



**THE REPUBLIC OF TÜRKİYE
SOCIAL SCIENCES UNIVERSITY OF ANKARA
THE GRADUATE SCHOOL OF SOCIAL SCIENCES**

Risk Aversion, Uncertainty And Audit Pricing

Master's Thesis

Başak İlhan

Master of Science in Business Administration (English)

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Özet

Risk işletmeler için hayatı önem arz eden bir olgu olarak karşımıza çıkmaktadır. Bu nedenle işletmelerin riske karşı her zaman hazırlıklı olması gerekmektedir. Çünkü riskler belirlenmeden faaliyetler gerçekleştirilirse işletme hem ekonomik hem de yönetsel açıdan ciddi sıkıntılarla karşılaşabilir. Bu nedenle işletmeler için risk belirleme süreçleri hayati önem arz etmektedir. Özellikle dünya genelinde yaşanan finansal krizler işletmelerin bu yönde adım atmasına ve işletme içi risklere odaklanmasına neden olmuştur. Ayrıca belirsizliğin piyasada hâkim olması hem yatırımcılar hem de işletmeler için önemlidir. Belirsizlik karşısında nasıl davranacağını bilen işletmeler kriz dönemlerde daha az zararla karşılaşabilir hatta krizi fırsata çevirebilir. İşletmelerin risk belirleme ve belirsizlikleri değerlendirme konusunda yardım aldıkları denetçilerin küresel dünya da yaşanacak olası durumlar tahmin etmesi ve işletmenin zaaflarını doğru bir şekilde değerlendirmesi sürecin olumlu yönde etkilenmesine katkı sağlamaktadır. Bu da denetçinin yaptığı iş konusunda daha yüksek maliyet çıkarmasına neden olabilmektedir. Çünkü riskten kaçınmak ve belirsizlikten kurtulmak bazı çalışmaların titizlikle yapılmasına neden olacaktır. Bu nedenle de denetçiler normalden daha fazla iş yükü ile karşılaştıkları yapılan iş için birim maliyetini artıracaktır. Özellikle piyasa üzerinde artan belirsizlik işlerin daha da zora girmesine ve denetçinin işinin zorlaşmasına neden olacaktır. Bu da denetçi fiyatlarının artmasına doğrudan etki edecektir.

Bu çalışma, belirsizlik ve denetim fiyatlandırması arasındaki ilişkiyi incelemektedir. Sonuçlar, piyasa belirsizliğinin firmalara fiyatlandırma süreci yoluyla denetçilere göre daha büyük bir avantaj sağladığı ve belirsizliğin denetim fiyatlandırması üzerindeki etkisinin denetçi ve müşteri özelliklerine göre değiştiği düşüncesiyle istikrarlıdır. Genel olarak, bu makale, piyasa ortamındaki belirsizliğin denetim fiyatlandırmasının belirlenmesini etkilediğine dair kanıtlar sunmaktadır.

Anahtar Kelimeler: Belirsizlik, Riskten Kaçınma, Denetim Fiyatı, Risk

Abstract

This study examines the relationship between uncertainty and audit pricing. The outcomes are stable with the thoughts that market uncertainty gives the firms a greater advantage over auditors through the pricing process and that the effect of uncertainty on audit pricing varies across auditor and client attributes. Overall, this paper provides evidence that the uncertainty in the market environment affects determining audit pricing.

Key Words: Uncertainty, Risk Aversion, Audit, Audit Pricing, Risk

1. Introduction

Scandals such as Enron has made it necessary to take vital actions. The Sarbanes-Oxley Act, SEC and similar regulations were implemented to prevent the repetition of these issues and violations. In wake of these developments, the attitudes of companies towards risk and auditing have drastically changed.

In its most basic terms, account auditing for companies is defined as a process involving the collection and evaluation of the necessary evidence by independent and competent persons in order to determine the degree of compliance of the claims regarding the activities and events of the enterprises with these criteria in line with the predetermined criteria and to report the results to interested parties. Audit activities for companies are generally handled in line with certain elements. These are listed as that the audit is a systematic comparison process, that the evidence obtained is collected and evaluated impartially, that the audit must be carried out by independent and expert people, and that the findings obtained as a result of the assessment are shared with everyone concerned (Kurnaz, 2006: 12). Audit is a vital operation for the survival of companies and their shareholders and should also be evaluated within the scope of internal audit activities.

Internal auditing is defined as an independent valuation function created within the organization to evaluate and examine the activities of the organization in order to serve a particular organization (Moeller and Witt, 1999: 11). The main purpose of internal audit is to protect the sustainability of companies against all kinds of potential damage and liabilities, to investigate whether they are carried out in accordance within the policies determined by the companies. There are core principles to internal auditing. These are, adding value, independence, creating assurance, consulting, being systematic and disciplined (Çidem, 2021: 44). Internal auditing sets path for companies to achieve their goals and to maintain the quality of corporate governance. In the emergence of such requirements, it is primarily thought that the risk factors and risk types increase gradually and prevent the competitiveness of the enterprise. For this reason, internal audit activities are mostly the desire to control all activities within the enterprise (Türedi et al., 2015: 66).

The evolution of companies over time, the developments in technology with globalization and the emergence of particular financial scandals have resulted in traditional internal auditing becoming a risky and untrusted process. Internal audit's main purpose is to provide assurances that the companies' risks are identified and managed correctly and aims to create added value for the companies (Goodwin-Stewart and Kent, 2006: 83).

Ensuring trust in the financial statements and institutions owned by the enterprises has become very important, especially for investors. Most investors make their investments according to the reliability of the entity. For this reason, every incomplete or incorrectly prepared financial statement affects the behavior of investors as well as the companies. The financial problems experienced in the past have made internal control and internal audit very important. The competitive conditions that have developed with globalization have caused companies to engage in risky activities and companies have tried to think that they will gain more benefits in this way. After this development, as a result of risk management, it has become necessary to audit the risky activities handled by the enterprises, and after this situation, risk-oriented internal audit has come to the agenda of the enterprises.

A review of the literature on audit reveals that many studies have been conducted on this subject. In these studies, Akyürek (2006) examined the audit structure in the banking sector and stated that the benefits of audit in the banking sector will be achieved by making the laws, regulations, and other rule-makers that regulate the sector to enable the internal audit system to work and by implementing the corporate risk understanding in banks. Kurnaz (2007) discussed audit on the corporate governance axis and concluded that although audit is widely accepted by both internal and external auditors, it is not adopted by senior management. In his study on audit, aimed to determine the extent to which risk assessment and risk-focused internal audit practices are used in internal audit and to reveal the profile of internal audit in Turkey. As a result of the research, the concepts of internal audit, internal control, risk and risk management, traditional internal audit and audit were compared and the importance of audit was emphasized. Doğan (2011), in his study on SMEs, concluded that there is no internal control system, internal control is not seen as a necessary system, there are no internal audit teams and the number of trained people is low. Yahşi (2014) presented audit in participation banks and a model proposal in his study and as a result of

the research, he emphasized that audit approach should be adopted in participation banks by examining the development of participation banking in Turkey and in the world, the management of risks and risks that may occur in banks, and audit. Yılmaz (2017) examined the issue of audit in hotel companies and concluded that the internal control and internal audit structure is effective in hotel companies. It can be said that the studies in the literature are generally related to the structure of the companies. Although previous studies mostly examined the impact of risk aversion on a company level, this study aims to analyze the effect of risk aversion and uncertainty on the USA's audit sector pricing.

