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Impact of Inflation, COVID-19 and Governmental Measures on Gastronomy in 35 European Countries

Abstract

This paper explores consumer behaviour in gastronomy during and after the pandemic. The research observed changes in mobility in areas connected with gastronomy and entertainment. We have developed a model combining inflation, restrictions, and the number of COVID cases to evaluate the determinants of consumer behaviour. The model relies on data from thirty-five European countries. The econometric model confirmed that consumer behaviour was substantially affected by inflation and government restrictions. Consumers began to value expenditure, and a behavioural change in eating habits was observed. An overwhelming majority of the population is concerned about rising prices. The results allow us to assume that inflation has reduced the pace of recovery in the gastronomy sector.

Keywords: consumer behaviour, gastronomy, COVID-19, inflation, Europe

1. Introduction

The Pandemic has significantly affected gastronomy. Since the Pandemic started, restaurants and hotels have only been able to operate under various limited measures. Reduced consumer demand has negative economic and social impacts (Gursoy & Chi, 2020; Dube et al., 2021). Between 2020 and 2021, the total turnover in Europe's Food & Beverage market lost 30% of its value (Eurostat, 2025).

Existing literature explained the consumer decision-making factors in gastronomy during the COVID-19 pandemic. However, the COVID-19 pandemic was not the only negative factor affecting consumer behaviour in the gastronomy sector. Inflation has been rising in European countries since 2021. The Pandemic is transforming into a cost-of-living crisis (Franc-Dąbrowska & Drejerska, 2022).

Literature focusing on the effects of inflation in the post-pandemic period is relatively scarce. Gerlich (2021) assumed savings in the uncertain period of the Pandemic and a gradual return to traditional consumer behaviour patterns. In contrast, Miljak et al. (2022) confirm inflation risks for tourism and restaurants in Croatia. Gao et al. (2023) examined the effects of rising prices on the frequency of dining and spending in restaurants in the USA. The authors found no relationship between the frequency of dining out and inflation. However, the analysis period was relatively short, and the research sample was geographically limited.

As far as we know, no previous research has comprehensively examined the gastronomy market in Europe concerning rising inflation. Thirty-five European countries are included in the model. Theoretically, our study contributes to the literature by including inflation in the demand model. We use the econometric model to investigate the factors influencing consumers' decisions to visit restaurants (COVID cases, government restrictions, and inflation). Figure 1 describes the conceptual research framework.

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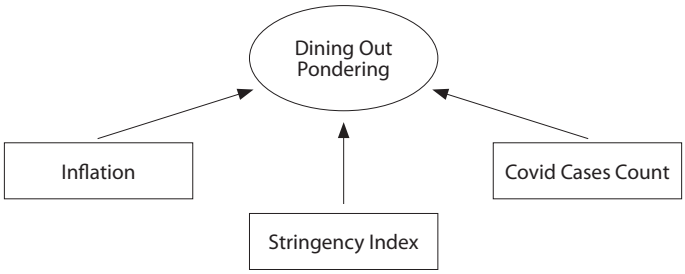
Figure 1
Research framework visualisation



Source: Own processing.

The following research questions were established: 1) Which factors wield the potential to affect restaurant demand during the COVID-19 pandemic? 2) Did declining disposable income (Inflation) outperform fear of infection (COVID cases)? 3) How does the reaction differ in the countries segmented according to the percentage of rural population?

Answering these questions will help the players in the gastronomy market establish successful strategies towards economic headwinds. As for restaurant providers, so for their suppliers. The mutual interest between them is to secure the margin without compromising the quality of the final meal. The suppliers must also offer solutions that address the growing cost (EU average gastronomy labour costs grew by 17.2% from €16k to €19.7k since 2020, and the lack of labour force exited gastronomy during the Pandemic (EU average job vacancy grew by 52.3% from 2.1% to 3.2% in the same period (Eurostat, 2025).

2. Conceptual framework

2.1. Impact of the pandemic on the catering industry: Consumer behaviour and business model

During the Pandemic, restaurants were forced to limit operations due to restrictions and quarantine precautions. Due to mandatory social distancing, there was a reduction in the number of tables and changes in the layout of restaurants (Wang et al., 2021). The crisis also led to a shift in consumer preferences. Jeong et al. (2022) identified hygiene and communication as factors of dining in restaurants. Filimonau et al. (2022) consider safety requirements, preventive hygiene measures, and even the implementation of health inspections to be the most critical factors in customers' return to restaurants. Yenerall et al. (2022) confirmed, by the theory of risk perception, a decrease in the demand for dining in restaurants and an increase in the preference for outdoor dining and food delivery.

