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Micro-Perspective: Small Business Pricing Behavior Across Restaurant Industry During High Inflationary Period of 2021-2023.

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Abstract

Objective

Due to the extent literature on the intersection of high inflation and pricing behavior, this thesis aims to explore small businesses' pricing decisions and behavior in the restaurant industry. More specifically, the thesis' main objective is exploration of specific pricing behavior characteristics and factors that influence the pricing decisions. Furthermore, thesis aims to propose a framework for future research because of the lack of conceptual framework in the topic.

Summary

The thesis explores the price-setting dynamics that determine the price-setting margin. Furthermore, thesis examines the pricing model that influences the price adjustment process, and in addition it analyzes the frequency of price changes. Additionally, the research will identify the main factors that both delay and drive price change. Given the findings, the research will propose two frameworks for future research on the factors that influence different aspects of price decision process.

Conclusion

In conclusion, thesis examine the pricing behavior of small businesses across restaurant industry in the context of high inflation with the firm-level survey data in Finland. The thesis findings both provide insights and recognize patterns. For instance, the analysis of pricing behavior characteristics reveals that majority of small businesses are price-setters rather than price-takers (50% against 25%), while the most frequently utilized pricing model is time-dependent pricing (50%). Furthermore, the price review occurs more frequently than price change. Moreover, higher costs have a stronger influence on price change than cost decrease. However, certain price constraints can delay the price change, with the most important price constraint being the pricing threshold in the sample.

Key words: Small business, pricing behavior, high inflation, Finland

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Tiivistelmä

Tavoite

Korkean inflaation ja hinnoittelupäätöksien välistä yhteyttä on käsitelty laajasti aiemmissa tutkimuksissa. Tästä huolimatta pienyritysten hinnoittelukäyttäytymistä on tutkittu vain vähän, erityisesti kriisiaikojen kontekstissa. Tämän lopputyön tavoitteena on tutkia pienyritysten hinnoittelukäyttäytymisen piirteitä ravintola-alalla korkean inflaation ajanjaksona (2021-2023). Lisäksi tutkimus pyrkii esittämään alustavan teoreettisen viitekehyksen aiheelle.

Yhteenveto

Lopputyö tarkastelee hinnoitteludynamiikkaa, joka määrittää pienyritysten katteen. Lisäksi työssä tutkitaan hinnoittelumalleja, jotka vaikuttavat hinnanmuutoksen toteuttamisprosessiin. Tutkimus keskittyy myös tunnistamaan muuttujia, jotka vaikuttavat hinnanmuutoksen nopeuteen tai hidastumiseen. Tulosten pohjalta lopputyö esittää kaksi teoreettista viitekehystä, jotka tukevat aiheen tutkimista tulevaisuudessa.

Johtopäätökset

Lopputyössä tutkitaan pienyritysten hinnoittelukäyttäytymistä ravintola-alalla Suomessa korkean inflaation aikana yritystasoisen kyselytutkimuksen avulla. Tutkimuksen tulokset tarjoavat oivalluksia ja tunnistavat kaavoja. Tulokset paljastavat, että useimmat yritykset toimivat hinnanmääräjinä (50 %) kuin hinnanottajina (25 %). Pienyritykset käyttävät myös yleisemmin ajasta riippuvaa hinnoittelumallia (50 %). Tutkimus osoittaa myös, että hinnan arviointi toteutetaan useammin kuin hinnan muuttaminen, ja että korkeammat kustannukset vaikuttavat voimakkaammin hinnan muuttumiseen kuin alhaisemmat kustannukset. Tutkimus tunnistaa myös hinnan muuttumista hidastavia tekijöitä, joista merkittävin on hintakynnys.

Avainsanat Pienyritys, hinnoittelukäyttäytyminen, korkea inflaatio, Suomi

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Mikkeli, 14 April 2025
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1 Introduction

For decades, theoretical and empirical research on firm's pricing decisions have provided valuable insights into pricing behavior characteristics and its broader implications (Fabiani et al., 2006; Golosov & Lucas, 2007; Taylor 1980). The previous research emphasizes the flexibility of pricing decisions, which influences not only profitability but also market return and firm competitiveness (Monroe, 2003; Bilstein et al., 2006), indicating price as a crucial factor in firm's financial performance. Furthermore, thesis addresses nominal price rigidity, which can assist in the development and implementation of monetary policy. The research aims to improve the characterization of pricing behavior with firm-level survey of eight small business restaurants in Finland.

However, the thesis encounters limitation due to the small sample size but it builds on established research frameworks (Ingenbleek et al., 2003; Loupias & Ricart, 2005). For instance, the empirical research of Blinder (1991) and Blinder et al. (1998) in the United States has inspired other authors of ECB working paper to continue the research on pricing behavior in various countries and test the framework (Lünnemann & Mathä, 2005; Martins, 2005). In contrast, this research incorporates the recent high inflation period (2021-2023) to understand its influence on the pricing behavior.

The findings revealed that price-setters, who can influence market prices, represent higher proportion (50%) compared to price-takers, who must accept the prevailing market price (20%). Furthermore, the research identified three pricing models: time-dependent, state-dependent, and combination pricing model, that influence the price adjustment process, containing two stages: review and implementation. In time-dependent pricing model, firms adjust prices periodically, whereas firms utilizing state-dependent pricing adjust prices due to substantial market shock. The combination pricing model encompasses aspects of both time-dependent and state-dependent pricing model. For firms utilizing time-dependent pricing, the median for price review was 2.5 times, while the median price change was 1.5 times. For firms applying state-dependent pricing, the median for both price review and change was one, whereas the firms using combination pricing, the median for price review was four times, and median price change was 3.67.

1.1 Research Problem

There is a consensus in the literature that pricing decisions and behavior have the potential to influence the financial performance of the company. According to Bilstein et al. (2006), profitability and cost minimization are influenced by the marketing mixes' price, which are the most flexible component. Similarly, Monroe (2003) highlights the criticality of pricing decisions in

management due to their influence on the profitability, market return, and competitiveness of the company.

However, the prior empirical research primarily focuses on other countries than Finland and prefer broader scope of various business sizes or larger-size firms that have fewer constraints than smaller-size businesses, which can influence pricing decisions. As a result, the findings of these might restrict the relevance toward small businesses. Furthermore, 99.3% of firms have less than 49 employees in Finland (Tilastokeskus, 2023), indicating that majority of firms are micro-business and small businesses. Therefore, this thesis aims to answer the research gap by examining the pricing behavior of small businesses, with a specific focus on the restaurant industry. Because of the high competition and number of substitutes in the restaurant industry, the research attempt to provide more targeted insights that can be applied to the market.

1.2 Research Question

Because of the extent literature, the thesis will focus on the exploratory research, which explores the pricing behavior characteristics. Therefore, the research questions will reflect the exploratory nature of the research. Through research, the aim of this thesis is to answer the following research questions and sub-questions:

1. What is the price-setting dynamics of small businesses across restaurant industry in a high inflationary environment?
2. How does high inflation, together with pricing models, influence the price adjustment process of small businesses in the restaurant industry?
3. What is the pricing strategy most utilized by small businesses to determine the price during high inflation?
4. How does the high inflationary period of 2021 to 2023 influence the frequency of price decreases and increases of small businesses in the restaurant industry?
    a. What are the most important factors that delay price change of small businesses across restaurant industry during high inflation?
    b. How do external factors such as demand, cost, and competitive pressures influence the frequency of price change in small businesses?

1.3 Research Objective

To clarify, the research aimed to enhance the pricing behavior characterization of small businesses in the restaurant industry during recent high inflation to recognize and identify patterns. Therefore, research objectives primarily reflect the aim. For instance, some research objectives aim to explore the following topics: price-setting dynamics, pricing strategy, factors delaying and driving the price change of small businesses during high inflation.

Furthermore, the research investigates the relationship between high inflation together with pricing models to price adjustment process stages. Additionally, it investigates the frequency of price change of small businesses in high inflationary period of 2021-2023. Finally, the last research objective is to propose a conceptual framework for future research that will examine the factors influencing pricing decisions of the small business within the timeframe context.

1.4 Outline

This subsection of the thesis outlines the structure of the research that follows the Aalto thesis guideline. The section two overviews the literature review, explaining concepts, relevant theories, and empirical results to provide understanding of the topic. The section 3 outlines the methodology. In section 4, the research presents the findings and includes data visualization. Section 5 overview the analysis and discussion, offering insights and patterns of findings while comparing them to another research. Finally, the sixth section presents an overview of the conclusion

2 Literature review

2.1 Literature Review Introduction

For over decades, macroeconomists and researchers have devoted themselves to improving theoretical research on the topic of firm's pricing behavior, where firms asymmetrically adjust their prices to account for shocks. The literature review primarily focuses on theoretical and empirical research involving firm's pricing behavior and links it to the micro-perspective of small businesses across the restaurant industry during high inflationary period. An analysis of the existing literature provides insights into underlying factors and characteristics impacting pricing behavior, such as price-setters and price-takers.

According to the literature, the price adjustment process can be divided into two stages: review and implementation (Lünnemann & Mathä, 2006; Martins, 2005; Loupias & Ricart, 2005). The literature has identified that pricing models influence the review stage of price adjustment process (Taylor 1980; Calvo 1983; Fabiani et al., 2006). On the other hand, frequency and magnitude of price change can be impacted by high inflation (Alvarez et al., 2019; McMillan & Zinde-Walsh, 1991) and price constraints, such as menu costs, implicit contracts, customer preference, and information gathering costs. Several literatures have observed that pricing constraints have potential to lead to price rigidity, where price change is not immediate (Blinder et al., 1998).

The literature review addresses the research gap of micro-perspective of small businesses rather than focus on the broader perspective of larger and smaller firms in firm's pricing behavior, especially during high inflation, where the combination of small businesses and high inflation is not studied together. The understanding of the research gap could provide valuable insights into firm's price behavior related characteristics and underlying factors, ultimately improving small businesses' survivability and sustainability. Furthermore, the literature review will use the criteria of alternative perspectives, risk of bias, and relevance of the research to analyze existing literature.

2.2 High Inflation: Price Increase or decrease?

In recent years, inflation and high inflation have become an important point in economic discussions and research because of the inflation surge in 2021-2023. High inflation indicates a rapid price increase that often exceeds 5%. The report conducted by the European Commission (2023) identified drivers of high inflation in 2021-2023, such as COVID-19 pandemic, post-pandemic recovery, Ukraine War, and labor shortages.

According to McMillan & Zinde-Walsh (1991) the magnitude of price changes and the number of price changes increase during high inflation.

Building on this, Alvarez et al. (2019) Argentina firm-level survey reveals that price changes increase at the rate of two-thirds respect to inflation (e.g. as inflation increases the number of price changes rise as well), and price change frequency converges across products and firms, indicating that the number of price changes in restaurant industry could average around a similar number. However, Alvarez et al. (2019) observe that price decreases are rare during high inflation, indicating firms are more likely to raise their prices. Similarly, Coibion et al. (2019) observes in an Italian firm-level survey that the price increases could be associated with higher inflation expectations.

On the other hand, Lach & Tsiddon (1992) observe that expected inflation has stronger variability compared to unexpected inflation to price dispersion. Their research suggests that in the situation of expected inflation firms might adjust more predictably. Conversely, in a situation of unexpected inflation firms' price adjustment could lead to greater price dispersions. Similarly, Coibion et al. (2019) noted that price dispersion among firms in the same sector could depend on whether firms have higher or lower inflation expectations. For instance, firms that have higher inflation expectations are more likely to raise their prices than firms that have lower inflation expectations. Furthermore, Alvarez et al. (2019) observed that the dispersion of relative prices converges to one-third, indicating that as inflation increases by one unit, the variability of price increases by one-third of inflation. Therefore, there could be variability on whether there is price increase or decrease among small businesses that possess more information constraints compared to larger businesses.