Tabak et al. (2010) examined the relationship between locus of control and innovative individual behaviors in their study and investigated the mediating effect of tolerance for uncertainty and risk-taking. As a result of the research, there is no direct relationship between individuals' locus of control and innovative levels. It has been determined that the locus of control affects the level of innovation through tolerance for uncertainty and risk-taking.

Köksal (2013) stated in his study on the determination of risks within the scope of the Turkish Commercial Code No. 6102 and the responsibility of the auditor, that businesses generally benefit from auditors to avoid risks and that independent auditors should apply the necessary obligations under the law in matters related to risk management.

Akçakanat (2012) discussed the enterprise risk management and enterprise risk management process in his study. Within the scope of the research, businesses should act in accordance with risk management in order not to be interrupted in their activities in risky environments. It has also been stated that businesses need auditors to avoid risk.

Türedi et al. (2015) examined the subject of risk-based internal auditing in their study. They stated that the emergence and development of internal structures such as corporate governance and internal control carried out in the enterprise, the understanding and practices of internal auditing are also effective in gaining a different dimension, and risk-oriented internal audit understanding and practices gain importance. For this reason, it is stated that it is important for enterprises to be subject to risk-based internal audit in order to avoid risk and get rid of uncertainty.

The autoregressive distributed lag model (ARDL) technique is used to determine the impact of risk aversion and uncertainty on audit pricing. Autoregressive distributed lag (ARDL) models are used to analyze dynamic relationships with time series data in a single-equation framework. The estimating equation is the same as the conventional ARDL model, including a specific restriction. Thanks to this method, we can see long run and short run effects.

This study examines the relationship between uncertainty and audit pricing. The outcomes are stable with the thoughts that market uncertainty gives the firms a greater advantage over auditors through the pricing process and that the effect of uncertainty on audit pricing varies across auditor and client attributes. Overall, this paper provides evidence that the uncertainty in the market environment affects determining audit pricing.

Risk emerges as a vital phenomenon for businesses. For this reason, businesses should always be prepared for risk. Because if the activities are carried out without determining the risks, the business may face serious problems both economically and administratively. For this reason, risk identification processes are vital for businesses. Especially the financial crises experienced around the world have caused businesses to take steps in this direction and focus on internal risks. In addition, the dominance of uncertainty in the market is important for both investors and businesses. Businesses that know how to behave in the face of uncertainty may face less damage in crisis periods and even turn the crisis into an opportunity. The fact that the auditors, who are assisted by the enterprises in determining risk and evaluating uncertainties, predict possible situations in the global world and correctly evaluate the weaknesses of the enterprise contribute to the positive effect of the process. This may cause the auditor to incur higher costs for his work. Because avoiding risk and getting rid of uncertainty will cause some studies to be done meticulously. For this reason, the auditors will increase the unit cost for the work done when they face more workload than normal. In particular, the increasing uncertainty on the market will cause the work to get more difficult and the job of the auditor to become more difficult. This will directly affect the increase in auditor prices.

2. THEORETICAL FRAMEWORK

2.1. The Concept of Risk

Risk, a word of Latin origin, comes from the French word "risque". According to the TDK, it is expressed as "the state of being damaged". In the most general terms, risk is expressed as the probability of occurrence of a defined hazard and the component of the severity of the result (Koh and Jeyaratnam 2004: 1045-65). In another definition, risk is defined as "the probability of resulting in damage, injury, illness or death that occurs in association with a particular hazard (Furedi, 2001). Besides representing any undesirable event or danger, risk can sometimes also include opportunities (Finucane et al. 2000, 17). Risk is not an objective concept, therefore it may differ according to the socio-cultural, political, ideological and economic conditions of individuals. This refers to the way individuals perceive risk.

2.2. Types of Risk

Looking at the literature on risk, it has been determined that risk is generally divided into two categories. These are systematic and unsystematic risks.

2.3. Systematic Risks

In traditional portfolio management, it is predicted that the risk factor can be reduced by simply increasing the number of securities in the portfolio without considering the relationships between the returns of the securities in the portfolio. This approach lost its validity with the theory developed by Markowitz, the founder of modern portfolio management. The Markowitz Mean-Variance Model demonstrated that risk cannot be reduced only by diversifying the portfolio and that the direction and degree of the relationship between the securities in the portfolio are also effective in reducing risk. Modern Portfolio Theory defines the trade-off faced by the investor as the expected return against risk. Markowitz Mean-Variance Model gave a mathematical meaning to the proverb "Don't put all your eggs in the same basket!" (Markowitz, 1952). In order to derive equilibrium conditions in the capital market, Sharpe (1964) assumed that there is a common pure/unadjusted interest rate at which all investors can borrow and lend funds on equal terms and that investor expectations are homogeneous, and argued that in equilibrium, there will be a simple linear

relationship between the expected return and the standard deviation of the return for efficient combinations of risky assets. He also suggested that there would be a consistent relationship between the expected returns of assets and systematic risk.

Arbitrage Pricing Theory (APT), developed by Ross in the 1970s and first formulated and published by Stephen A. Ross in 1976, is the most controversial of the alternative models. Ross' formulation is less restrictive than the FVFM. It can be applied to both single-period and multi-period cases. Among the tools available to investors and portfolio managers, the so-called APT model is an economically based model. The APT model is a risk-return relationship that uses a weighted average of non-payment risk, interest rate risk, market risk, purchasing power risk, management risk and other risk factors that may be relevant to the valuation of a particular asset. APT is a model that shows how to determine the appropriate rate of return for the relevant risk factors in finding the present value of an asset (Francis, 1993: 63).

APT is based on the recognition of important systematic factors that affect the long-term average returns of financial assets. AIT does not ignore the myriad factors that affect the daily price changes of individual stocks and bonds, but gives more concentrate to the important factors that affect the sum of assets in large portfolios. By recognizing these factors, intuitive assessments of portfolio returns can be made. The ultimate goal is to achieve a better level of understanding of portfolio construction and evaluation, thereby improving overall portfolio design and performance (Roll and Ross, 1984, p.1)

Risks generally arise as a result of the interaction of different sources. When the factors affecting the occurrence of risk are generally caused by the social, economic and political environment, they are associated with the systematic risk phenomenon. From this point of view, all of the securities in the market are directly affected by systematic risk, although at different rates (Aktan, 2007: 16). Systematic risks may arise from different reasons.