The Pandemic was a threat and a simultaneous driving catalyst for innovations in business practices (Belarmino et al., 2021). Consecutive phenomena that restrict access to restaurant drives are delivery services, digitalisation, and new technologies in hospitality (Brewer & Sebby, 2021). Tan et al. (2021) recommend that restaurants embrace online services as an essential source of revenue even after the Pandemic. The Pandemic has also led to an increase in the number of restaurants with robot service. The customers are positively motivated by satisfaction with the experience and the desire for novelty. The popularity of robot restaurants is mitigated by reducing the risk of infection (El-Said & Al Hajri, 2022).

2.2. Demand factors in the gastronomy industry

Many external factors influencing demand in the restaurant and hospitality sector have been identified in the scientific literature. Demand theories include economic, political, security, health and other contexts.

Published studies cite gross domestic product, disposable income, unemployment rate, price level and exchange rate as the main economic determinants of demand. (Song et al. 2023). Political, security, natural and health risks are part of the research on crises in the gastronomy industry (Brewer & Sebby, 2021; Kim et al., 2020; Seo et al., 2018).

Methodological approaches to evaluating trade and gastronomy responded to new challenges during the Pandemic. Indicators and indices were used in the published studies, making it possible to monitor the development and factors of demand better. One of these indicators is the so-called Stringency Index, which can significantly affect consumer behaviour. When the government imposes strict measures, consumers may limit their spending as they may have limited access to shops and services. Conversely, when measures are relaxed, consumers may be more inclined to spend and engage in a broader range of activities (Rose et al., 2023; Kapetanios et al., 2022). Another tool that is not new but has seen increasing research use during the Pandemic is the so-called Google Mobility Report. Data from the report can show how demand for certain products and services is evolving. (Nagy et al., 2022). Yang et al. 2020 statistically quantified the effects of the increase in new cases of COVID-19 and restrictions on mobility on the decline in demand in restaurants. The research showed that a 1% increase in daily cases caused a 0.05% decrease in daily restaurant demand.

After the Pandemic subsided, the energy crisis and rising prices significantly affected restaurant demand (Gao et al., 2023). The number of studies analysing inflation's current effects on gastronomy demand is still limited. Based on research from earlier periods and similar industries, it is possible to identify the usual consequences of inflation on supply and demand. Retailers and manufacturers will see rising prices for raw materials such as food and energy supplies. High inflation is associated with rising electricity and gas prices, directly impacting restaurant operating costs. In the longer term, inflation increases the cost of living and services; hence, employees expect an increase in nominal wages to prevent a decline in real purchasing power. Higher prices can influence consumer behaviour (Gupta & Mukherjee, 2022). For the above reasons, examining inflation's effects on gastronomy demand is relevant.

The energy crisis and the security situation in recent years have burdened the development of the European gastronomy industry. As a result of the war in Ukraine, it was possible to record an increase in the prices of agricultural and food products, energy and operating costs. Energy and food prices are key inputs on which the gastronomy industry is heavily dependent. Businesses in the restaurant industry were forced to increase prices and look for more economical solutions (Miljak et al., 2022). Restaurant models were closed or rebuilt directly in the fighting areas (Danylenko-Kulchytska, 2022).

3. Materials and methods

3.1. The data collection

The model included thirty-five European countries (Austria, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Israel, Italy, Latvia, Lithuania, Luxemburg, Malta, Moldova, Netherlands, Norway, Poland, Portugal, Romania, Russia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom).

We employ a representative dataset with 33,040 observations within 35 countries. Data were collected from Google mobility reports, stringency index, and COVID-19 cases (Mathieu et al., 2020), the percentage of rural population (World Bank, 2023), and inflation (International Monetary Fund [IMF], 2023). The period is covered March 1st, 2020 – September 30th, 2022.

