuperscript{55} used in empirical demand for audit studies

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<tr>
<td>Management ownership share</td>
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<td>Shareholders without access to internal financial information</td>
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<td>Leverage</td>
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<tr>
<td>Debt covenant / Lender requirement</td>
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<tr>
<td>Cost of debt</td>
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<td>Improves credit rating (incl. perception)</td>
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<td>Size</td>
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<tr>
<td>Loss of control/complexity</td>
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<tr>
<td>Substitute for internal control (incl. perception)</td>
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<td>Quality of employees financial department</td>
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<td><strong>Other considerations</strong></td>
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<td>Cost of audit</td>
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<td>Other services rendered from auditor</td>
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<td>Type of audit report issued in previous year</td>
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<td>Financial health</td>
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\textsuperscript{55} For presentation purposes not all control variables used in the regression models of the previous studies are presented in this overview.

\* = study has voluntary demand of review of interim financial statements as a dependent variable.
3.3.2 Research model of this study

The aim of this study is to contribute to the existing literature by enlarging the existing body of knowledge regarding the drivers for the demand for audit. The following empirical study consists of comprehensive testing whether previously used variables for explaining the demand for audit also will hold in a Dutch private SME setting as drivers for the demand for audit. Previous empirical research regarding the demand for auditing learns us that, due to difficulties in data selection, limited research has been carried out and often shows mixed results in different settings. This in itself justifies additional empirical research, to test if already identified relationships show similar results in a Dutch setting. Furthermore, this study uses data of companies which are exempt from the mandatory audit regime. This creates a rare opportunity (Senkow et al., 2001; Willekens, 2008; Lennox an Pittman, 2011) and creates the possibility to use direct variables related to the demand for audit, where other studies have used proxy variables to test the hypothesized relationships.

As the research question of this study has been formulated in chapter 1.3 as: what are drivers for the demand for audit in a non-mandatory environment?, we are interested in both the individual relationships of identified variables with the demand for audit as well as the answer to the question which of the variables are driving the demand for audit. To test the latter, multivariate regression has to be conducted to identify the most important drivers for the demand. Following the presented classification of variables in this chapter, the general regression model for the demand for audit (DVA) of this study can be formulated as follows:

\[
\text{DVA} = f(\text{external agency variables, internal agency variables, other variables})
\]

In chapter four the context for auditing in the Netherlands, the data selection, data description and descriptive statistics are presented. Subsequently the empirical results are presented in chapter five (individual hypotheses) and chapter six (regression analyses).