Okka (2010: 367) listed the causes of systematic risks as follows. these;

1. Inflation risk,
2. Differentiation of investor expectations in line with economic indicators,
3. Changes in economic problems and events at the international level,

When systematic risks are evaluated in terms of companies in line with the reasons mentioned above, there is no possibility of preventing any change in the economic field, that is, risk individually, no matter what companies do. For this reason, every company can take various measures according to the risk to be encountered in line with its own possibilities (Tanrıöven and Aksoy, 2011: 120). Systematic risks in the literature are inflation risk, interest risk, market risk, credit risk, political risk and currency risk. In this part of the study, general information about systematic risks is given.

Inflation Risk: This type of risk is more prominent in countries with high inflation (Usta, 2008: 254). In countries where there is an inflation risk, the purchasing power usually decreases. For this reason, inflation risk can also be expressed as purchasing power risk in some cases. All securities are directly affected by the increase in inflation, although to varying degrees (Coşkun, 2010: 349).

Interest Rate Risk: This risk represents the change in the market interest rate. Changes in the interest rate affect the market prices and yields of securities with a certain interest yield, causing them to change. This type of risk is an important risk for investors who borrow mostly at fixed interest rates. Investors with fixed income securities cause the market value of securities to decrease with the increase in market interest rate (Ceylan and Korkmaz, 1998: 43).

Market Risk: Market prices can sometimes experience large fluctuation for any reason or for no valid reason. These situations affect the investor's efficiency negatively and cause negative market risk. For this reason, price changes arising from market risk are beyond the control of the enterprise and cannot be intervened (Ceylan and Korkmaz, 1998: 47-48).

Currency Risk: It is the currency risk, which is one of the most felt risks today. The exchange rate is the amount required for individuals to buy foreign currency with their country's currency (Brealey, Myers and Marcus, 2007: 637). Currency risk is defined as the possibility of loss in cash flows, assets, liabilities and net profits of the companies arising from the change in the exchange rate (Çiftçi and Yıldız, 2010: 17)

Credit Risk: This risk mostly arises from the fact that the persons or institutions with which they engage in financial activities do not fulfill their responsibilities (Yücel, Mandacı and Kurt, 2007: 2).

This risk can be based on different reasons such as the debtor's failure to fulfill the terms of the contract, bankruptcy and legislative changes. Credit risk, which is among the oldest risk types, is also called counterparty risk (Kishali and Pehlivanlı, 2006: 78).

Political Risk: Political risks can be expressed as the possibility of the government making radical changes that will negatively affect the investors in a country, and the possibility of social events such as war, revolution or uprising (Kaya, Güngör and Özçomak, 2013: 24). Political risks may arise depending on a country's own strategy as well as with the influence of another country.

2.4. Unsystematic Risks

Unsystematic risks should be taken more serious than systematic risks. Because these risks refer to the risks that differ according to the situation of an enterprise, these risks are the risks associated with the activities related to the management, production, marketing and finance of the enterprise. Okka (2010: 367-368) expressed the sources of non-systematic risks as follows.

1. The effectiveness of the management mechanism and the decisions taken about the companies,
2. Employees going on strike,
3. Supply of raw materials in the production process,
4. The production efficiency of the enterprise,
5. Environmental regulations,
6. It is expressed as the internal and external competitiveness of the enterprise.

Unsystematic risks that occur without relying on economic factors can be eliminated or their effects can be reduced by applying different strategies. Aktan (2007: 16) stated unsystematic risks as financial risks, companies and industry risk and management risk. In this part of the study, general information about unsystematic risks is given.

Financial Risk: This type of risk is mostly used to express the decrease in the solvency of the enterprise. The main element here is the situation that arises depending on the use of equity or foreign resources in the activities of the enterprise. From this point of view, financial risk can be expressed as the loss of continuity of companies' incomes as a result of borrowing and the decrease in profitability ratio (Usta and Demireli, 2010: 28).

Companies and Industry Risk: In general, increases or decreases in the profitability ratios of enterprises operating in more than one company line cause a significant fluctuation in the stocks of the relevant enterprise. Investors who invest in these stocks may experience loss of capital and income. In terms of the economy, some of the negativities that occur in the industry can directly affect not only that particular industry but also other companies that have a relationship with it. These changes in economic conditions may be caused by prohibitions and market attitudes (Aydin et al., 2010: 334-335).

Management Risk: Companies management is very important for a company to survive and to compete with its competitors by following the right strategies. As a result, it is necessary to have a good management mentality and skills. In addition, company managers should be able to undertake different roles such as insuring company assets, conducting market research, introducing products to the market, providing cost management and increasing competitiveness. Managers following the wrong strategy in these matters may cause the companies to fall into a bad economic situation (Ercan and Ban, 2009: 180). For this reason, it is more important to work with more professional managers in companies. Because these managers know how to react to the situations they face.

2.5 Risk management

For companies, the risk is the possibility of all kinds of developments in the process. When considered in terms of companies, management is an important concept that mediates the effective and efficient use of all resources belonging to the companies, especially human resources, in order for the organization to achieve its goals, and includes decision-making processes (Eren 2011).

Based on the definitions above, risk management is defined as a process that manages to systematically identify, analyze and respond to risks throughout the lifecycle of any project and to ensure appropriate value and risk mitigation or control capability of said risks. (Wang et al. , 2004).

Going back to the literature, risk management processes should generally include the following steps (Stanleigh 2015, Bodicha 2015):

1. Timely recognition of uncertainties,
2. To make a risk assessment by expressing the uncertainties numerically,
3. To classify the risks within themselves,

4. Selection of risk management techniques appropriate to the classified risks,
5. Making decisions in accordance with the selected risk management techniques,
6. To implement the necessary decisions in order to solve the risks within the scope of quality and cost in the foreseen time frame,
7. It is listed as monitoring and controlling all kinds of decisions taken throughout the process.

The increase in the expectation of interests of the enterprises also causes the expansion of their fields of activity. For this reason, companies need to pay attention to risk management practices in order to continue their existence and increase the expectation of interest. In this context, a new perspective called enterprise risk management has emerged in the face of increasing expectations about risk management (Beasley et al., 2005: 522). Most companies handle the risk management process effectively and can get services from financial institutions that are experts in this field. In addition, different policies on risk management are developed and put into practice (Lienberg and Hoyt, 2003: 37).

2.6. Risk Management Process

As it can be understood from the definition of risk management, it is a concept that goes through different processes and phases. For this reason, the risk management process has different interrelated steps. These steps include defining the risk, evaluating and calculating the risk, choosing among alternative risk correction tools, implementing the selected alternatives, and evaluation and control processes:

Emhan (2009) lists the stages of the risk management process are as follows:

1. Identifying the risk: At this stage, the risk needs to be identified. The information obtained during this process is necessary for solving the problem.
2. Evaluation and calculation of risk: After the risk identification process is completed, the managers involved in the risk management process evaluate the risks. This is the measurement of the potential loss and the probability of the risk occurring. For this, the risks are divided into categories and evaluated in order of importance.

3. Choosing among alternative risk regulation tools: In this step, risk management methods and techniques are tried to be determined. The most appropriate method is selected for each risk.

4. Implementation of the selected alternative: After the risk factors have been correctly identified and the necessary methods have been selected, the alternative approaches chosen should be implemented. This stage is also considered as the implementation stage.