The chosen countries vary in economic and sociodemographic indicators, influencing the inhabitants' response to the health risk. We scrutinised GDP per capita, government health care expenditures in absolute and relative value, life expectancy at birth, the elderly generation percentage within the population and the urban versus rural population distribution. As an airborne disease, COVID-19 is more prevalent in areas where the frequency of contact is higher. That's why mobility in urban regions slows faster than in rural areas due to the growth of COVID-19 cases (Christidis et al., 2022). It implies dividing countries into three 33.3% percentile groups based on population density. The World Bank provides comprehensive data sets in the World Development Indicators section. The "Rural population as % of the population" database fits the best (World Bank, 2023). The first group (Model 1) consists of Belgium, Denmark, Finland, France, Israel, Luxembourg, Malta, the Netherlands, Norway, Sweden, and the U.K. The rural population ratio is between 1.847 and 18.491 per cent. The second one (Model 2) comprises Belarus, Bulgaria, Czechia, Germany, Greece, Hungary, Italy, Russia, Spain, Switzerland, and Turkey, with inhabitants living in rural areas within 18.696% and 28.343% spread. The last group (Model 3) embraces Austria, Bosnia and Herzegovina, Croatia, Estonia, Ireland, Latvia, Lithuania, Moldova, Poland, Portugal, Romania, Slovakia, and Slovenia, where we count from 31.46 to 56.827 per cent of citizens in the countryside.

3.2. The variables description

- Google Mobility report - The report charts movement trends over time by geography across different categories of places. The retail and recreation set includes gastronomy services.
- Stringency index – The Oxford Stringency Index was applied (Mathieu et al., 2020).
- COVID-19 cases – the number of COVID cases that were published daily. It covered the entire COVID period, 01.03.2020 - 30.09.2022.
- Inflation – Consumer price index, published monthly by the IMF (IMF, 2023). This indicator was chosen as a measure of economic influence.

3.3. The data fitting and testing

For the model's stability, we chose the daily data set. The more observations included in the model, the more stable and significant the results returned. Switching the model to a monthly or weekly basis significantly reduces the number of observations. For example, from 33,041 observations to 4,344 obs. (weekly) or 1,086 observations (daily).

Moreover, clustering countries for the three groups was suggested, so each model had fewer observations. Thus, weekly or monthly observations increase the robustness of the model. To match the monthly economic indicators, we used bicubic interpolation methods.

We tested many variables for the best-fitting model specifications, considering data availability and duplicity. The variable "Number of COVID cases" was the best for data availability and our research logic. The number of cases was published, and the same methods of investigation were used for each country in the scope. A COVID case was reported if a person had a positive COVID test. The number of persons for intensive care can be different for each country. Moreover, the variable "Number of death cases" was tested and behaved similarly to "Number of Covid cases."

Although extensive indices reflect a household's livelihood situation and economic fitness, we couldn't find any general reliability for all 35 investigated countries. It is impossible to find an economic coefficient that is the same in all countries and available from a single source. Additionally, the reported coefficients are predominantly published in the annual term. Thus, inflation became the optimal solution. Besides the limited disadvantages, it was the best option under restricted conditions.

3.4. The methods

3.4.1. Cubic spline interpolation

Data for the paper included daily data - COVID-19, mobility index, and stringency index. However, data about inflation is published only monthly by the International Monetary Fund. For this reason, cubic spline interpolation was used to transform data from monthly to daily.

Cubic spline interpolation is a mathematical method commonly used to construct new points within the boundaries of a set of known points. It allows the generation of missing values in an approximation technique. To create missing points between two values, we created a polynomial function.

$$f(x) = \begin{cases} a_1x^3 + b_1x^2 + c_1x + d_1 & \text{if } x \in [x_1, x_2] \\ a_2x^3 + b_2x^2 + c_2x + d_2 & \text{if } x \in (x_2, x_3] \\ \dots \\ a_nx^3 + b_nx^2 + c_nx + d_n & \text{if } x \in (x_n, x_{n+1}]. \end{cases} \quad (1)$$

It is a linear system that can be solved for the coefficients of all n-1 cubic polynomials.

3.4.2. Random effects model vs. Fixed effect model

The common problem for the analysis is unobserved heterogeneity, which can be solved using the maximum likelihood (ML) model (Pesaran et al., 1999), the Random effects model, or the fixed effects model. This model can solve the problem of endogeneity in panel data. Fixed effect model

$$y_{it} = \beta_{it} + \mu_i + \varepsilon_{it} \quad (2)$$

where μ_i –is an unobserved variable for each country in the panel country dataset.