2.3 Price Setters versus Price Takers

Price-setting power exists on a spectrum, with price-takers at the lower end and price-setters at the high end. To clarify, a price-setter is a firm that chooses the price of a product or service, but it requires some level of monopoly. However, the price-taker is a firm that must accept the market price as fixed (Paris, 2016; Mirman & Reisman, 1984). Therefore, the price-taker has limited influence over the market price.

The Stackelberg model is a key framework used to explain the dynamics of price-setters and price-takers. According to this model firms participate in the sequence of decision-making over the price: one firm ("Stackelberg leader") determines the price before the other firms ("Stackelberg follower") sets its price. In the model, the Stackelberg leader could commit to the price before the follower's choice. Once the leader has set its price the follower is able to adjust the price based on the leader's price and potentially the prices set by other followers after the leader's decision. Therefore, the Stackelberg

model highlights the dynamics of price-setting behavior and how the firms react to each other's price decisions.

2.3.1 Price-Setting Power in Practice & its Limitations

Stahl (2005) research on price-setting behavior suggests that approximately 88% of firms have price-setting power, indicating that most firms have the power to affect the price of the market. However, considering the change of current economic climate since 2005, such as high inflation, COVID-19, and shifting competitive dynamics, therefore, the relevance of findings by Stahl (2005) is questionable. The relevance of the research calls for further research into the behavior of price-setters and price-takers in the economy, specifically the micro-perspective of small businesses across the restaurant industry in high inflationary environments could provide insights into their pricing behavior. Understanding the dynamics of pricing behavior could provide additional information on the implications of being a price-taker or price-setter in the current economy.

On the other hand, Anufriev & Kopányi (2018) observe the cyclical effect of firms shifting from price-setters to price-takers and revert to price-setters in the process. This research highlights that the shift back to price-setters could be associated with the costs of maintaining the price-setting position. For instance, the price-setters could lose the opportunity to choose mark-up pricing similar to the price level of the market. Furthermore, the coordination failure theory first discussed by the Clower (1965) and Leijonhufvud (1968) observes that Stackelberg followers (price-takers) have possibility of not following the Stackelberg leader (price-setters) in adjusting their price to similar price level as the leader. Therefore, the leader might face negative consequences of having a higher price level, such as losing consumers.

Stahl (2005) research further supports the existence of the cyclical shift. However, his findings suggest that they might revert from price-takers to price-setters because firms try to avoid punishment from competitors by taking the role of price leader. To simplify, despite the disagreement over the reason why firms prefer to be a price-setter, the research indicates that firms prefer to be price-takers. Therefore, the market environment could possess more price-takers than price-setters. The dynamic of price-setters and price-takers could be relevant to the study of small businesses across the restaurant industry, which could be more likely to be price-takers than price-setters based on the size of the firm.

Despite the insights, there remains a research gap in understanding how small business can navigate in the high inflationary environment, where the option to be price-setter or price-taker could impact the firm. Furthermore, the above literature focuses more on the broader perspective of larger firms. Therefore, the consistency of price-setting power could be potentially lower.

2.4 Price Adjustment

The ability of firms to set and adjust prices is vital in the economic landscape, especially in a high inflationary environment. Understanding how small businesses navigate the price adjustment process is crucial to respond to monetary shocks. The price adjustment process could provide insights on how firms balance profitability while adjusting to changing market conditions. Furthermore, state- and time-dependent pricing models affect the firm's price adjustment process. Therefore, the insights deepen empirical understanding of time- and state-dependent models.

2.4.1. Overview of Price Adjustment Process

The process of price setting is divided into two distinct stages: review and implementation. The first stage, firms conduct a review to assess whether the price deviates from the optimal price level and decide on whether to adjust the price or not in case of deviation. The second stage, firms implement the price change in case of consensus over price adjustment. Fabiani et al. (2006) argue that frequency of reviews in most Euro Area countries typically ranges from one to three times per year, while the median frequency of price changes is once a year during the business cycle. The variation of discrepancies was explained by firm size, industry, and competitive pressures. However, they note that time- and state-dependent pricing strategies are applied in the reviewing process. Similarly, additional research supports the view that the entire process is affected by pricing models (e.g. time- and state-dependent pricing strategies) (Calvo 1983; Taylor 1980). Furthermore, the research of Fabiani et al. (2006) does not explore the impact of price adjustment strategies on the reviewing and implementation of price changes specifically during high inflationary periods, which leaves an important research gap to be addressed. The investigation of the research gap could provide insights into how pricing adjustment strategies impact small businesses' decision-making processes during high inflation.

2.4.2. Time- versus State-dependent Pricing Model

For over a decade, macroeconomists and economists have extensively studied the impact of monetary shock on time-dependent pricing model and state-dependent pricing models and adoption of price adjustment strategies. For instance, Fabiani et al. (2006) observe that firms that follow a time-dependent pricing model consist of approximately one-third and firms that follow mainly state-dependent pricing model consist of the remaining two-thirds. However, the lack of research on the size of the company and pricing adjustment is an unexplored area. Understanding how small businesses navigate this economic challenge is crucial, as they often face unique constraints compared to larger corporations.

To expand on this, the price adjustment strategies can be divided into two categories: time-dependent pricing model and state-dependent pricing model. Time-dependent pricing reflects a model, where the firms adjust prices periodically (e.g. fixed interval) and choose the magnitude of the price adjustment (Calvo 1983; Taylor, 1980). On the other hand, the state-dependent pricing model reflects a setting where firms adjust their prices' timing and magnitude based on substantial market shock, and these substantial shocks create significant deviation from the firm's current price (Caplin and Spulber, 1987; Golosov and Lucas, 2007). However, it is important to note that a combination of time- and state-dependent pricing models might be used by some firms in the business environment to adjust to price change in both steady and high monetary shock environments.

In environments where the rate of inflation is not very high, time-dependent pricing models can approximate state-dependent pricing models (Burstein, 2006). However, the fixed price intervals for price adjustments in the time-dependent pricing model may lead to less frequent pricing adjustments and more rigid response to monetary shock during medium to large monetary shock. On the other hand, firms may compensate for this rigidity by adjusting prices more frequently in high inflationary environment by using expected inflation to determine the frequency of price changes, which could lead to discrepancies with current price and optimal price level due to differences in anticipated inflation and realized inflation (Guimarães et al., 2016). Therefore, the time-dependent pricing model could provide poor approximation of price level (Devereux & Siu, 2007) due to endogenous price change in moderate size monetary shock pricing policy. On the other hand, the state-dependent pricing model responds to pricing shock, which would indicate that the price adjusts to the current monetary shock rather than anticipated inflation. Furthermore, a state-dependent pricing model would allow firms to adjust or even opt out of price contracts in response to market conditions (Devereux & Siu, 2007).

State-dependent pricing models require continuous monitoring of the market environment to respond to monetary shocks. Therefore, there are costs associated with information gathering (Zbaracki et al, 2004; Mankiw & Reis, 2002; Woodford, 2009), indicating that there is a trade-off between information and cost. Therefore, the impact of state-dependent pricing model cost is unexplored, and the cost of information could constrain small businesses to choose optimal price adjustments strategy. Understanding the constraints that small businesses face compared to larger businesses might assist in explaining the reasoning for the chosen price adjustments strategy.

While the existing research has studied extensively the time-dependent and state-dependent pricing model, there remains a significant gap in understanding how these models impact small businesses rather than the existing literature provides insights from a broader perspective in the business cycle

(Fabiani et al., 2006; Aucremanne et al., 2005; Fabiani et al. 2004). Furthermore, the literature on the frequency of reviews & implementation was conducted by ECB working papers, indicating the existence of some level of bias in the literature. The research gap presents an opportunity to understand how the choice of these pricing models or even the combination could impact the frequency of reviews and implementation during high inflation. Understanding the impact of pricing models could provide insights and help small businesses to understand their pricing behavior and better prepare for the periods of high inflation.

2.5. Price Change

The frequency of price reviews and implementation is important to understand. Lünnemann & Mathä (2006) observed in Luxembourg that average frequency of price reviews and implementation is both approximately two per year. However, Loupias & Ricart (2005) observe that price reviews are conducted more frequently than price changes. Similarly, additional research draws the same conclusion (Fabiani et al, 2006; Martins, 2005; Fabiani, 2004). To simplify, the literature skews toward the opinion that price reviews occur more frequently than price changes. The stark difference between frequency of price reviews and change in Luxembourg compared to other countries could be because of the firm size. Fabiani et al. (2006) suggests that some of the discrepancies between the countries could be because of firm size, as majority of firms in Luxembourg are micro-firms.

Building on this, much of the research accounts for a broader perspective into firms, which leaves room to study this phenomenon from the perspective of small businesses. Buckle & Carlson (2000) suggest that larger businesses typically conduct price changes more often compared to smaller firms. Furthermore, empirical findings in Luxembourg suggest that the average frequency of price reviews and implementation to be similar, which could suggest that firm size could influence the number of reviews as well (Lünnemann & Mathä, 2006).

2.6. Price Constraints

Macroeconomists and researchers have identified several key constraints on price changes, including implicit constraints, menu costs, and information trade-offs. These constraints could help us understand why price levels remain rigid, even in the face of economic pressures, why price changes are conducted less than price reviews and why firms delay or limit price adjustments.

2.6.1. Implicit Contracts & Consumer Sensitivity

According to Stevens (2019) observation that the timing of price adjustment can be flexible, however, the price adjustment level can be more constrained.

Phenomena can partly be explained by implicit contracts between the consumer and the firm, where firms try to avoid customer withdrawal by simply changing prices as little as possible. Similarly, Blinder et al. (1998) argue that firms avoid price change to prevent customer antagonization. Therefore, having the potential to gain long-term customer relationships and loyalty. Furthermore, the price increasement may induce consumer adaptive behavior, such as price sensitivity, where the willingness of consumers to purchase decreases based on price shock (McDaniel & Jackson, 1986; Hampson et al., 2023). Therefore, the consumer may prefer stable prices. Additionally, consumers are more sensitive to unfavourable changes compared to gains based on prospect theory (Dekimpe & Deleersnyder, 2018). Overall, literature supports the idea of price constraints.

However, the higher price adjustment is fairer from consumer perspective if it involves an increase in cost rather than high demand with constrained supply (Okun, 1981), indicating that small businesses could adjust to higher price levels due to potential cost increases from high inflation. Nevertheless, the price adjustment level could be constrained, leading to coarse pricing, where there would be fewer price points similar to Stevens' findings of constrained price level adjustment.

2.6.2. Menu Costs & Information Gathering Costs

Menu costs refer to fixed costs that firms incur when changing nominal prices, which leads to less frequent price adjustments (Stella, 2020; Golosov & Lucas, 2007; Shehinski & Weiss, 1977). Empirical evidence from Anderson et al. (2015) supports this claim and suggests that menu costs can reduce price increases by approximately 13.3%, highlighting the impact to price implementation stage. Additionally, Owen & Trzepacz (2002) found that higher menu costs could lead to a decrease in probability of price change and increase in magnitude of the price change. Furthermore, Mankiw (1985) and Akerlof & Yellen (1985) observed that even small menu costs could have significant macroeconomic effects, resulting in nominal rigidities where prices do not change immediately.