5. Evaluation and control: After the alternatives for risk management are determined and implemented, the solution is evaluated and applied.

2.7. Control Concept

The origins of the concept of control date back to ancient times. As people begin to live as a community, control is considered as an indispensable phenomenon in every period. Especially so with the industrial revolution, economic life gained strength, and public authority increased, and the supervision of public decisions and practices gained a different dimension (Bozkurt, 2013: 56).

When the studies on the concept of auditing are examined, it has been determined that it is defined in different ways. In particular, auditing is handled in different ways from an institutional and individual perspective. The most accepted definition of audit in the literature is as follows; “It is a systematic process that impartially collects and evaluates evidence in order to investigate the degree of conformity of claims about economic activities and events with pre-determined criteria and to report the results to those who are interested.” Güredin (2010:11).

Auditing can be specified as a tool used to detect unnoticed deficiencies in companies, to strengthen customer relations, and, in parallel, increase the profitability of the companies. It is possible for companies to gather from people who do the same jobs all the time, causing possible company blindness. An outside observer helps to eliminate these deficiencies. This reveals the importance of auditing (Sabuncu, 2017: 163). Auditing is important in terms of eliminating the possible blindness that may occur in people who do the same jobs in an enterprise, by the eyes looking at the related works from the outside. With audit activities, companies enable them to make decisions about how they are progressing economically, their status in reaching their goals, and their future decisions.

The concept of audit is defined in terms of companies science as the process of evaluating the conformity of the organization through research, observation, and questioning in line with the predetermined functioning and output standards within the framework of a certain program and transferring it to the relevant people (Yakar, 2015: 252).

Auditing, which is a very important concept for companies, has some features. These are (Türkoğlu, 2021: 24-25);

1. Audit consists of a certain process.
2. Audit has certain criteria. For this reason, the accuracy and reliability of the financial information of the enterprises are decided in accordance with the predetermined criteria.
3. Financial statements prepared by the entity serve as evidence.
4. The audit process is impartial. Evaluations are carried out in this context. Companies have to form their opinions impartially as a result of the situations and documents in their financial statements.
5. The results obtained by the auditor are shared with everyone concerned.
6. The opinions written by the auditors against the claims made by the enterprise are reported in writing.

2.8. Audit Types

When the literature on auditing is examined, it has been determined that there are different types of auditing, varying according to their purpose and auditor status. This part of the study gives general information about audit types. The audit types are audit of Financial Statements, Compliance Audit, Activity Audit, and finally Performance Audit.

Audit of Financial Statements: According to the Capital Markets Law, in the audit of financial statements, it is tried to form an opinion on whether the financial statements of the enterprise reflect the financial situation, operating results and changes in the financial situation accurately and honestly, in accordance with the generally accepted accounting principles and legal regulations. Auditors' responsibility in the audit of financial statements is to examine in accordance with

professional standards, to reach an opinion on the integrity of the financial statements and to report their findings. This report increases the reliability of the financial statements (Dursun, 2010: 421).

Compliance Audit: Compliance audit carried out within the scope of internal audit is an audit of whether the organization acts in accordance with the legislation and rules in all its activities (Güredin, 2010:17).

Operational Audit: Operational audit includes systematic reviews of the effective and efficient use of resources in the enterprise. Sometimes this type of audit is also called a performance or management audit. The purpose of operational auditing is to evaluate the success of the companies, to identify areas of improvement and to develop recommendations. In other words, there is a clear relationship between operational control and internal control (Kiracı, 2003: 67).

Performance Audit: Performance audit is also called as activity audit and operational audit. Performance audit carried out within the scope of internal auditing is the examination of the resources used and benefited by the organization while performing its activities on the basis of effectiveness and efficiency. The main purpose of this review is future-oriented. It is aimed to provide benefit for the future by examining and evaluating past activities. It is an audit aimed at making the activities of the organization more effective and efficient, that is, developing it (Bilge and Kiracı, 2010: 13).

2.8.1 By Auditor Status

Types of audits made according to the type of auditor in the literature are Audit by Internal Auditor Audit by Independent Auditor Audit by the Ombudsman.

Internal Audit-Internal Auditor: International Professional Practice Framework (IPPF) internal auditing, “Internal auditing is an independent and objective assurance and consulting activity that aims to improve and add value to the work done by an organization. Internal audit supports the organization in achieving its objectives by bringing a systematic and disciplined approach to analyze and improve the effectiveness of risk management, control and governance processes.” defined form.

Independent Audit-Independent Auditor: It is the audit of the financial statements of companies or companies in an impartial and reliable manner by an external, independent auditor. Independent auditing is carried out by independent audit institutions authorized by the Public Oversight, Accounting and Auditing Standards Authority (KGK), or by CPAs who have this authority and carry out their profession without being affiliated with any real or legal person (Karadeniz, 2019: 178).

Public Audit-Ombudsman: Public audit is based on the auditing of both public administration institutions and organizations and private sector organizations in the context of public law. The audits carried out by people who work for public institutions and work in the public interest are called public audits. Public auditing is the examination of public institutions and organizations and private sector enterprises by the personnel appointed by the public (Kavut et al., 2009: 38).

2.8.2. Identification of the Organization

The process of getting to know the organization and obtaining information about the field in which the organization operates, which is the first stage of the risk-based internal audit process.

This stage should be seen as a preliminary stage in the risk-based internal audit implementation process. At this stage, the internal auditor should investigate whether the organization to be audited has an appropriate and sufficient organizational structure for the audit. In order to achieve the desired success in risk-based internal audit, the vision and mission of the institution should be clearly stated. Because these concepts are extremely important in determining goals and objectives. For an institution that has not defined its goals and objectives, it is very difficult to correctly identify and evaluate risks (Cain, 2006: 13).

The audit process does not start with risks, the audit process starts with obtaining information about the companies and its important activities. Because risks do not occur independently, if risks prevent a companies or organization from achieving its goals, these conditions create risks. Therefore, the starting point of risk-based internal auditing is organizational goals and activities. In this process, detailed information about companies activities/processes is collected (Kurnaz and Çetinoğlu, 2010:96).

In order to ensure the effectiveness of risk-based internal auditing, the first step is to recognize all companies processes, including the internal control system, the environmental structure of the companies and its workflows. Therefore, at this stage, the objectives of the companies and the infrastructure to be used for these purposes are investigated. Risks that may arise from

within the enterprise or from environmental conditions and that will prevent the achievement of these objectives are determined and the effectiveness of control mechanisms that will reduce these risks to manageable levels is tested (Türedi et al., 2015: 15).

2.8.3. Preparation of Audit Plan

Due to reasons such as the rapid growth of companies, the diversification of their fields of activity, and the increase in managerial responsibilities, the audit that is needed is also likely to have a dynamic structure. In other words, in parallel with these developments, the audit function should constantly renew itself both in terms of quality and quantity. In order to have an effective and efficient audit function within the enterprise, it is very important to have an audit plan that meets the needs and has a dynamic structure (Braiotta, et al., 2010: 200).