Random effect model $y_{it} = \beta_{it} + \mu_i + \varepsilon_{it}$,

but the unobserved variable μ_i is not correlated with the x variable.

$$E(\mu_i | x_{i1}, x_{i2}, \dots, x_{iT}) = \alpha = const$$

$$y_{it} = \alpha + \beta x_{it} + w_{it} \quad (3)$$

We can use both models according to the theory, but the Hausmann test was implemented to choose the best-fitted model.

Many discussions exist about the fixed-effect and random-effect model implementation. In research, a devoted comparison of fixed vs random effects (Firebaugh et al., 2013) investigated that fixed effects models remove the impact of all time-invariant causes – measured as well as unmeasured –the standard fixed effects model is unable to estimate the effects of time-invariant measured causes. However, random effect model estimation does not discard variation across individual units. In our research, we compare different countries with specific customer behaviours for each particular country, and it is crucial to consider country differences. In other words, differences among the countries using the random effect are not eliminated from the model.

3.4.3. Hausmann test

The Hausmann test usually estimates model differences (Baltagi et al., 2000).

H_0 hypothesis is that individual effects μ_i are not correlated with x_{i0t0} for any j j_0 t_0

$$(\widehat{\beta_{FE}} - \widehat{\beta_{RE}})^{T} \left(\hat{V}(\widehat{\beta_{FE}}) - \hat{V}(\widehat{\beta_{RE}})\right)^{-1} (\widehat{\beta_{FE}} - \widehat{\beta_{RE}}) \sim x^{2(k)} \quad (4)$$

Where k –)number of variable coefficients

$\widehat{\beta_{FE}}$ - vector estimated coefficients for the model

$\hat{V}(\widehat{\beta_{FE}})$ - estimation of the covariation matrix for the vector of estimated coefficients

For comparison, the fixed and random model following requirements are used; if the p-value is significant (for example, <0.05), use fixed effects; if not, use random effects.

The countries' cultural differences determine the reaction of the government and society to the crises. That is valid for the COVID-19 pandemic as well. While some countries were almost closed (Germany), some remained nearly without restrictions (Sweden). We can solve that phenomenon by adding a dummy variable or using a fixed/random effects model. The fixed/random effects model allows us to remove the influence of the individual effects of each country on the model. (Greene, 2005)

We tested several types of models while preparing the proper one: random effect models, random effects model using maximum likelihood estimation, or fixed effect models. We applied the Hausmann test to choose the most appropriate one. Thus, according to the Hausmann test, the random effect model is the most reliable.

3.4.4. Regression model

During analysis, ln transformation for each variable was implemented.

For the econometric model, we propose the following set of regression analyses:

$$\widetilde{lnMobility_{ij}} = \beta_0 + \beta_1 lncovid_Cases_{ij} + \beta_2 lnStringecy_{ij} + \beta_3 lnInflation_{ij} + \beta_4 Inflation_gap_{ij} + \varepsilon_{ij} \quad (5)$$

Symbol j denotes the country. Symbol i designates the period.

- $Mobility_{ij}$ is based on the Google Mobility Trends report (Mathieu et al., 2020).

- $Covid\ Cases_{ij}$ refers to the number of new COVID cases published by the international platform Our World in Data (Mathieu et al., 2020).

- $Stringency_{ij}$ explains the various measurements defining the government's COVID-19 restriction policy. The Oxford Stringency Index was applied (Mathieu et al., 2020).

- $Inflation_{ij}$ – monthly data related to the International Monetary Fund data (IMF, 2023).

- $Inflation_Gap_{ij}$ – inflation data with one one-year gap

- E_{ij} is an error term

The COVID-19 impact had a delayed effect on the economy and inflation (Harding et al., 2023). Accordingly, we have applied for inflation in the model with a one-year gap. Additionally, we tested the model with actual inflation indices, proving that the indicator was statistically insignificant.

As the variables differ significantly, we chose the log specification. Even though the interpretation of coefficients became more complex, it allowed us to input the inflation indices in percentages to the model. On top of that, we created and tested both variants, and the logarithmic results were better suited.