On the other hand, there are other factors that can indicate the impact of menu costs on the price change. For instance, according to Stella (2020) menu costs account for approximately 85% of the supermarket chain for changing prices, indicating that depending on industry the impact of menu costs to price change could vary. Furthermore, Kano (2013) observed that market structure can significantly influence menu costs. He found that firms in a monopolistic competition model typically face lower menu costs compared to duopoly models. In monopolistic competition, firms possess more flexibility to adjust prices because of implication of having less direct rivalry. On the other hand, in the duopoly model, firms must consider the strategic implications of price change to prevent price wars. Overall, industry type and

market structure have a significant impact on menu costs, which is especially true in the restaurant industry, where the market structure is a more monopolistic competition model because of the amount of direct and indirect competition.

When considering information gathering costs, firms often face a trade-off when adjusting prices, where they must balance between costs and benefits of information gathering, which reflects the research of Reis (2006) and Caballero (1989) about the observation cost associated with information gathering. Zbaracki et al. (2004) contributes as well to the understanding of information gathering costs associated to with managerial costs of price adjustment, where the research revealed that managerial costs are six times greater compared to menu costs, highlighting the importance of information gathering and how information gathering could more influential than menu costs as price constraint. According to Gorodnichenko (2008) observes that firms tend to delay price changes until information is available. This research shows that information could be revealed indirectly by competitors through their own price adjustment, which influences the price level in a manner similar to the Stackelberg model, where the Stackelberg leader influences the price and the followers adjust. This dynamic indicates real-world implications and how firms can manage the information gathering costs.

2.6.3. Pricing Threshold

The pricing threshold refers to setting prices at an attractive level for the consumer, therefore it can influence the consumer purchasing behavior (Kim et al., 2022;). This can involve setting the price to an exact amount, such as €100, or applying odd-even pricing, where the firms set the price just below a round number, such as €999 or €19.99. This strategy evokes psychological perception that the price is lower, therefore, the price is perceived to be cheaper than the round number even though the difference might not be as large. Therefore, the firms might delay the price change until opportunity to change to a new attractive threshold (Martins, 2005: Ricart & Loupias, 2006)

2.7. Pricing Strategy

For over decades, economists and researchers have extensively studied the organizational pricing behaviors to understand the impact of pricing behavior on the organization (Hinterhuber et al. 2011; Guilding et al., 2005, Dolgui et al. 2010). However, lack of research concerning the impact of inflation on small businesses' decision-making over the pricing strategy remains unexplored. Understanding the pricing strategy of small businesses during high inflation can provide insights into their pricing behavior. A pricing strategy can be defined as an organization's approach to setting prices in competitive markets to achieve the objectives of the organization and the pricing strategy is closely connected to the implementation of pricing, reflecting how the

organization behaves, executes, and performs (Walker & Ruekert, 1987). From marketing, pillars: price, product, place, promotion, and people, while the other pillars create costs, pricing is the only factor that generates revenue. Therefore, pricing strategies are important to understand the pricing behavior of companies, especially small businesses. Pricing strategy can be divided into three categories: cost-based pricing strategy, customer-based pricing strategy, and competitive-based pricing strategy.

2.7.1. Cost-based Pricing Strategy

A cost-based pricing strategy determines the price primarily based on the financial information that is related to the cost of service or product, and the firm uses the financial information to arrive at a reasonable price, where the return is over total cost to make profit. According to the literature, cost-based pricing and competition-based pricing are among the most popular pricing strategies in industrial pricing practice (Noble & Gruca 1999; Coe, 1990; Shipley & Bourdon, 1990). Similarly, Hinterhuber (2008) highlights that the average percentage of firms that choose cost-based pricing is approximately 37%.

However, the multiple literature notes that cost-based pricing is not the most optimal pricing strategy (Nagle & Holden, 2002; Hinterhuber, 2008; Hinterhuber et al., 2011). Furthermore, Guilding et al. (2005) observe three obstacles to cost-based pricing:

1. **Competition intensity**: high competition environment might force firms to focus on customers rather than cost
2. **Company size**: price takers often focus on the market because of lack of power to change the price of competitors. On the other hand, price setters have power to influence the market and therefore they can set prices in a way that is able to account for the cost.
3. **Industry**: there are different types of costs across industry which are difficult to incorporate into the cost of the product or service. For instance, manufacturing firms are more likely to invest in fixed assets compared to service firms and pay more for overhead costs. Therefore, it is challenging to account for individual products' costs.

2.7.2. Consumer-value based Pricing Strategy

A customer-value based pricing strategy determines the perceived value of the product or service and consumers' willingness to pay, which would determine the price of the product or service. According to literature, the customer-value based pricing strategy is determined to be better compared to the cost- and competitive-based pricing strategy (Ingenbleek et al., 2003; Nagle & Holden, 2002; Cressman, Jr., 1999). However, Hinterhuber (2008) observed that 17% of average firms use the consumer-value based pricing strategy. A customer-value based pricing strategy requires information that

is difficult to gain, because the consumer willingness and preferences are difficult to estimate. Furthermore, there exists a trade-off between information and cost, which could constrain small businesses from using the strategy. Similarly, Hinterhuber (2008) observed that the implementation of customer-value based pricing is challenging to achieve as it requires multiple stages. Therefore, there is a potential that small businesses would prefer to use another strategy.

2.7.3. Competition-based Pricing Strategy

The competitive-based pricing strategy determines the price based on the competitive environment, such as the competitor's price level. This strategy might focus excessively on increasing market share rather than on profit increase. Despite this fact, Hinterhuber (2008) observed that the average percentage of firms have a competitive-based pricing strategy is approximately 44%. Even though competitive-based pricing does not consider the consumers and their willingness to pay. However, the high percentage could indicate a wider practical implication in practice. However, research by Hinterhuber was conducted in 2008, which could raise the question of relevance concerning the implication of his findings in today's world.

Table 1. Alternative Pricing Strategies (Hinterhuber, 2008)

	Cost-based Pricing	**Customer-value based Pricing**	**Competition-based pricing**
Definition	the price based on the financial information that is related to the cost of service or product	Price determined by the perceived value of the product or service and consumers' willingness to pay	price based on the competitive environment, such as competitor's price level
Example	Mark-up pricing, cost-plus pricing, and target-return pricing	Performance pricing, and perceived value pricing	Umbrella pricing, skim/penetration pricing, parallel pricing, average market pricing, high and low pricing
Advantage	Data available	Considers consumers perspective	Data available
Disadvantage	Does not consider customer and	Challenging to gain data over customers	Does not consider customer & cost

	Cost-based Pricing	Customer-value based Pricing	Competition-based pricing
Evaluation	Weakest approach	Superior approach – However, customer-value based pricing may result in higher prices, thus, long-term profitability should be considered, and customer value needs to be communicated, as it is not given.	Sub-optimal approach – appropriate for commodities in case of no need to differentiate.

2.8. Price Determinants

For decades, economists and researchers have extensively studied inflation and its effects on pricing. However, the specific impact of high inflation on the pricing behavior of small businesses remains underexplored. Despite this research gap, there exists related research from broader perspectives. For example, Bottone et al. (2021) found that competitive pressures influenced firms' pricing behavior and strategies during the COVID-19 pandemic, which had links to the high inflation experienced between 2021 and 2023. Similarly, Fabiani et al. (2006) identified competitive pressures as a significant factor in pricing-to-market decisions throughout the business cycle. On the other hand, Balleer & Noeller (2023) provided German firm-level evidence indicating that supply constraints impact pricing behavior: firms facing material shortages were significantly more likely to raise prices in response to monetary shocks than those without such constraints. Furthermore, Balduzzi et al. (2024) showed that credit-constrained firms are more inclined to increase prices or reduce them less drastically compared to their unconstrained counterparts. The literature around price determinants could provide insights into small businesses' pricing behavior. For instance, the price determinants could specifically explain the pricing strategy choice made by small businesses and understand the constraints small businesses have compared to the larger businesses regarding cost as well.

2.8.1. Competition

According to literature, firms pricing behavior could be influenced by the competitive factors and competitor price level (Lambin et al., 1975; Hanssens, 1980; Urbany & Dickson, 1990). For instance, empirical analysis by Shankar & Bolton (2004) observed competitive factors explained the most variance in retailer pricing strategy, which was approximately 97%.

Furthermore, Fabiani et al. (2006) observed that the competitor's price affected approximately 30% of firms' prices, indicating the competition's role in influencing pricing-to-market and even pricing strategies. However, the relevance of Shankar & Bolton findings to the restaurant industry might be limited as they are a different industry. Furthermore, Gabaix et al. (2016) argue that the competition applies weak pressures toward prices when the number of firms is large where the markup and prices are determined by the tail properties of the noise distribution (e.g. taste shocks or consumer preferences distribution). This would indicate that competitive pressures have less direct impact of the pricing behavior of small businesses. On the other hand, Bottone et al. (2021) observed that the longer the firms perceive the length to return to normal business level, and more likely firms are to pay attention and adjust their pricing level to the competitors' pricing policies, highlighting the fact that competitive pressures could apply higher pressures during economic uncertainty. Furthermore, the research could provide insights into how competitive pressures determine small businesses' prices and their response to high inflation.

2.8.2. Cost

Over the past decades, economists have extensively studied the impact of inflation on costs. On the one hand, research has shown that inflation can contribute to higher costs and cost overruns (Musarat et al., 2020; Arditi et al., 1985; Ebekozien et al., 2024). On the other hand, Musarat et al. (2021) identified costs ("cost-push inflation") as one of the factors contributing to the inflation, highlighting rising wages, rising raw material costs, and higher import prices as contributors to the inflation, which demonstrated a relationship between costs and inflation. The relationship between cost and inflation highlights that in high inflationary periods cost could be crucial price determinants as companies have to balance the cost and price.

Building on this, the literature suggests as well that firms account for costs in their pricing decisions. For instance, a firm's pricing behavior possesses a cost asymmetry, where cost shocks tend to respond faster to price increases rather than price decreases (Fabiani et al, 2006; Peltzman, 2000). Similarly, Almonte et al. (2015), European firm-level evidence that approximately 75% of price-setters' prices are set depending on mark-up over total cost, indicating that the cost of the product or service has some level of impact to the firm's pricing behavior. Furthermore, Choné (2024) observes that the price increases are associated with higher fixed cost levels, which would indicate that cost can determine the firm's pricing behavior.

2.8.3. Demand

Understanding the impact of inflation on demand is crucial to determining its influence on prices. Inflation creates economic uncertainty, which can lead to lower consumer spending and purchasing power of consumers (Bâlâcescu & Zaharia, 2011). The research observes that as purchasing power decreases, inflation might suppress revenue growth if the pace of price increases is higher than income growth, indicating the importance of demand on the firm's pricing behavior as revenue growth is valued. On the other hand, research by Fabiani et al. (2006) observes the asymmetric relationship between price and demand as positive demand is less likely to induce price adjustment compared to negative demand, indicating that firms do not want to jeopardize their relationship to the consumers. Therefore, the literature provides insights into demand for price determinants, which can improve understanding of the small businesses' pricing behavior and pricing strategy.