Organizational planning is the process of organizing resources within the scope of purpose and target in order to obtain maximum benefit from available resources. From an internal audit perspective, these resources are personnel, budget, internal audit tools, and the place of internal audit before other units. These sources reveal the place of internal auditing within the company and what is expected from internal auditing (Moeller, 2005: 286-287).

The chief audit executive should make risk-focused plans by prioritizing internal audit activities in line with the organization's objectives. The internal audit activity's engagement plan should be based on a risk assessment performed at least annually. The purpose of the audit plan is the allocation of audit resources according to organizational priorities, focusing on high-impact areas. In other words, it is the concentration of audit resources on the areas where the risk, impact and probability combination is highest (Eugene, 1998: 1).

Standard 410 of the Institute of Internal Auditing, one of the Professional Internal Audit Standards, describes the components required to perform an audit risk as follows.

- **Control Area;** It should be determined which areas in the risk assessment process need to be re-examined.
- **Management Support;** Because managers are ultimately responsible for risk management, they must see the risk in the internal audit process in fulfilling their responsibilities as assistance.

- **Right Skills;** To conduct an effective risk-based internal audit, internal auditors must understand the companies' strategies, regulations, and companies plans while knowing how companies systems and processes operate in the organization.
- **Time;** Risk-based internal auditing, by definition, is not a routine investigation. To conduct risk-based internal audit, time should be appropriately segmented in the audit plan. The division of time is made possible by reducing or eliminating certain traditional controls that are not deemed necessary according to the risk assessment.

While preparing the audit plan, the staff, budget, and time usage of the internal audit unit are evaluated together with the risk assessment. The department's current available audit day is allocated to scheduled or unscheduled work. Unplanned studies are based on the special demands of the management, the review of particularly sensitive areas during the monitoring process, and the negotiations with the management (Eşkazan, 2005: 33).

The strategy should determine the long-term position of the internal audit department regarding where it currently stands in the organization and where it wants to be in the future. While determining the strategy, issues such as what kind of services the internal audit department currently provides and the contribution of these services to the organization, the formation of the internal audit department, its effectiveness and efficiency should be taken into consideration (Görener, 2010: 40). After the risks are placed in order of importance and priority, it is essential that low-risk ones are audited at least once every three years, those with medium-level risk at least every two years, and those with high risk once a year. The audit plan, on the other hand, should be updated in accordance with the results of the risk assessments carried out for each year and, if necessary, revised in accordance with the changing conditions (Türedi et al., 2015: 15).

2.9. Renewal of Risk Assessment and Preparation of Audit Report

In the second risk assessment process, the effectiveness levels of the control mechanisms established for the identified risks are evaluated. At this stage, the auditor's instruments used in auditing the conformity of controls put in place by management as designed are the interviews and on-site audit arguments. Therefore, while the auditor's main data source is the information obtained from the management in the preliminary risk assessment stage, the tests and evaluations performed by the auditor in the second risk assessment stage are the main source of the risk rating. It is the second risk assessment data that gives the final shape to the audit plan and ensures that it is prepared in an improved form (Türedi et al., 2015: 15).

The audit report constitutes the last and most important stage of the risk-oriented internal audit process. The internal auditor may have performed very well the procedures that should have been done in the previous stages. However, if the audit report to be prepared at the final stage does not perfectly reflect the previous work of the internal auditor, the internal audit will not be considered successful. After all the procedures required by the audit activities, the last product that the manager will see will undoubtedly be the audit report. Therefore, the internal auditor should prepare the audit report with great care and completeness and present it to the relevant parties in a timely manner (Griffiths, 2005: 117). Quality audit reports prepared in this direction will provide added value to the institution at the desired level.

Major groups interested in internal audit reports can be divided into three as operational management, audit committee, and senior management. Each group has different expectations from internal audit. For example, operational management demands are related to advisory support regarding the effectiveness of operations and adequacy of controls. The expectation of the audit committee is for assurance services related to risk and control. Finally, senior management's expectation from internal audit may be for both consulting advice and assurances related to risk and control. However, the demands of these groups may overlap (IIARF, 2003: 4).

The fact that each segment has different demands and the internal auditor has to meet these demands in a single audit report naturally complicates the work of the internal auditor. This situation shows that it is not easy to write an audit report. Lawrence B. Sawyer states that the best way to develop audit reports is to summarize audit findings and results from a risk perspective and communicate them to the relevant people through audit reports. This approach is quite different from the traditional audit approach, which only gives feedback in a very detailed way in line with its own findings (Rosa, 2005: 73).

2.10. Risk Aversion

Risk aversion is generally explained in the fields of economics and finance as the tendency of people to prefer outputs with lower uncertainty over those with high uncertainty, even if their average output has a lower monetary value (Werner, 2008). In the psychophysical approach, choosing a definite outcome instead of a gamble/risky situation/drawing with equal or higher expectations is expressed as risk aversion (Kahneman and Tversky, 1984: 341). Risk avoidance is not being exposed to personal, property or liability risks by not engaging in a specific business or activity. In this approach, although risk is avoided by only doing business in the most reliable

fields of activity, many business opportunities are missed. Eliminating risk is a way to reduce a company's risk exposure by not risking it in any way, and therefore its use is highly dependent on the risk attitude of decision makers (Şahin, 2023).

Risk and risk aversion behavior is an important part of economic theories and debates about decision making under uncertainty (such as lottery/lottery selection, asset valuation, contracts, and insurance). With the increase of empirical studies in social sciences, there are many approaches that try to evaluate the importance and nature of risk avoidance and empirically correlate individual risk attitudes with various behavioral schemes. The beginning of scientific discussion of risk attitudes and risk avoidance is Bernoulli's work and St. Based on the St. Petersburg Paradox, it has been through research on people's decision making under uncertainty (Meyer, 2014: 99).

The best-known theories of risk attitudes and risk aversion are the Expected Utility Theory and its derivatives, and the Expectation Theory and its derivatives. In addition, under the Expected Utility Theory, Arrow-Pratt absolute risk aversion and Arrow-Pratt relative risk aversion (RRA) measures and Ross' stronger risk aversion rank mean-variance (M-V Mean-Variance) decision model or portfolio theory or contemporary portfolio theory etc. The approaches are also related to risk aversion and decision making under risk and such as curvature of utility functions, conducting experiments and surveys on human subjects, portfolio choices of financial investors, behavior of labor supply, deductible choices in insurance contracts, competitive behavior in competition shows, stock market premium prices and auction behavior. various measures have been tried to measure risk avoidance (Meyer, 2014: 99-121). In addition, various neurological, biological, ecological and evolutionary studies have shown that risk aversion is frequently seen not only in human decision making, but also in other animal species, and various models such as the evolutionary risk preferences model have been derived from these disciplines.

Risk aversion is a concept that expresses the extent to which a person avoids taking risks in his life in general. There are two approaches to this concept, which have entered the entrepreneurship literature as one of a number of entrepreneurial characteristics. The first approach is that taking risks is a character trait. The second approach is that risk is a state of mind that changes according to the situation entrepreneurs face (McCarty, 2000). On the other hand, Van Rooij et al. (2007, p.23) suggest that individuals may differ in terms of risk-taking, so it should be used together with financial literacy in explaining financial behavior.