Table 1
Descriptive statistics

Variable	Obs	Mean	Std. dev.	Min	Max
Mobility	32,973	86.217	23.740	4	176
COVID cases	29,147	8,224.397	24,547.720	1	527,487
Stringency	32,840	45.048	21.596	05.56	96.300
Inflation	33,040	355.761	1,252.928	69.972	8,885.402
Inflation gap 1- year	33,040	332.695	1,174.583	66.649	7,556.655

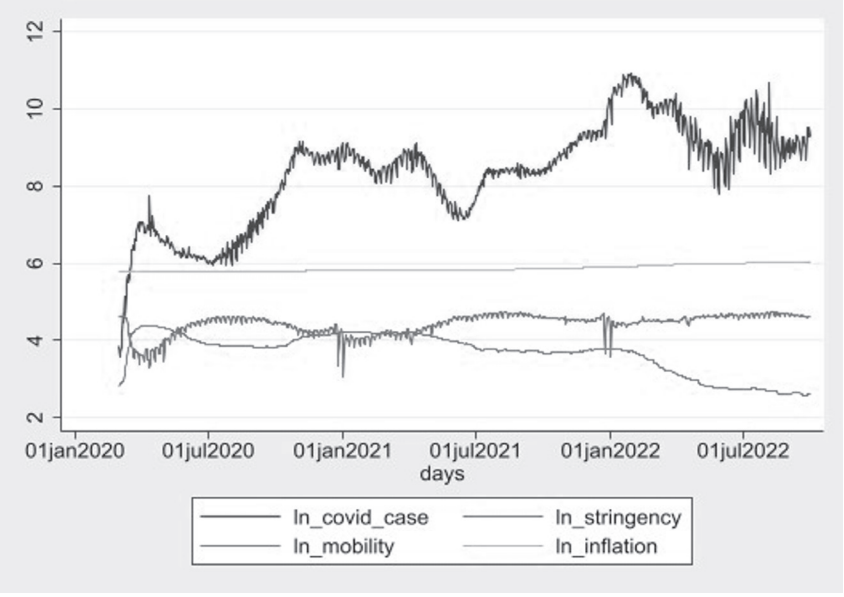
Source: Own calculation.

Table 1 demonstrates that the variables are arranged in various intervals. All variables for the model were subject to the ln transformation to standardise the data and facilitate its interpretation. We tested the fixed and random effect models during our research. According to the Hausmann test, random-effect panel data was applied for better fitting.

There are some specific details within inflation indicators relating to the particular countries. We sourced data from the IMF monthly inflation report for different countries for 2019-2022 (IMF, 2023). Since we used panel data for analysis and logarithmic transformation, it was possible to use such heterogeneous data in the model. However, the initial evaluation of the database and calculation of the average gives such biased figures.

Figure 2 illustrates variables in a dataset. The graph shows no evident dependence on people's mobility and the number of COVID cases.

Figure 2
Dataset visualisation



Source: Own calculation.

4. Results

Table 2 displays the results of three random-effect regression models. The first model consisted of countries with the lowest rural population (up to 18.49%). The 3rd model consisted of countries with a high rural population (between 33.38 and 56.8 %).

Table 2
Regression model results

Variables	Model 1	Model 2	Model 3
Ln COVID case	-0.00796*** (0.00209)	-0.00482** (0.00205)	-0.00676*** (0.00160)
Ln Stringency	-0.290*** (0.00942)	-0.369*** (0.00968)	-0.431*** (0.00777)
Ln Inflation	0.929*** (0.240)	0.137 (0.0846)	-0.504*** (0.0920)
Ln Inflation 1-year gap	-0.897*** (0.254)	-0.166* (0.0911)	-0.257* (0.152)
Constant	5.348*** (0.351)	5.935*** (0.128)	9.666*** (0.513)
Observations	8,922	8,998	11,199
Number of cn	11	11	13

Note. Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1
Source: Own calculations.

Table 2 indicates that the COVID-19 case variable exerts a relatively minor influence on consumer behaviour. People were fifty-four times more likely to prioritise the rising living costs over the Pandemic's frightening TV and newspaper coverage. Prevalence of COVID cases increased by 1%, and mobility decreased by less than 0.008%. The impact of COVID-19 on mobility was extremely low. These results may suggest that our findings contradict most research investigating the effects of COVID cases on mobility.

Considering inflation as another factor in the decision-making process, we understand it as complementary to the COVID-19 impact discourse. The model proved that a significant part of the European population in this regard prioritises the diminishing value in their wallets over healthy risk. A 1% increase in the Stringency index reduced mobility by around 0.30% (0% stringency - everything is open and working; 100% stringency - everything is closed). Even a slight increase in the severity of government enforcement measures significantly impacted mobility.