2.9. Literature Review Summary

The literature review provides comprehensive examination of pricing behavior, focusing on characteristics, two stages of price adjustment, pricing strategy, and underlying factors. The literature review identified two key characteristics of pricing behavior: price-setters and price-takers. Firms prefer to be price-takers rather than price-setters, even though a substantial number of firms have price-setting power in practice. However, the negative consequences and costs associated with price-takers discourage firms from choosing the option for the long-term. The two stages of price adjustment (review & implementation) can be influenced by various factors. For instance, the frequency of price review can depend on the fact whether firms choose state or time-dependent pricing model. Furthermore, the frequency and magnitude of price changes could be influenced by high inflation and pricing constraints. The literature review highlights that the competitive-based pricing strategy to be more popular despite consumer-value based pricing strategy to be the superior approach. The literature review highlights several underlying factors, such as competition, cost, and demand, which influence pricing behavior.

2.10. Conceptual Framework

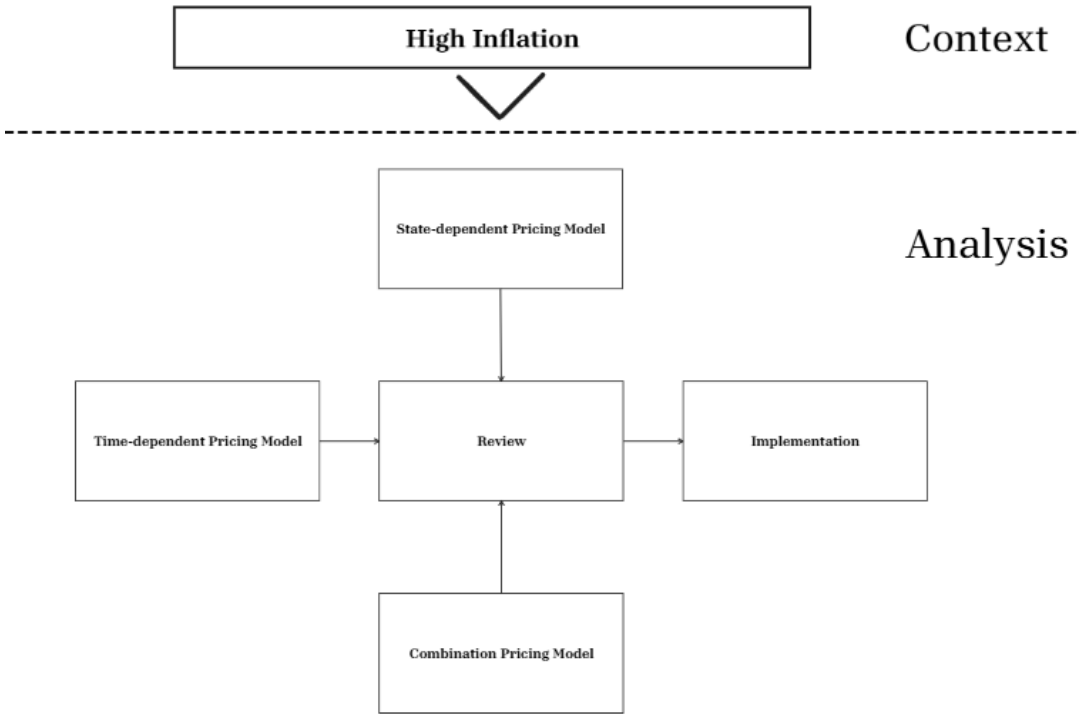

Figure 1. Conceptual Framework: Pricing Mode and Price Adjustment Process

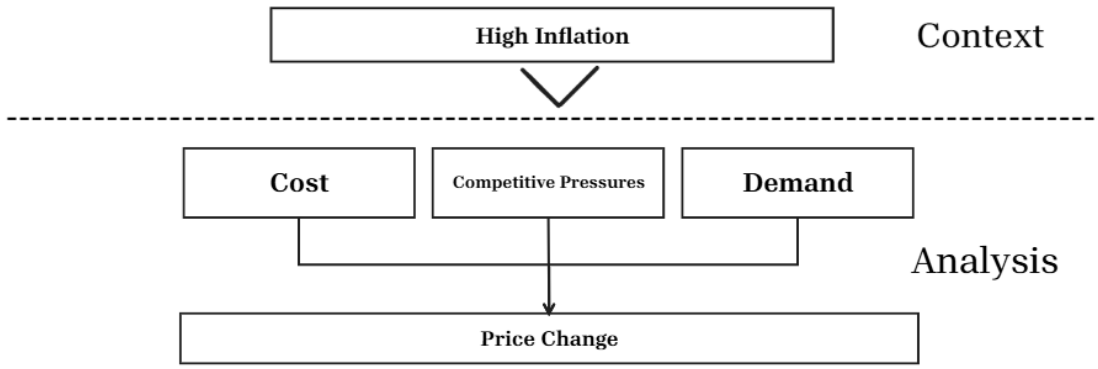

Figure 2. Conceptual Framework: Price Determinants & Price Change

The conceptual framework provides direction for the overall thesis. For instance, the above conceptual frameworks highlight that the context of the research is high inflation.

Building on this, the first conceptual framework examines the price adjustment, specifically the impact of different pricing model on the price adjustment stages. It identifies three pricing models (e.g. time-dependent, state-dependent, and combination pricing model) as the independent variable. The review process is a mediator variable, while implementation is a dependent variable, as effective implementation requires the review before adjusting prices.

On the other hand, the second conceptual framework examines the impact of price determinants on the price change. Therefore, the conceptual framework highlights the price determinants (e.g. cost, demand, and competitive pressures) as independent variables based on the findings in the literature review. Furthermore, it identifies the price change as dependent variable.

3. Methodology

This thesis aims to investigate the pricing behavior of small businesses in the restaurant industry during high inflation. Therefore, it will explore the relevant research questions and compare the findings to prior empirical and theoretical research. Due to empirical research in the literature review, the quantitative method was selected. However, the method incorporates qualitative components in the form of open-ended questions.

This section of the thesis outlines the methodology, beginning with the research design that explains how the questionnaire was developed. The next section will focus on data collection, describing how the data was gathered, and in addition it includes the sample selection. Finally, the third section will provide justification for the chosen research method.

3.1. Research Design

The questionnaire (see Appendix A) is organized into six sections: general information, price adjustment, price-setting dynamics, price constraints, pricing strategy, and price determinants. In section 1, the questionnaire collected general characteristics of the firm, while in section 2 the restaurants were asked about the pricing model and the frequency of price reviews and changes. In section 3, the questionnaire investigated about the price-setting power and whether the restaurant were price-setters or – takers. Section 4 investigated the importance of price constraints that delay price change. In section 5, the restaurants were asked about both the frequency of price increases and decreases, and in addition price determinants influencing price change.

In total the questionnaire contained 20 questions. In addition, the questionnaire included open-ended questions that collect either categorical or numerical data (including ratio data), dichotomous questions that create nominal data, multiple-choice questions that collect both nominal and ordinal data, and five-point Likert-scale questions that generate interval data. There were several Likert-scale question types, such as agreement (range from 'Strongly Disagree' to Strongly Agree'), importance (range from 'Unimportant' to 'Very Important'), and frequency (range from 'Never' to 'Very Frequently').

To ensure comparison to prior research, many of the questions were adopted from other questionnaires (Loupias & Ricart, 2004; Martins, 2005). For instance, the questionnaire incorporated framework from ECB working papers researchers in the topic of pricing behavior (Lünnemann & Mathä, 2006; Stahl, 2006). Most of the items were derived from the Lünnemann and Mathä (2006) twenty-six item questionnaire but approximately ten items were selected for questionnaire. In contrast, the 'pricing strategy' section

incorporated the framework designed by Ingenbleek et al. (2003) that compromised six constructs but only three constructs were chosen.

3.2. Data Collection

The data collection phase was over a four-week period, and the questionnaire was designed with online software 'Webropol', where the responses were submitted. The questionnaire was distributed in-person format due to the low response rate from other online channels (e.g. E-mail or phone call). To enhance response rate, a multiple recruitment strategy was implemented, following the suggestion of Shiyab et al. (2023) observation that the use of multiple channels can increase the number of responses. As a result, the data collection was expanded, which required a visit to the restaurant, where the respondents were given physical questionnaire or QR-code questionnaire. The respondent either completed the questionnaire immediately or returned it upon the agreed date to allow collection of the response. After the physical responses were collected, the responses were entered into the online questionnaire by the thesis author.

3.2.1. Sample

The sample of the research was chosen on following the criteria:

1. The respondent is in a position that would allow knowledge and authority on the pricing decisions of the restaurant (e.g. owner, co-owner, manager, or assistant).
2. The business size was small business, where there were between one to 50 employees.
3. The firm is in the restaurant industry and has been operating for five years (specifically in the timeframe of 2021 to 2023).
4. The location of the restaurant was in the geographical region of Finland.

Therefore, the sample selection had to conform to the criteria, indicating that utilization of judgement sampling, which is the subcategory of purposive sampling (Schindler, 2021). To ensure conformity to the criteria, prior research was conducted via restaurant website and section 1 of the questionnaire verified the criteria as well. Similarly, the ECB working paper authors of price-setting behavior verified the criteria through survey (Apel et al., 2001; Aucremanne & Druant, 2005).

The sample size consisted of eight respondents. Figure 3 illustrates the business size, where it conforms to the criteria. However, most of the firms were from micro-businesses, therefore the research should combine micro-businesses and small business into one category. Figure 3 illustrates the industry as well, where it highlights that the sample perceives themselves to be in the restaurant industry. On the other hand, Figure 4 illustrates a percentage proportion of the respondents' position, where the respondents have knowledge and moderate to high level of authority, which fit the criteria.

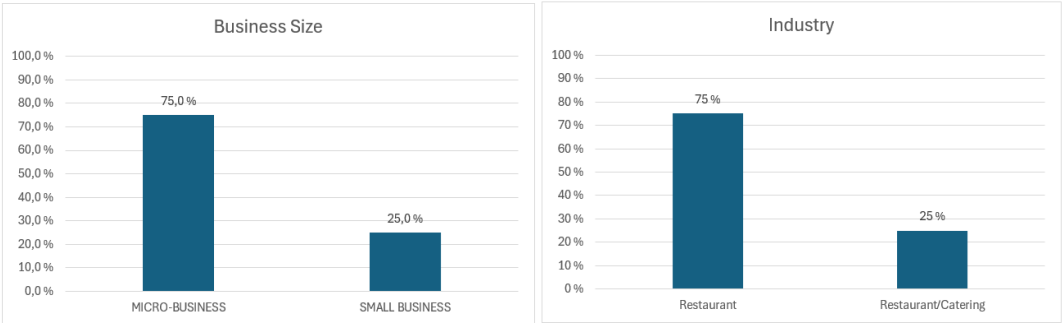

Figure 3. Demographics of the respondent

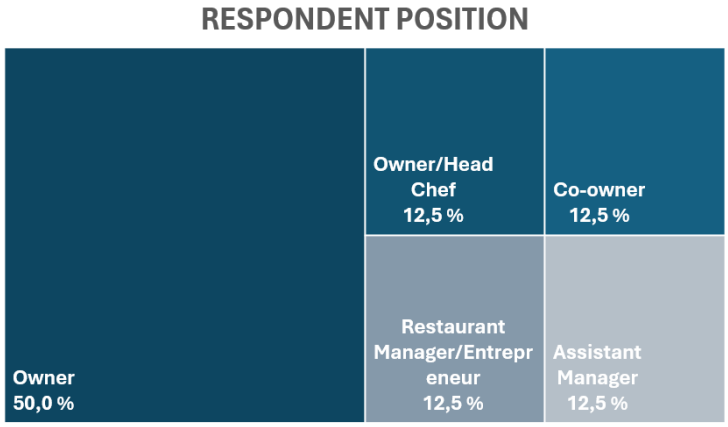

Figure 4. Percentage of Respondent by Position

3.3. Data Analysis

The data analysis was performed with 'SPSS' software. The 'SPSS' software can support various analytical techniques, such as descriptive statistics and correlation analysis, to examine and explore the data.