Thus, the relative effect of financial literacy on the observed phenomenon can be examined. It is also important to test whether financial literacy still has a significant effect when the effect of risk aversion is controlled.

2.11. Risk and Control

The expectations of institutions and businesses from auditing are no longer just regularity, compliance and legality audits, the audit provides added value to the organization, foresees the risks that may occur in the future, guides the business about the risks that may occur in the future, guides the business by determining the existing control deficiencies in the business and is a stimulant in reducing the risks. Assuming a function is among the expected benefits and functions from the audit.

Aktaş (2015) examines the relationship between internal audit and risk management, and selects high-risk areas as a focal point in internal auditing, making use of the outputs of risk-based auditing and risk management processes. Thus, it has been determined that increasing the efficiency in auditing provides time and cost savings. At the same time, he stated that there is an important relationship between risk and internal auditing, especially in order to achieve success in internal auditing, and attention should be paid to risk assessment.

2.12. Uncertainty

From a definitional point of view, uncertainty is a situation where there is no information about the results and thus the probability distribution is not known (İğdeli, Sever 2018: 2). According to another definition, it is a situation in which the events that are likely to occur in the future are known, but there is no idea about what will actually happen or the probabilities of the possible events (Waters 2007: 17). Experts in the field have grouped uncertainty into measurable and immeasurable, subjective and objective. Accordingly, Keynes uncertainty is immeasurable and subjective, Knight is immeasurable and objective, Savage is measurable and subjective, and Muth and Lucas prefer to group the related concept as measurable and objective. Various uncertainties and crisis events from the past to the present have further increased the interest in the perception of uncertainty as an immeasurable concept, in other words, the groupings of Knight and Keynes (Gürgün 2020: 27). At the same time, as a result of events such as the 2008 Global Financial Crisis, studies on uncertainty gained momentum.

Uncertainty can also be explained as not being able to understand the reason, not being able to predict the destination, and being unresponsive to the situation (Yılmaz, 2014, 4). In some definitions, uncertainty is considered as “difficulties in defining and predicting the stimulus” (Küçükkömürler, 2017, 331), while in others it is expressed as the inability to explain any situation with the information at hand and as a result of this situation, the inability to make a precise prediction about the future (Atalay- Mazlum, 2019, 4). All these explanations focus on the cause and effect of uncertainty. What should be known about the subject to be decided and the uncertainties about what will happen after the decision is made and what will happen after the decision is made affect the decision-making attitude. In order to obtain a definition that will cover the attitude towards uncertainty as a result of the literature review, it would be appropriate to define it as the mental and emotional inconsistency caused by not knowing the conditions and levels of the desired and undesired situations after the decision process, as well as not knowing the benefits and harms (Ersanlı and Uysal, 2015, 48).

As for the effects of the uncertainty, after the 2008/2009 global financial crisis, the uncertainty measures are generally i) volatility of economic and financial indicators, ii) expectation mismatch and expectation errors calculated based on the survey, iii) uncertainty indices created from keywords in newspaper news, and iv) a range of financial and/or economic The covariance of the indicator obtained by PCA analysis was formed in four ways. These uncertainty measures reveal some facts about uncertainty. First, uncertainty measures are not perfect. However, they are very useful in pointing the direction of uncertainty in the economy. Second, uncertainty acts against the conjuncture that it increases in periods of economic recession and decreases in periods of expansion. Third, uncertainty is higher in emerging and emerging market economies than in developed economies. The main reasons for this situation are that these economies are less diversified, depend on volatile goods such as commodities, are less effective in stabilization policies, and are more exposed to events such as political shocks and natural disasters (Bloom, 2014).

Uncertainty can affect the economy through various channels, both on the demand and supply side. On the demand side, consumption and investment decisions can affect the level of demand for goods and services in the economy. The effects of uncertainty on the economy are not limited to investment and consumption decisions. In an environment of uncertainty, hiring and firing plans in the labor market may be delayed, and therefore economic activity may be adversely affected by weakening productivity. On the supply side, uncertainty may play a role in the course of the economy with its impact on productivity and credit expansion. Recent

studies also emphasize the importance of financial and confidence channels in the transmission of uncertainty shocks. In the financial channel, it can manifest itself in a decrease in the demand or supply of credit which can lead to an increase in the cost of borrowing. In addition, uncertainty shocks have international spillover effects (Gürgün, 2020: 33).

Şahin and Sekmen (2013) examined the effect of exchange rate uncertainty on stock returns in their study. As a result of the research, it was concluded that exchange rate measurements have a significant impact on the productivity return operating in the ISE. In their study, Koç and Değer (2010) examined the relationship between exchange rate uncertainty and domestic investments in the case of Turkey, although there are different types of economic uncertainties. In the study, in which the real effective exchange rate, fixed capital investments and private sector investments of the Turkish economy for the period 1988Q1-2007Q3 were used, the relations between exchange rate uncertainty and investments were examined by using Toda-Yamamoto causality analysis. According to the causality test results, it is revealed that the exchange rate uncertainty is an important reason for the total and private sector investments in the Turkish economy.

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3. DATA AND METHODOLOGY

3.1. Data

In this thesis, the autoregressive distributed lag model (ARDL) technique is used for the econometric analysis of the impact of risk aversion and uncertainty on audit fees. The data set covers observations for the USA with a sample period between January 2008 and March 2023, and all observations are on a monthly basis.

To assess the relationship, logarithmic values of the Producer Price Index by Financial Auditing Industry, hereafter LNAUDIT, is employed as an auditing fees indicator. Data is obtained from U.S. Bureau of Labor Statistics.

Risk aversion can fluctuate due to changes in wealth and emotions that change risk appetite (Guiso et al., 2018). To address this difference, Bekaert et al. (2019) derived a formulation for time-varying risk aversion based on a utility function in the hyperbolic absolute risk aversion (HARA) class. This risk aversion measure (RA) distinguishes the change in economic uncertainty over time (ie the amount of risk) from the changes in risk preferences over time (ie the price of the risk). Thanks to this data, regardless of economic uncertainty, the impact of the level of risk aversion on audit fees can be examined.

To capture the uncertainty, logarithmic difference of the world uncertainty index (LNWUIC) on a country basis, created by Ahir et al. (2018), is employed. This data is calculated for the 71 countries on a monthly basis from January 2008. This index, created for 71 countries on a monthly basis since 2008, is constructed by using the frequency of the word "uncertainty" in the monthly "Economist Intelligence Unit" country reports.

As a control variable, following the literature, the growth rate of the consumer price index in the USA, hereafter CPIG, is employed. Data is obtained from Organization for Economic Co-operation and Development.