The table shows that both variables, Inflation and the one-year inflation gap, are significant. That is because inflation can have an immediate and a delayed effect. The study confirms the immediate effect (Gao et al., 2023). Moreover, the impact can be negative, i.e., inflation reduces the frequency of dining out, and positive. The positive effect, i.e. an increase in restaurant visits, can be associated with receiving positive emotions when dining out in a generally stressful situation in the country (Sixpence et al., 2023).

On top of that, inflation expectations can explain the immediate adverse effect. When consumers expect prices to rise, they adjust their behaviour in advance. The delayed impact of inflation is also significant in the model and is confirmed by research (Dräger & Nghiem, 2021). The choice of the one-year gap was based on the model itself. The model was tested with gaps of 3 months, 6 months, 9 months and 12 months, but only the 12-month gap was significant.

Additionally, the research observed the mobility changes in areas connected with entertainment (restaurants, cafes, and shopping malls). These venues are predominantly in the bigger cities. All these factors prevent people from the countryside from enjoying leisure moments during severe parts of the Pandemic. The variables mentioned above closely correspond with the Pandemic. As soon as they lifted, the Pandemic as a healthy phenomenon ended. Therefore, we aimed to investigate inflation, which didn't disappear after the COVID threat vanished. It entitles us to use that parameter to indicate economic recovery in gastronomy. Significant differences between a group of countries exist if inflation influences mobility. In less rural countries, the negative inflation influence was four times higher than in rural countries. We focused on the indicator inflation gap because the effect of inflation is postponed to consumers' behaviour.

The returned outcomes show inverse proportionality between mobility and the inhabitants' structure. In the countries where the urban population represents more than 80%, the impact of restrictions on mobility was less significant by 141 bps. than in the countries with 31%+ citizens living in rural areas. If the inflation rate increased by 1 p.p., mobility decreased by 0.257% in rural countries, and if the inflation rate increased by 1 p.p., mobility decreased by 0.897 % in the urban ones. It supports the research (Christidis et al., 2022), which described that mobility between regions decreased while mobility limitation increased. That was not only due to objections to travel but also to the fear of having a higher possibility of COVID-19 infection in public transport.

5. Discussion

Our research has confirmed previous conclusions regarding the adverse effects of government measures (Yang et al., 2022; Yang et al., 2020). Contrary to the results of many earlier studies (Goolsbee & Syverson, 2021; McFadden et al., 2021), the effect of COVID-19 cases was negligible, although statistically significant. When comparing our results with those of other authors, it is essential to point out that fear and risk were the primary factors for dining out in restaurants during the pandemic peak. Adding to the scrutiny of the impact of price growth, we brought a broader picture from other researchers on the economic downturn during the COVID-19 pandemic. The econometric model showed that the physical barriers to going out were similar to those caused by the increasing dining out costs. Regarding countries in Model 1, the effect was even more significant.

These results are consistent with studies showing a negative relationship between inflation and demand (Stojanović et al.,2021). Contrary to the findings of Gao et al. (2023), we found a relationship between inflation and mobility. Consistent with the conclusions of Gao et al. (2023), we agree that the period of rising prices is relatively short. Fiscal incentives of public policies could also have a positive effect in the given period. The results suggest that inflation has reduced the post-pandemic recovery dynamics in the European restaurant sector. The food and beverage sector in the EU countries delivered only 5% growth in 2022, compared to 2019 in current prices. Considering the cumulative inflation of 11.7%, the market declined in volume compared to the previous pre-pandemic year (Eurostat, 2025).

Although CPI indices across the EU countries converge towards the Central Bank's target of 2%, the specific price index for gastronomy remains 200 bps, or 88% higher (Eurostat, 2025). It is obvious that operators are trying to pass the growing costs on to consumers, and their margins are not at the same level as before the Pandemic. That underpins the conclusion that consumers accommodate the pricing at just such a point (Min & Min, 2011). That implies that restaurant providers must seek an answer that brings efficiency in their cost structure and effectiveness in the kitchen. That is reflected in the growing convenient meal solutions, e.g., sous vide, cold swell, or semi-finished ready-to-eat dishes. The industry contends with intricate externalities; hence, policymakers must lift the burden of regulation and arbitrary economic restrictions, such as a continuous effort to increase the minimum wage. They realised with dismay that the notion of passing that change into pricing, as in the good times, stopped working (Allegretto & Reich, 2018).