3.3.1. Descriptive Statistics

The research will explore the descriptive statistics that provide valuable insights of the variables, such as the mean, median, standard deviation, and frequency percentage. Furthermore, the questionnaire's Likert-scale question, which reveal the respondent attitude toward specific factors, can be examined with the descriptive statistics that can identify the most influential variable in the construct through the mean. In contrast, the standard error can indicate variation of the sample. For instance, Fabiani et al. (2006) and Martins (2005) utilize the median score to assess the frequency of price review and change, while Alvarez et al. (2019) examines the variation of the price change with standard deviation.

3.3.2. Correlation Analysis

The research will explore correlation analysis to examine the relationship of independent and dependent variables in the conceptual framework. The correlation analysis will provide correlation coefficient (r) that examines the strength and direction of the relationship. For example, a correlation coefficient often closer to zero could indicate from a non-existent to weak relationship, while a correlation closer to +1 could indicate a strong positive relationship, and coefficient closer to -1 could indicate strong negative relationship. To clarify, if the correlation coefficient has $|r| < 0.5$, the relationship is weak. Conversely, it is crucial to note that it might not indicate statistical significance, therefore, to examine significance either t-test or regression is required to confirm significance, but the low sample size does not allow to test significance with t-test or regression.

3.4. Justification

The foundation for exploring of pricing behavior with firm-level survey was established by the empirical research of Blinder (1991) and Blinder et al. (1998) in the United States. Subsequently, these works have inspired similar empirical research by the authors of ECB working paper published between 2003 to 2006 across various countries (Stahl, 2005; Martins, 2005; Loupias & Ricart, 2005). Following this, Fabiani et al. (2006) provided empirical evidence on the euro area by summarizing the survey results by authors of ECB working papers on pricing behavior. Furthermore, firm-level survey method was utilized in other areas of pricing research, such as Ingenbleek et al. (2003) on pricing strategy and Alvarez et al. (2019) on price changes. Similarly, the quantitative firm-level survey method was selected over qualitative interview due large magnitude of prior research with established framework, ensuring greater validity and reliability. Previous studies, such as Ingenbleek et al. (2003) measured the framework's reliability with the Cronbach alpha test that showed good consistency with the value of 0.7. Additionally, the pricing behavior framework of ECB working papers was applied in various countries, ensuring reliability and validity.

4. Findings

4.4. Price-setting Power

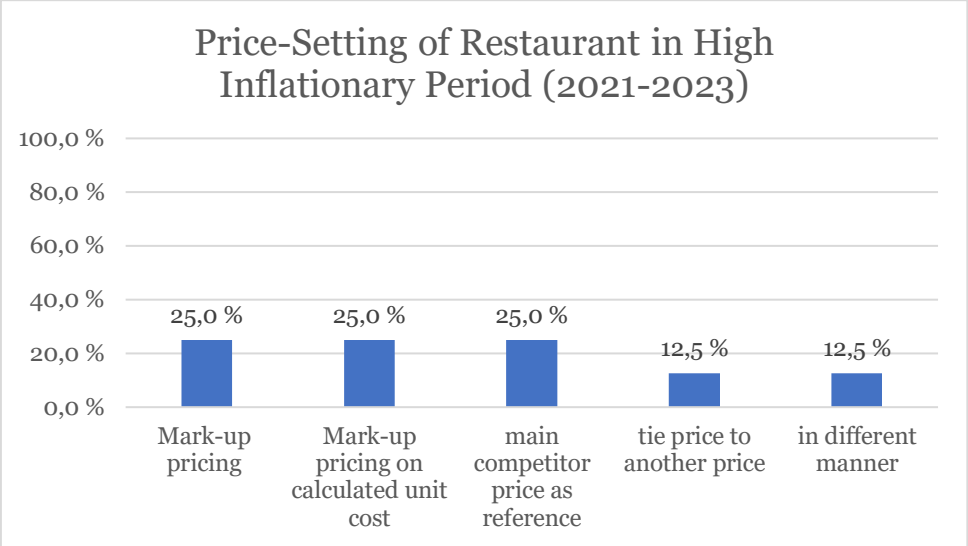

Figure 5. Price-Setting Margin of Firms

Table 2. Price-Setting Power

	Frequency	Percent (%)	Valid Percent	Cumulative %
No Price-Setting Power	0	0.0%	0.0%	0.0%
Price-Setting Power	8	100.0%	100.0%	100.0%

The frequency statistics in Table 2 indicate that the sample demonstrates a clear consensus on possessing price-setting in practice, which can be observed from the sample's 100 percent agreement on this aspect. Furthermore, Figure 5 illustrates the price-setting of restaurants, where the price-setting of firms is dominated by mark-up pricing (50%), followed by the competitor price as reference (25%) and tie price to another (12.5%).

4.5. Price Adjustment

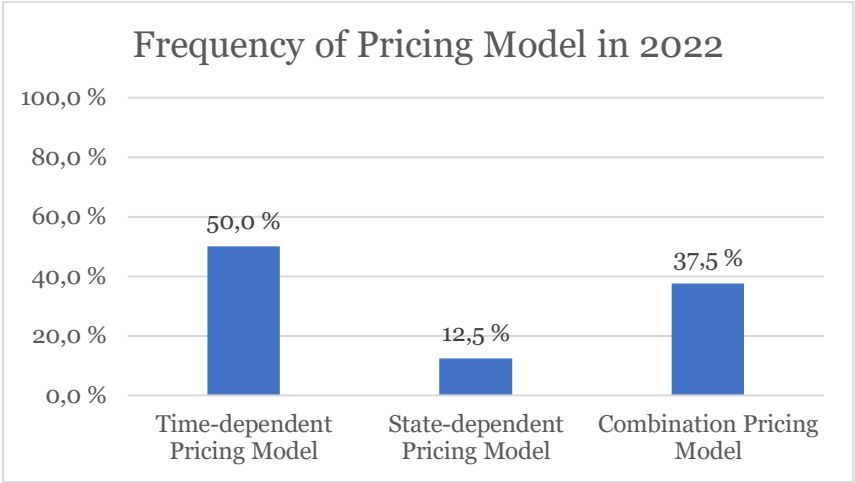

Figure 6. Frequency of Pricing Models in 2022

The frequency statistics presented in Figure 6 indicate that the time-dependent pricing model occurs more frequently than other pricing models in the sample, representing 50% of the observations. The second largest category compromises of combination pricing model, while the smallest category consists of state-dependent pricing model, which accounts for 12,5% of the observations and includes only one observation.

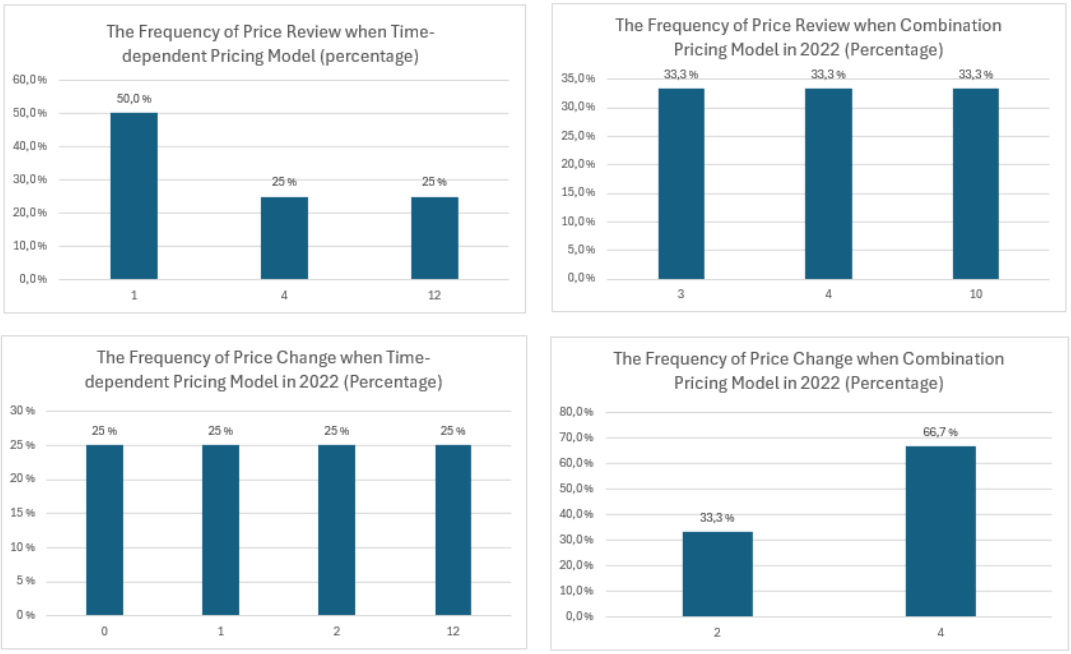

Figure 7. the frequency of price review and price change for different pricing models in 2022

Table 3. descriptive statistics of pricing model and price adjustment in 2022

Pricing Model	Price Adjustment	Median	Mean	Standard Deviation
Time-dependent Pricing Model	Price Review	2,500	4,500	5,19615
	Price Change	1,500	3,7500	5,5028
Combination Pricing Model	Price Review	4,000	5,6667	3,78594
	Price Change	3,667	3,6667	1,52753
State-dependent Pricing Model	Price Review	1,000	1,0000	-
	Price Change	1,000	1,0000	-

The descriptive statistics on price adjustment frequencies for different pricing models are represented in Table 3. For the time-dependent pricing model, restaurants in the sample review prices on average of 2.5 times and median of 4.5 times in 2022 (e.g. year that is categorized with high inflation rate). Furthermore, the price change mean is approximately 1.5, indicating that the price change occurs less frequently than price review. On the other hand, the median firm changes prices 3.75 times. The high standard deviation for both price review (5.20) and price change (5.50) indicate significant variation within the sample.

On the other hand, on average, the frequency of price reviews for state-dependent pricing model is approximately one in 2022, as is the frequency of price changes. Similarly, the mean and the average for both price review and price change are one as well. Since this category includes only one observation, there is no variation to measure. Therefore, the standard deviation of state-dependent pricing model is undefined in Table 3.

On the front of combination pricing model, the price review mean value for 2022 is 5.67, indicating higher average frequency of price review compared to time-dependent pricing model. The price change mean value is 3.67. Therefore, the price review occurs more frequently compared to the price change in combination pricing model. On the other hand, the median firm for combination pricing reviews prices 4 times, while they change prices 3.67 times in 2022. Additionally, the standard deviation for price review and price change is lower compared to the time-dependent pricing model, indicating lower-level of variation.

Table 4. Correlation Analysis: Pricing Model (Categorical Variable) and Price Adjustment (Continuous Variable).

Pricing Model	Price Adjustment	Method	Correlation Coefficient
Time-dependent Pricing Model & Combination Pricing Model	Price Review	Kendall's Tau b	0,272
	Price Change	Kendall's Tau b	0,331
State-dependent Pricing Model & Combination Pricing Model	Price Review	Kendall's Tau b	0,707
	Price Change	Pearson Correlation	0,730

The selection of correlation coefficient method is determined by the normality of the data distribution. If the continuous variable has a normal distribution, the Pearson correlation coefficient is applied. Otherwise, Kendall's Tau b is employed.