3.2. Methodology

In this study, the autoregressive distributed lag model (ARDL) approach introduced by Pesaran and Pesaran (1997) and Pesaran et al. (2001) is used. The ARDL approach has some advantages over other approaches. First, the series used does not have to be stationary. This approach can be applied to all series integrated below I(2), regardless of whether they are I(0), I(1) or mixed, both at level and first order (Pesaran & Pesaran, 1997). Second, efficient cointegration relationships can be determined even with small samples (Ghatak & Siddiki, 2001). Finally, it is known that non-stationary time series data leads to spurious regression coefficients that tend to zero (Stock and Watson, 2003). Laurenceson and Chai (2003) report that ARDL's approach also overcomes such problems arising from non-stationary time series data.

There are three steps in the ARDL process. By using the bounds testing approach, it is possible to determine whether there is cointegration between the variables in the first phase (Pesaran and Pesaran, 1997; Pesaran et al., 2001; Sari et al., 2008). This test can reveal a long-term relationship between a dependent variable and its driving factors. To test the long-run relationship between variables, the following equation is tested:

$$\Delta LNAUDIT_t = \alpha_0 + \sum_{i=1}^n b_1 \Delta LNAUDIT_{t-i} + \sum_{i=0}^n b_2 \Delta LNRA_{t-i} + \sum_{i=0}^n b_3 \Delta LNWUI_{t-i} + q_1 LNAUDIT_{t-1} + q_2 LNRA_{t-1} + q_3 LNWUI_{t-1} + \varepsilon_t$$

Where parameters b demonstrate short-run coefficients, parameters q show long-run coefficients, LNAUDIT, LNRA, and LNWUI indicate the log value of the producing price index of the financial auditing industry, log value of risk aversion index, and log value of the US's uncertainty index, respectively. For equation 1, there is no cointegration ($q_1=q_2=q_3$) null hypothesis is tested (Pesaran and Pesaran, 1997; Pesaran et al., 2008).

In the second step, the coefficients of the long-run relationships defined in the first step are estimated. After finding long-term relationships between the dependent and independent variables, the coefficients of the long-term relationship are estimated using selected ARDL (f, g, h, z, r,) models.

$$LNAUDIT_t = \alpha_0 + \sum_{i=1}^f \beta_i LNAUDIT_{t-i} + \sum_{i=0}^g \mu_i LNRA_{t-i} + \sum_{i=0}^h \gamma_i LNWUI_{t-i} + \varepsilon_t$$

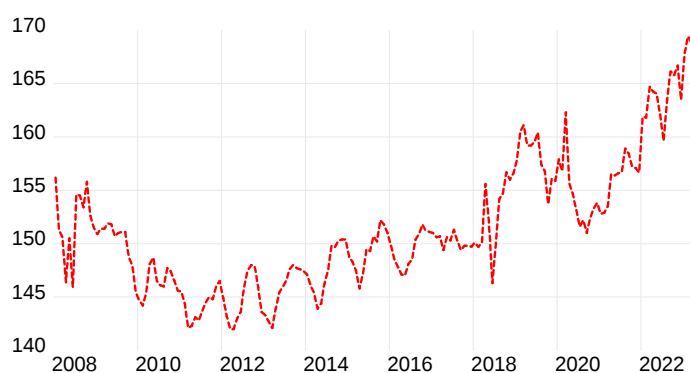
f, g, and h present the lag lengths, and they are determined by the Akaike Information Criteria (AIC).

In the last step, the ARDL error correction model was tested to determine short-term dynamics. Short-term coefficients are estimated in this stage (Sari et al., 2008). The coefficient of error correction term (ECT) expresses the amount of correction of an imbalance occurring in the short run. This number is required to be statistically significant and negative (Akel & Gazel, 2014).

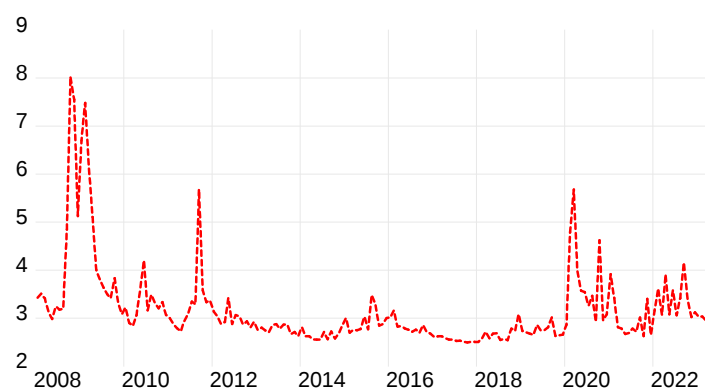
3.3 Empirical Results

For ARDL methodology to be applied, the integrations of the variables have to be less than 2 (Peseran et al., 2001). Therefore, following the literature, this study employs Augmented Dickey Fuller and Phillips-Perron unit root tests to find the integration level of the variables (ADF, 1979). Table 2 presents the results of the unit-root tests. Table 2 demonstrates that, except LNAUDIT, all variables are stationary at levels. For LNAUDIT, on the other hand, the null hypothesis of the unit-root tests, which is the existence of the unit-root, cannot be rejected at levels. However, when the tests are applied to the first difference of LNAUDIT, the null hypothesis is rejected. So, LNAUDIT is integrated of order 1, I(1). These results indicate ARDL methodology can be applied.

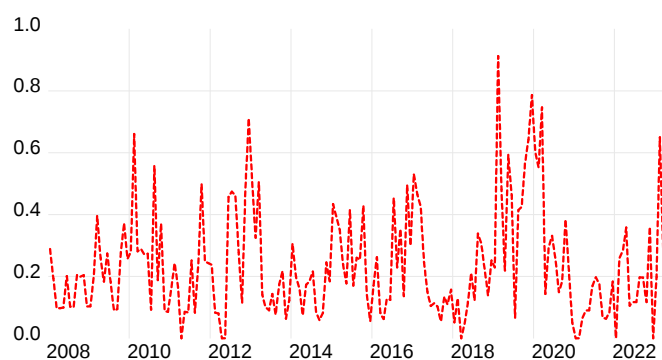
Figure 1. Time-series of the variables



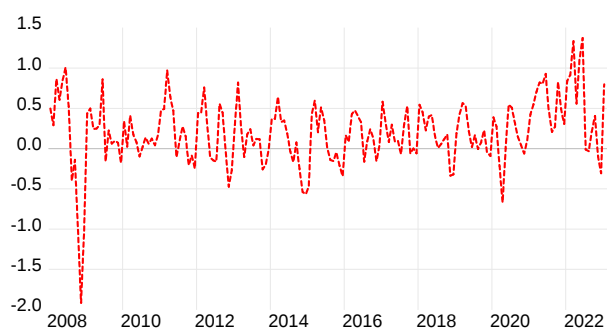
(a) PPI in Financial Auditing Industry



(b) Risk-aversion index



(c) USA's uncertainty index



(d) USA's Consumer Price Index

Table 1. Descriptive statistics

	LNAUDIT	LNRA	LNWUIC	CPIG
Mean	5.0163	1.1286	-0.0023	0.1769
Median	5.0126	1.0551	-0.0215	0.1662
Maximum	5.1162	2.0832	1.8386	1.3736
Minimum	4.9558	0.9145	-1.9459	-1.9153
Std. Dev.	0.0357	0.2186	0.7016	0.4083
Skewness	0.7154	2.2595	0.0022	-0.6549
Kurtosis	3.0526	8.6610	2.8522	7.2603
Jarque-Bera	14.1796	362.9021	0.1512	137.4060
Probability	0.0008	0.0000	0.9272	0.0000
Observations	166	166	166	166

Notes: LNAUDIT, LNRA, LNWUIC, and CPIG indicate log values of producer price index of financial auditing industry, log values of risk aversion index, log difference of World Uncertainty Index, and Consumer Price Index growth, respectively.