The gastronomy industry is closely related to tourism. The study's results can be compared with fluctuations in demand in the tourism industry. European tourism has experienced similar fluctuations in demand in recent years as the gastronomy industry. The dynamics of decline and recovery in tourism have been more pronounced. Conversely, pent-up demand showed lower price elasticity in the post-pandemic recovery phase (Salman et al., 2024; Mheidat & Marzuki, 2023).

6. Conclusion, implication and future research

Addressing the first research question, the econometric model has demonstrated the substantial impact of inflation and government restrictions on consumer behaviour. The COVID cases count didn't play as important a role as we might assume from the atmosphere in society. The counters were part of all the media and social networks. Despite that, the repercussions were hardly tangible. The feeble influence on consumers' conduct positively answered the second research question. The results from the countries' perspective support the conclusion that the impact of COVID-19 incidence is the most significant in the countries with the least rural population (Model 1). At the same time, there is no evidence for that assertion in the Model 2. Regardless of the urbanisation of the chosen country, the econometric model barely suggests the COVID ratio as a significant parameter for consumers' decision-making to entertain themselves.

The effect of growing prices surpassed the COVID cases by three decimal places. The third question resolution underpinned the conception that perceptual cost-value differs from society to society. And it doesn't mean the richer one will easily accommodate the worsening economic state more than the poorer one. The harshest reaction we measured in the countries comprised Model 1. At first sight, that outcome is surprising. These 13 countries are among the countries with the lowest inflation out of the 35 selected. It proved that people's behaviour is not only driven by the economic state. In contrast, inflation soared in other countries. For example, in Czechia, Slovakia, Poland, Latvia, and Lithuania, the double-digit single-digit one within the countries in Model 1 caused significantly higher consumer constraints on spending their money in restaurants.

6.1. Theoretical implication

The demand for dining in restaurants combines the influence of economic, social, cultural, and individual factors (inhabitants' income, food prices, seasonal fluctuations, location of catering establishments, working hours, etc.). Crisis events are also a significant factor in demand. In this sense, hospitality research has been significantly affected by the COVID-19 pandemic. Several published scientific articles have brought new insights into the factors behind the demand for restaurant dining. Hygienic standards, security measures, availability of online delivery services, etc., were identified as central determinants during the Pandemic. In addition to the pandemic crisis, our research reflected the effects of post-pandemic revitalisation and the inflation crisis. Theoretically, our analysis identified two factors (inflation and government restrictions) related to hospitality demand. However, discussing the results in further research articles would be beneficial. Thus, our research has contributed to the literature on hospitality performance by including inflation in the supply and demand model.

6.2. Practical implications

Based on the results and interviews with gastronomy professionals, it was possible to draw the following practical implications for managing the restaurants' business model. The key element of success is to secure the profitability of the operations with efficiency and effectiveness without crossing the consumers' willingness to swallow the growing prices. Analysing the menu for their guests can provide insight into which meals are profitable and which generate complexity. High-quality, convenient products can reduce labour and energy costs without compromising the quality of the final dish. Finding the equilibrium between costs and pricing is crucial for a sustainable business model.

6.3. Limitations and future research

Regardless of creating a robust model covering thirty-five countries across Europe, this study has revealed several limitations and directions for future research. The fact that we have focused our research on Europe,

predominantly due to data consistency, naturally adds to its limitations. The present paper is a pilot study. Replicating the methodology applied in other settings would increase the generality of the conclusions. Given the article's scope, we didn't assess the willingness of customers to visit restaurants and pay higher prices due to inflation. It would be interesting to examine the differences in the behaviour of individual population groups according to age, education, and income categories. We suggest validating those outcomes via a quantitative questionnaire survey of a quota-selected population sample. It would be worth repeating the questionnaire survey in the future and comparing the results with the current observations. From the methodological point of view, it will be appropriate to design the survey as a longitudinal study. The research design of this study should include repeated monitoring of the same variables over a long period (use of longitudinal data).

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Declaration of Competing Interests

The authors declare that they have no known competing interests that could have appeared to influence the work reported in this paper.

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