Building on this, the correlation analysis shows a positive relationship between pricing model and price adjustment, indicating that the price review and price change might be influenced by the type of pricing model decided upon by the respective small business.

However, the time-dependent and combination pricing model category, the correlation between price review r = 0.272 and price change r =0.331 is a weak positive relationship, as | r | < 0.5. Furthermore, the transition from time-dependent pricing model to combination pricing model suggests an increase in price review and price change reflected by the positive coefficient.

In contrast, the state-dependent and combination pricing model category suggests a strong positive correlation between price review r = 0.707 and price change r = 0.730, as | r | > 0.5. Furthermore, the transition from state-dependent to combination pricing model suggests an increase in price review and price change as well.

4.6. Pricing Strategy

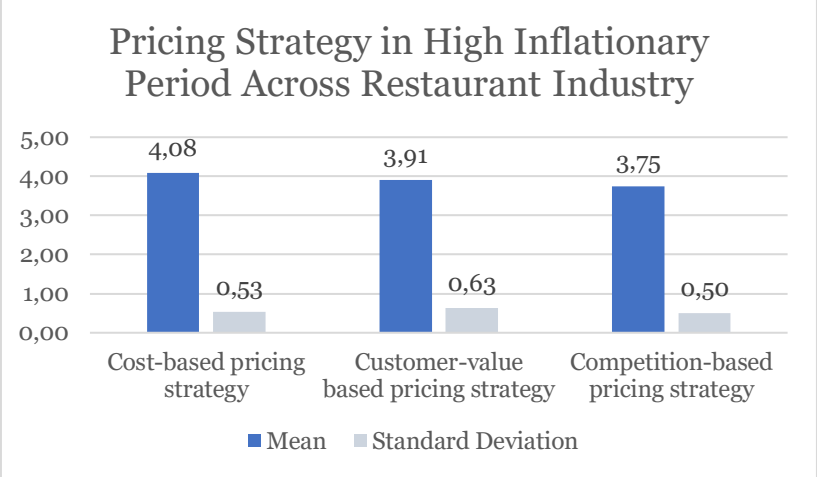

Figure 8. Visualization of Descriptive Statistics on Pricing Strategy during High Inflation

Table 5. Descriptive Statistics of Pricing Strategy

Pricing Strategy	N	Minimum	Maximum	Mean	Standard deviation
Customer-value based pricing strategy	8	3,00	4,75	3,9063	0,53348
Competition-based pricing strategy	8	2,40	4,20	3,7500	0,63019
Cost-based pricing strategy	8	3,33	5,00	4,0833	0,49602

The descriptive statistics indicate that the restaurants in the sample determine prices mostly on cost-based pricing as it possesses the highest mean 4.08 and a lowest standard deviation of 0.50, followed by customer-value based pricing strategy with second highest mean (3.91) and competition-based pricing strategy with the mean of 3.75.

4.7. Price Constraints

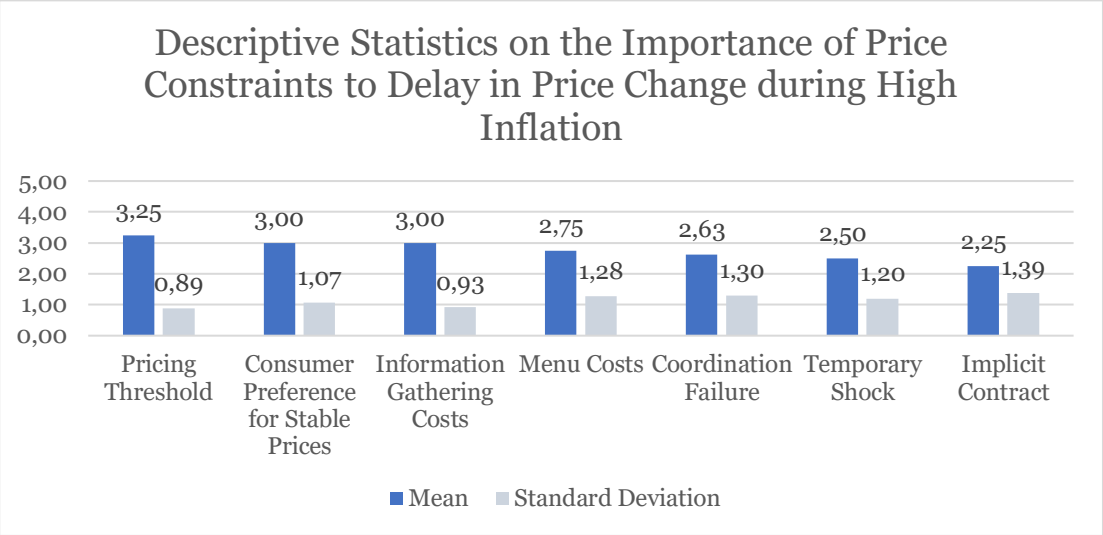

Figure 9. Descriptive Statistics Visualization of Price Constraints in High Inflationary Period

Table 6. Descriptive Statistics of Price Constraints

Price Delay	N	Minimum	Maximum	Mean	Standard deviation
Coordination Failure	8	1,00	4,00	2,6250	1,3024
Implicit Contract	8	1,00	4,00	2,2500	1,3887
Consumer Preference for Stable Prices	8	1,00	4,00	3,0000	1,0690
Information Gathering Costs	8	2,00	4,00	3,0000	0,9258
Temporary Shock	8	1,00	4,00	2,5000	1,1952
Menu Costs	8	1,00	5,00	2,7500	1,2817
Pricing Threshold	8	2,00	4,00	3,2500	0,8864

The pricing threshold, with the highest mean of 3.25, suggests that the pricing constraint has on the delay of price change. Furthermore, the moderate standard deviation of 0.89 indicates agreement on the importance and impact of price threshold to the price change delay. On the other hand, most price constraints suggest a moderate influence on the price change delay, which is reflected by the price constraints' mean close to three.

4.8. Price Change

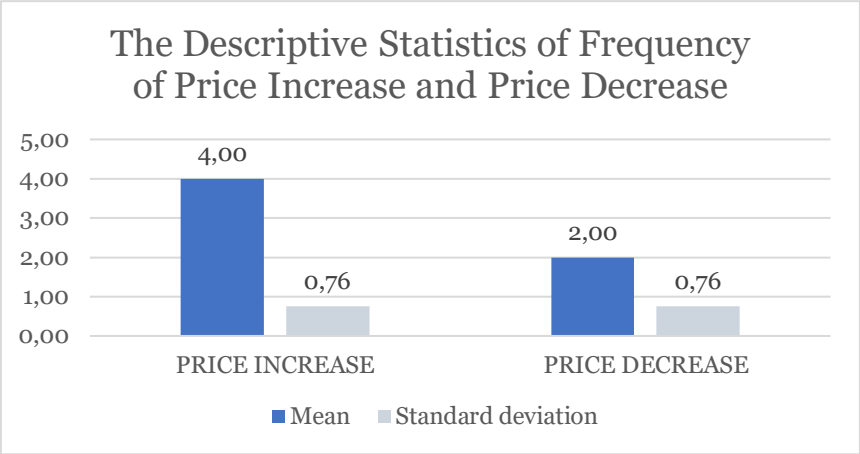

Figure 10: Descriptive Statistics Visualization on the frequency of Price Increase and Decrease

Table 7. Descriptive Statistics of Price Increase and Price Decrease

Price Change	N	Minimum	Maximum	Mean	Standard deviation
Price increase	8	3,00	5,00	4,00	0,75593
Price decrease	8	1,00	3,00	2,00	0,75593

The descriptive statistics reveal that the price increase occurs more frequently than the price decreases, reflected by the higher mean of price increase. Furthermore, the descriptive statistics reveal moderate variability of 0.76 for both price increase and price decrease, indicating moderate level of agreement among the sample.

4.9. Price Determinants

Figure 11. Descriptive Statistics Visualization for Price Increase & Decrease Determinants

Table 8. Descriptive Statistics for Price Increase & Price Decrease Determinants

Price Increase Determinants	N	Minimum	Maximum	Mean	Standard deviation
Cost Increase	8	3,75	5,00	4,1875	0,39528
Demand Increase	8	3,00	4,00	3,2500	0,4629
Demand Reduction	8	2,00	5,00	3,2500	0,8864
Price Increase by Competitor	8	2,00	4,00	3,2500	0,7071
Price Decrease Determinants	**N**	**Minimum**	**Maximum**	**Mean**	**Standard deviation**
Cost Decrease	8	1,67	4,33	3,6667	0,92582
Demand Increase	8	2,00	5,00	3,3750	1,0607
Demand Reduction	8	2,00	5,00	3,2500	0,8864
Price Decrease by Competitor	8	2,00	4,00	3,8750	0,6409

The descriptive statistics show that the cost increase has the strongest influence on price increase, as reflected by a high mean of 4.19, and a low standard deviation of 0.4. In contrast, demand increase, demand reduction, and price increase by competitors show a slightly above moderate influence over the price increase, as reflected by the mean 3.25.

The price decrease of the competitor has the most influence on the price decrease, as reflected by the highest means of 3.88 and the lowest standard deviation of 0.64 than other price decrease determinants. Furthermore, the cost decrease has a moderate to high influence on the price decrease, as reflected by a high mean of 3.67, while the mean value of demand increases, and demand reduction has a moderate influence on price decreases.

The cost increase has a stronger and more consistent influence within the sample on the overall price change compared to cost decrease due to cost increase having a higher mean (4.19) and lower standard deviation (0.40) compared to the cost decrease (mean = 3,67 & standard deviation = 0,93). Similarly, the demand increase might have a stronger influence on the overall price change compared to the demand reduction, with a higher mean (3.38) for price decrease than demand reduction (3.25). Furthermore, demand increase shows a lower standard deviation in price increase than demand reduction, indicating a greater variation within the sample for demand reduction. However, competitor's price decrease might have a stronger influence on the price change than price increase by competitor, as reflected by a higher mean (3.88) and lower standard deviation (0.64) than competitor's price increase.

Table 9. Correlation Analysis of Price Determinants and Price Change

Price Determinant Category	Price Determinant	Price Change	Method	Correlation Coefficient
Cost	Cost Increase	Price Increase	Pearson Correlation	0,239
	Cost Decrease	Price Decrease	Kendall's Tau b	0,274
	Cost (overall)	Price Change	Kendall's Tau b	0,126
Demand increase	Demand Increase	Price Increase	Kendall's Tau b	0,542
	Demand Increase	Price Decrease	Kendall's Tau b	0,387
	Demand Increase (overall)	Price Change	Kendall's Tau b	0,238
Demand reduction	Demand Reduction	Price Increase	Pearson Correlation	-0,426
	Demand Reduction	Price Decrease	Pearson Correlation	0,213
	Demand Reduction (overall)	Price Change	Kendall's Tau b	-0,529
Competition	Price Increase by Competitor	Price Increase	Pearson Correlation	0,267
	Price Decrease by Competitor	Price Decrease	Kendall's Tau b	0,271
	Competitor Price (overall)	Price Change	Kendall's Tau b	-0,200

The cost and price change variables have a weak positive correlation, as $|r| < 0.5$. Specifically, cost increases have a weak positive relationship with price increases ($r = 0.239$), indicating that as costs rise, product prices tend to increase as well. Similarly, cost decreases have a weak positive correlation with price decreases ($r = 0.274$). However, the overall relationship between cost changes and price changes is very weak ($r = 0.126$), indicating that cost fluctuations have a minimal influence on pricing decisions.