Table 2. Unit-root test results

	ADF		PP	
	t-statistics	Probability	t-statistics	Probability
<i>Panel A: Levels</i>				
LNAUDIT	-1.324	0.618	-0.812	0.813
LNRA	-3.843***	0.000	-4.469***	0.000
LNWUIC	-10.747***	0.000	-22.302***	0.000
LNCPI	-6.901***	0.000	-6.811	0.000
<i>Panel B: First-differences</i>				
LNAUDIT	-15.375***	0.000	-16.803***	0.000
LNRA	-16.748***	0.000	-18.215***	0.000
LNWUIC	-8.423***	0.000	-37.464***	0.000
CPIG	-11.186***	0.000	-23.333***	0.000

Notes: LNAUDIT, LNRA, LNWUIC, and CPIG indicate log values of producer price index of financial auditing industry, log values of risk aversion index, log difference of World Uncertainty Index, and Consumer Price Index growth, respectively. ADF and PP refer to Augmented Dickey Fuller and Phillips-Perron unit-root tests.

The existence of long-term cointegration, which is the first stage of the ARDL model, was determined by the bounds test approach. The results are presented in Table 3. Since the F-statistic is lower than the critical upper limit for both models, H_0 is rejected (Peseran et al., 2001). For this reason, it was determined that there is no cointegration relationship between the relevant variables in the model in which LNAUDIT is the dependent variable. Therefore, there is no long-run relationship between LNAUDIT, LNRA, LNWUIC, and CPIG.

Table 3. Bound test results

Cointegration Hypothesis	F-Statistics
$F(\text{LNAUDIT}_t/\text{LNRA}_t, \text{LNUIC}_t, \text{CPIG}_t)$	2.0423

Notes: LNAUDIT, LNRA, LNUIC, and CPIG indicate log values of producer price index of financial auditing industry, log values of risk aversion index, log difference of World Uncertainty Index, and Consumer Price Index growth, respectively.

In the next step, the coefficients are estimated by testing the first and second equations. The analysis results are presented in Table 4. Adjusted R^2 of the model is 0.90, which indicate that the fact that $R^2 = 1$ is proof that the experimental data provides a perfect linear curve. Therefore, it can be said that it is close to a linear curve.

According to the results in Table 4 Panel-1, risk aversion does not have a significant impact on auditing fees in the long run (Julia Baldauf et al 2022). The only variable that has a significant long-run impact on LNAUDIT is the change in uncertainty. An increase in uncertainty raises auditing fees. Inspection prices are also increasing, as any economic living environment depreciation and price series can be seen.

Table 4. ARDL estimation results

Independent variables	Coefficient	Std. Error	t-statistic	Prob.
<i>Panel A: ARDL Model Long-run Estimation Results- Independent variable LNAUDIT</i>				
C	0.2295	0.1409	1.6293	0.1055
LNAUDIT_{t-1}	-0.0454	0.0283	-1.6002	0.1118
LNRA_{t-1}	-0.0025	0.0046	-0.5344	0.5939
LNUIC_{t-1}	0.0070	0.0032	2.1626	0.0323
CPIG_{t-1}	0.0057	0.0035	1.6181	0.1079
<i>Panel B: ARDL Error Correction Model Estimation Results- Independent variable LNAUDIT</i>				

DLNAUDIT _{t-1}	-0.1595	0.0796	-2.0051	0.0469
DLNAUDIT _{t-2}	0.1309	0.0751	1.7443	0.0833
DRA _t	0.0154	0.0069	2.2205	0.0280
DLWUIC _t	0.0007	0.0014	0.4755	0.6352
DLNWUIC _{t-1}	-0.0025	0.0014	-1.7706	0.0788
DCPIGI _t	-0.0018	0.0029	-0.6179	0.5376
DCPIGI _{t-1}	-0.0058	0.0029	-1.9623	0.0517
DCPIGI _{t-2}	-0.0031	0.0028	-1.1105	0.2687
ECT(-1)	-0.0453	0.0140	-3.2406	0.0015
Adjusted R ²	0.9006			

Notes: LNAUDIT, LNRA, LNWUIC, and CIPG indicate log values of producer price index of financial auditing industry, log values of risk aversion index, log difference of World Uncertainty Index, and Consumer Price Index growth, respectively. ECT refers to Error Correction Term.

In the last step of our study, the short-run relationship between the related variables was estimated with the help of the ARDL Error Correction Model. The short-run effects of variables on auditing fees are presented in Table 4-Panel B. The results are quite different in short-run than the long-run. First of all, risk aversion has a significant positive impact on LNAUDIT in the short run. An increase in risk aversion increases auditing fees. The greater the risk, the more complex the audit procedures need to be implemented, and the greater the allocation of resources such as human and material resources invested. The audit risk and disagreement risk faced by companies will lead to an increase in audit fees (Julia Baldauf, et al 2022) Second, uncertainty has a significant negative impact on the LNAUDIT. In accounting, uncertainty refers to the inability to foretell consequences or outcomes because there is a lack of knowledge or bases on which to make any predictions (CFI Team, 2022). According to an academic study conducted during the Covid-19 pandemic, a negative relationship between additional disclosures and audit fees is documented, although they found no incremental impact on audit fees during the pandemic, i.e. in an environment of uncertainty that may be immediate and

short-term. In addition, the authors found that investors' pricing of PV adjustments increased with the increase in disclosures during the market uncertainty of 2020, while the pricing effect was not significant in the pre-uncertainty period (Mehnaz et al. 2022). Finally, the error term coefficient is significant and negative as expected. Therefore, deviations from the equilibrium in the short-run approach the equilibrium in the long run. Accordingly, deviations in the long-run balance caused by short-term shocks can be eliminated by 4.53% after a period.

4. Discussion and Conclusion

Risk is an element, factor or course of uncertainty about loss, danger, or damage. Auditing is the examination of an institution's activities and transactions to determine whether they are carried out in accordance with predetermined objectives and rules. In this study, the effects of uncertainty and risk aversion on audit fees were investigated.

According to our findings, there is a significant positive effect of uncertainty in the long run. In the short run, risk aversion has a significant positive effect.

This study has implications for policy-makers. Decreasing uncertainty is important as results indicate that uncertainty in the country has a significant impact on the audit sector. For further studies on risk aversion, uncertainty, and audit pricing, different countries with various income levels can be employed as a sample. Moreover, different concepts and variables related to risk can be studied.

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