On the other hand, demand increases and price changes in variables show a weak to moderate positive relationship. For instance, demand increases have a moderate positive correlation with price increases ($r = 0.542$), which is the highest correlation with price changes. However, overall demand increases show only a weak positive relationship with price changes ($r = 0.238$), indicating that changes in demand increases have a minimal impact on price changes.

Conversely, demand reduction and price changes display both weak to moderate positive and negative relationships. For instance, demand reduction and price increases have a moderate negative correlation ($r = -0.426$),

indicating that as demand decreases, prices tend to decrease as well. Similarly, demand reduction (overall) has a moderate negative correlation with price changes (r = -0.529). In contrast, demand reduction and price decreases show a weak positive correlation (r = 0.213), further supporting the relationship between declining demand and lower prices.

Similarly, competitors' prices have either a weak positive or negative relationship with price change variables. For instance, a price increase by competitors has a weak positive correlation with price increase (indicating that as the competitors' price rises, the price increases as well. Furthermore, the price decrease by competitor has a weak positive correlation with price decrease (r = 0.271) as well, while the competitors' price (overall) and price change have a negative correlation, indicating that as the competitor's price changes the magnitude of price change is minimal (r = 0.267).

5. Discussion and Analysis

The discussion and analysis section will follow the format of research questions, where each subsection has a heading similar to the relevant research question. Therefore, the subsections will focus on research questions and identify patterns and trends in the data and compare them to the prior empirical research.

5.4. Price-Setting Dynamics in Small Businesses During High Inflation

This section will examine the small businesses' price-setting power in practice across restaurant industry in high inflationary period of 2021-2023. The findings suggest that 100% of small businesses in the sample have price-setting power. Similarly, Stahl (2005) observes that majority of firms (88%) in Germany have price-setting power. Therefore, the thesis findings support the Stahl (2005) observation of price-setting. Furthermore, the price-setting strategy of the firm can reveal whether they are price-setter or price-taker. For instance, the firms applying mark-up pricing suggest that 50% of the sample firms are price-setters because they determine the price themselves. Conversely, the proportion of firms (25%) that follow the competitor price as the reference are price-takers because of the Stackelberg model, where price-takers adjust the price of their product in response to price-setters. These findings support the Stahl (2005) observation that majority of firms are price-setters as the percentage of price-setters is higher than price-takers.

5.5. The Impact of Pricing Models on Price Adjustment

This section will examine the impact of high inflation in conjunction with pricing model on price adjustment. Building on this, the findings reveal that small businesses across restaurant industry in Finland within the sample utilize time-dependent, state-dependent and combination pricing model. Of these options, time-dependent pricing (50%) is the more frequent under high inflation period, followed by state-dependent (12,5%) and combination pricing model (37,5%). Similarly, the results are similar to previous empirical research that have adopted time-dependent pricing model as most frequent under normal circumstances in the Belgium and UK (Aucremanne & Druant, 2005; Hall et al., 1997). However, the frequency of pricing models varies across countries. For instance, Lünnemann & Mathä (2006) observed that in Luxembourg, state-dependent pricing was more frequently utilized under normal conditions (48%), whereas Loupias & Ricart (2005) identified that 55% of firms in France adopted combination pricing model.

Despite the consistency with prior research, other empirical studies have presented differing results. Aucremanne & Druant (2005) determined that state-dependent pricing (74.3%) was more frequent due to economic shock,

and in addition Apel et al. (2001) observed in Sweden that 21% of firms that have followed time-dependent pricing shift to state-dependent pricing due to significant shock. State-dependent pricing model

On the topic of price review, the findings indicate that the frequency of price review varies across different pricing models in 2022. For instance, small businesses utilizing time-dependent pricing reviewed prices a median of 2.5 times, averaging 4.5 reviews. In contrast, firms following state-dependent pricing had a median and average of one, while the firms following a combination pricing had a median of four times, with an average of 5.67. The empirical research from ECB working papers has observed that the median frequency of price review in regions: Italy and Belgium, is approximately one per year (Fabiani et al., 2004; Aucremanne & Druant, 2005). In contrast, regions of France and Austria the median frequency of price review is approximately quarterly per year (Loupias & Ricart, 2005; Kwapil et al., 2005). Therefore, thesis findings of the median frequency of price review for time-dependent pricing falls between the two regional categories, whereas the thesis findings of median price review oof combination pricing are similar to results in France and Austria. Moreover, the state-dependent category has a lower median than the two regional categories but with only one observation the comparison with regional data is difficult. Building on this, Martins (2005) suggests that firms tend to review prices more frequently when inflation is high to avoid a decrease in profits. However, to confirm this hypothesis, further research under normal conditions is required.

On the topic of price change, the thesis findings indicate that the small businesses that follow time-dependent pricing change prices with a median of 1.5 times, averaging 3.75 changes. In contrast, firms employing state-dependent pricing have median price change frequency and average of one, while small businesses applying combination pricing have median price change frequency and average of 3.67. According to Fabiani et al. (2006), 39% of firms in Euro Area countries report a median price change frequency of one per year, indicating that the thesis findings have a higher median frequency for time-dependent pricing and combination pricing. Furthermore, the descriptive statistics have revealed that the price review occur more frequently than price change in a high inflationary period of 2021-2023 for time-dependent and combination pricing. Similarly, prior empirical research has observed similar findings in normal conditions (Martins, 2005; Loupias & Ricart, 2005).

5.6. Pricing Strategies of Small Businesses During High Inflation

According to the sample's answers, the small business restaurants utilize more than one pricing strategy that determines the price of the product. For instance, the mean value of the pricing strategy was approximately around

four, indicating that most restaurants agree with characteristics of the pricing strategy.

Furthermore, the findings indicate that the most utilized pricing strategy is the cost-based pricing strategy with the highest mean (4.08) among the restaurants within the sample, indicating that price-setting has a cost-based pattern in the industry. Similarly, empirical research has found either cost-based pricing strategy to be more utilized (Shipley & Bourdon, 1990) or competition-based pricing strategy (Hinterhuber, 2008). Therefore, the findings support Shipley & Bourdon (1990) observation that 50% of firms in engineering and paper industry utilize cost-based pricing strategy. However, the competition-based pricing strategy mean value (3.75) was lowest, indicating conflict with the Hinterhuber (2008) result that 44% of firms utilize competition-based pricing and only 17% utilize consumer-based pricing strategy rather the second most utilized pricing strategy was consumer-based pricing strategy with the mean value of 3.91.

Additionally, the construct of each pricing strategy had the adequate Cronbach value. For instance, the Cronbach value of cost-based pricing strategy was 0.798, competition-based pricing strategy was 0.742, and consumer-based pricing strategy was 0.859, indicating internal consistency despite the small sample size.

5.7. The Influence of High Inflation on Price Change Frequency

This section will examine the frequency of price change during high inflation, and in addition it will identify the factors both delaying and driving the price change. According to respondents' answers, the price increases occurred more frequently compared to price decreases during the high inflationary period of 2021-2023. Similarly, empirical research by Alvarez et al. (2019) found that price decreases are rare during high inflation, which ca partly explain the low frequency of price decreases. Coibion et al. (2019) observed that price increases are associated with higher inflation expectations, indicating that price increases tend to be more frequent when higher inflation expectations due to high inflation. Furthermore, the low to moderate standard deviation (0.76) of the sample suggest low to moderate price dispersion.

However, the research identified theories that influenced nominal price rigidity. Specifically, the importance of the price constraints to the price change delay were determined by the average score. According to the survey respondents' answer, the most important price constraint theory was the pricing threshold since it had the highest average score (3.25), followed by consumer preference for stable prices and information gathering costs ranking both second with the average score of 3. The pricing threshold can influence the consumer perception of a price increase, as setting the price at an attractive value can make price increase to be more reasonable for the

consumer (Kim et al., 2021), therefore the during high inflation, where the price increase can occur more frequently could impact the importance of the pricing constraint. Conversely, the importance of price constraint theories varies depending on the region as well. For example, Kwapil et al. (2005) report that the explicit and implicit contracts are the most important factor for sticky prices in Austria with the average score of 3.04, whereas the results indicate that implicit contracts were the least important factor for price delay. Furthermore, most firms in the Euro Area perceive implicit and explicit contracts as important price constraints (Fabiani et al., 2006).

On the other hand, the research identified factors driving the price change as well. According to the literature, the cost changes are the driving force of price increases, while the demand change and competitors' price change are the main factor underlying price decreases (Fabiani et al., 2006; Fabiani et al, 2004;). The thesis findings support the observation to some extent because the cost increase has the highest mean (4.19) in price increase and competitor's price decrease (3.88) have the highest mean in price decrease, but the cost decrease possesses stronger influence on the price decrease than demand. Furthermore, the descriptive statistics of the thesis findings indicate that higher costs have a stronger and more consistent influence on price change than lower costs. Similarly, Fabiani et al. (2006) have observed similar asymmetrical relationships to the thesis findings. However, the thesis findings differ from the Fabiani et al. (2006) observation of asymmetrical relationship of demand, where the demand reduction has a stronger influence on the price change than demand increase, however, the thesis findings have found that instead demand increase has a stronger influence on the price change than demand reduction.

Moreover, the price determinants relationship to the price change were tested. The findings of the correlation analysis were that the price determinants have a weak to moderate correlation with the price change, which supports the conceptual framework in figure 2, where the price determinants influence the price change. For instance, the demand increases, and the price increase had the highest positive correlation to the price increase, and the demand reduction (overall) and price change had the highest negative correlation to the price change.

Conversely, the thesis findings might differ from the conclusion. For instance, the cost increase scale has a Cronbach alpha value of 0.171, while the cost decrease scale has value of 0.924. The cost increase scale was adopted from the ECB working paper, suggesting that a potential translation issue or small sample size could have contributed to the low Cronbach value for the cost increase scale. Furthermore, the competition is represented by the competitors' price because the number of competitors was challenging to categorize into equal distance value, as the respondent offered wide range of competitors.

6. Conclusion

6.4. Main Findings

The thesis examines the pricing behavior of small businesses across the restaurant industry in the high inflationary period of 2021-2023 with a survey. The main findings aim to provide foundation for further, while offering insights and recognize patterns on both pricing behavior of small businesses and factors influencing their pricing decisions in Finland. Building on this, the first research question aims to investigate the price-setting dynamics of small businesses. The first main finding highlights that all the firms in the sample perceive to have price-setting power in practice. Furthermore, the percentage of price-setters is higher than price-takers (50% against 25%), despite the sample consisting of small businesses.

Moreover, the research examines high inflation, in conjunction with pricing models, influence on the price adjustment process of small businesses. According to the findings, the highest proportion of pricing models are the firms following time-dependent pricing (50%), followed by combination pricing (37.5%) and state-dependent pricing model (12.5%). However, the proportion of pricing models varies across countries. Additionally, regional differences exist for price review and price change frequency. The research found that the median price review and price change was 2.5 and 1.5 for time-dependent pricing, while combination pricing had a higher median for price review and change (4 and 3.67) and state-dependent pricing had lower median for both, equaling one. In contrast, the findings found that price review occurred more frequently than price change, which aligned with prior empirical research (Fabiani et al., 2006; Loupias & Ricart, 2005; Martins, 2005).

On the other hand, the research identifies the most utilized pricing strategy of small businesses in the restaurant industry. According to findings, the small businesses utilize cost-based pricing strategy more than other pricing strategies. However, firms determine the price with more than one price strategy, as the mean value of each pricing strategy scale is over three.

The research examines both the frequency of price change and the price determinants that influence them. The findings suggest that price increases occurred more frequently than price decreases. In addition, the cost change has a stronger influence on the price increase, while competitors' price change has a stronger influence on price decreases. Furthermore, thesis observes an asymmetrical relationship between price determinants and price changes. For example, higher costs have a stronger and more consistent influence on price change, and addition demand has similar asymmetrical relationships as well.

6.5. Implications for International Business

The current research explores the pricing behavior of small businesses, particularly in the region of Finland. However, the research extends to an international business landscape by comparing data from Finland to the existing research, such as ECB working papers that examine the pricing behavior in different countries, primarily within Europe (Stahl, 2005; Aucremanne & Druant, 2005; Fabiani et al, 2006). Furthermore, the research incorporates studies that have analyzed various aspects of pricing behavior in different countries. For instance, in the terms of pricing strategy, Ingenbleek et al. (2003) gathered firm-level data in Belgium. However, Hintehuber (2008) had broader sample consisting of firms in four different countries: Germany, Austria, China, and the USA. On the other hand, the established research on high inflation contributes to the international business perspective of this research. For example, Coibion et al. (2019) analyzed by the utilization of Italian firm-level survey data, while Alvarez et al. (2019) based their findings on firm-level data from Argentina. The integration of various empirical and theoretical research in various geographical regions for comparison strengthens the international business aspect of the research.

On the other hand, this research contributes to the international business landscape as well by providing data from region of Finland, which has not previously been examined in the ECB working papers or another existing research. Therefore, this research enhances and expands the understanding of pricing behavior across the restaurant industry among small businesses in international business context by building upon previous research. This enables researchers to understand further the impact of the independent variable on the price of the main product, such as price change and price review. Furthermore, the small businesses and researchers can better understand the impact of high inflation on the pricing behavior. Therefore, the research can provide insights into the survivability of small businesses in case of inflationary shock.

6.6. Limitations

One limitation in this research was due to the small sample size due to the low response rate. As a result, the result could not indicate statistical significance because it would be challenging to determine whether insignificant statistical results were due to small sample size or the nature of the survey question. Therefore, the sample size could have impacted the conclusions of the study and limit generalization of the results to population, potentially affecting validity and reliability. However, the survey was based on prior framework, indicating that despite the small sample size, there are some level of reliability and validity.

The small sample size limitation arose during the data collection phase, where it became apparent that target group (e.g. restaurant owners, and managers) are challenging to reach. Initially, the goal was to contact restaurants via E-mail to request an interview but due to the low response rate two out of forty replied with a rejection, indicating that online space was not the right communication channel. The low response rate could have been due to the demanding nature of running a restaurant. Therefore, there was a shift of channel from online to in-person. Unfortunately, the response rate was low despite the in-person visit because of the outright rejection or failed follow-through. The failure to follow through resulted in several visits (e.g. two to four) because the responder did not follow the commitment. Furthermore, the low response rate in Mikkeli resulted to the expansion of response collection to Helsinki during the weekday.

The process was extremely time-consuming due to extensive research of the restaurant to ensure confirmation of criteria prior to a visit. Furthermore, in-person visits to restaurants required time to go across the Mikkeli region at specific times (e.g. morning or straight after lunch) to ensure response, indicating that more time would be required to achieve a larger sample size. The low response rate required to expand from Mikkeli to Helsinki. Unfortunately, the response rate did not increase significantly.

6.7. Suggestions for Further Research

The firms' pricing decisions and behavior are significant international phenomena, particularly in the period of economic shock, where the pricing decisions influence profitability (De Toni et al., 2017), which is especially crucial factor in high inflation. As a result, more comprehensive research on pricing behavior, where the sample size is expanded can be further explored. For instance, comprehensive research can identify whether the pattern of this research apply to a larger sample. Furthermore, the larger sample size can provide depth to the research by allowing regression and t-test analysis. Therefore, the comprehensive research can illustrate statistical significance to the population in the region of Finland.

On the other hand, research can expand to include normal economic conditions, which would allow comparative analysis. This analysis can provide insight and identify patterns between high inflation and stable economic condition. For example, Martins (2005) suggested that price reviews occur more frequently during high inflation. Therefore, the comparative analysis would allow the determination whether Martins (2005) observation align with the comparative analysis.

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Appendices

Appendix A. Questionnaire Design

Survey on Small Businesses' Pricing Behavior in the Restaurant Industry (Post-Lockdown Period of 2021-2023)

Mandatory questions are marked with a asterisk (*)

Dear respondent,

We would like to invite you to participate in this survey about pricing behavior. This questionnaire aims to collect information about how pricing strategies, cost factors, and competitive influences shape pricing decisions in businesses.

This survey is part of a research project exploring how factors like price adjustment strategies, costs, market conditions, and competitor pricing influence firms' pricing decisions. Your responses will provide valuable insights into current pricing trends and the challenges businesses face, especially in response to economic factors like inflation. The survey, which is independent and not sponsored by any organization, will take approximately 15 minutes to complete

In the following pages, you will find questions on pricing strategies, cost influences, and how businesses respond to economic pressures. Some sections will ask you to rate specific factors, while others may require brief open-ended responses. Your response is entirely anonymous and will be used only for research purposes. Participation is entirely voluntary, and you can choose not to answer any question without providing a reason.

General Information

Please refer your answers on after the lockdown period of 2021-2023

1. What is your current position in the Restaurant? *

3. What geographic region does your business operate in?

- ◯ Finland
- ◯ within the EU (excluding Finland)
- ◯ outside of EU

4. What is your 'main product' post-lockdown? *

5. What is the size of your Business *

- ◯ Micro-business (fewer than 10 employees)
- ◯ Small Business (10 to 49 employees)
- ◯ Medium-sized Business (50 to 249 employees)
- ◯ Large Business (250 or more employees)

6. What is the approximate amount of your most important competitors?

Price Adjustment

Please refer your answers on the post-lockdown period of 2021-2023

7. How is the price of your 'main product' reviewed and changed after the lockdown period? *

- ◯ Mostly review and change prices at fixed intervals (e.g. once a year or quarterly, etc.)
- ◯ Mostly review and change prices in response to specific events (e.g. as a reaction to substantial change in cost or demand)
- ◯ Generally in fixed intervals, but also in response to specific events

Please answer questions 8 and 10 if you chose the option 'fixed intervals' in question 7. If you chose 'in response to specific events' in question 7, please answer questions 9 and 11. If you selected the third option in question 7, please answer questions 8 through 11. Please continue to answer any question after 11.

8. How frequently did you actually review your price of your 'main product', without being necessarily changed, in 2022? (Consider a price revision as comprehensive assessment of all information relevant for price determination)?

- ◯ Daily
- ◯ Weekly
- ◯ Monthly
- ◯ Quarterly
- ◯ Semi-Annually
- ◯ Annually
- ◯ No change

9. How frequently did you actually review the price of your 'main product' without necessary being changed, in 2022? (Consider a price revision as comprehensive assessment of all information relevant for price determination)?

Please provide an approximate amount _____

10. How frequently did you actually change the price of your 'main product' in 2022?

- ◯ Daily
- ◯ Weekly
- ◯ Monthly
- ◯ Quarterly
- ◯ Semi-Annually
- ◯ Annually
- ◯ No change

11. How frequently did you actually change the price of your'main product' in 2022? Provide approximate amount?

Please provide approximate amount: _____

Price-Setting Characteristics

Please refer your answers on the post-lockdown period of 2021-2023

12. Do you have a certain margin for setting and determiningyour the price? Select primary option if multiple options are in use. *

- ◯ to apply a constant mark-up on calculated unit costs
- ◯ to take calculated unit costs as reference and varying the markup taking into account market and competition conditions
- ◯ to take the price of our main competitor as a reference
- ◯ to tie it to another price (e.g. wage)
- ◯ in a different manner

13. We have almost no margin for price setting *

- ◯ True
- ◯ False

Price Change Constraints

Please refer your answers on the post-lockdown period of 2021-2023

14. Which of the factors listed below might lead to a delay in the actual price change?

	Unimportant	Minor Importance	Neutral	Important	Very Important
The fear that competing firms will not adjust their selling price *	○	○	○	○	○
The presence of informal contract between consumer and firm, where the conditions can be changed only when contract is renegotiated *	○	○	○	○	○
The presence of customer preference for stable prices. Price changes could damage customer relations *	○	○	○	○	○
the gathering and the treatment of the information necessary for making pricing decisions is costly *	○	○	○	○	○
The fear that subsequently you will need to modify the price in the opposite direction *	○	○	○	○	○
Price changes entail (physical) costs. For instance, pricing lists (or menus) have to be printed and internet pages have to be modified *	○	○	○	○	○
the price is set at attractive threshold (e.g. 4,99 Euro or 25,00 Euro), and is changed when convenient to move to a new attractive threshold *	○	○	○	○	○
other reasons _____	○	○	○	○	○

Pricing Strategy

Please refer your answers on the post-lockdown period of 2021-2023

To what extent the following factors included in the price setting process of the new product/service?

15. Customer Value-based Pricing *

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The customer's perceived value of the product	○	○	○	○	○
The advantages the new product offers to the customer	○	○	○	○	○
The advantages of the product compared to substitutes	○	○	○	○	○
The advantages of the product compared to competitors' products	○	○	○	○	○

16. Competition-based Pricing *

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The price of competitors' products	○	○	○	○	○
The competitor's current price strategy	○	○	○	○	○
The estimation of competitor's strength to react	○	○	○	○	○
The degree of competition on the market	○	○	○	○	○
The market structure (number and strength of competitors)	○	○	○	○	○

17. Cost-based Pricing *

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The variable costs of the product	○	○	○	○	○
The price necessary for break-even	○	○	○	○	○
The share of fixed costs in the cost price	○	○	○	○	○

Price Determinants

Please refer your answers on the post-lockdown period of 2021-2023

18. How frequently after lockdown did the price of 'main product'... *

	Never	Rarely	Occassionally	Regularly	Very frequently
increase	○	○	○	○	○
decrease	○	○	○	○	○

19. Please indicate to what extent the factors listed below are of relevance for price increases of your "main product"

	Unimportant	Minor Importance	Neutral	Important	Very Important
Permanent increase in labor costs (e.g. negotiated wage increase) *	○	○	○	○	○
Transitory increase in labor costs (e.g. overtime hours, bonuses) *	○	○	○	○	○
Increase in financing costs *	○	○	○	○	○
Increase in costs of materials *	○	○	○	○	○
Product improvement *	○	○	○	○	○
Demand increase *	○	○	○	○	○
Demand reduction *	○	○	○	○	○
Price increase by competitor *	○	○	○	○	○
Other Reasons _____	○	○	○	○	○

20. Please indicate to what extent the factors listed below are of relevance for price decreases of your "main product"

	Unimportant	Minor Importance	Neutral	Important	Very Important
Decrease in labor costs (e.g. bonuses, lay offs) *	○	○	○	○	○
Decrease in financing costs *	○	○	○	○	○
Decrease in costs of materials *	○	○	○	○	○
Increase of productivity *	○	○	○	○	○

	Unimportant	Minor Importance	Neutral	Important	Very Important
Demand Increase *	○	○	○	○	○
Demand reduction *	○	○	○	○	○
Price reduction by competitor *	○	○	○	○	○
Other Reasons _____	○	○	○	○	○