
Scientific contribution/Original research

Informal Economic Activity in the Service Sector During the Pandemics of COVID-19

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Abstract:

In this contribution, we present the findings of our research on informal economic activity in the service sector during the pandemics of COVID-19. We found that approximately 28% of respondents were engaged in informal economic activity, while the most commonly purchased services were accommodation and food service activities and administrative and support service activities. Our results show that the primary reasons for such engagement were directly linked to the pandemics of COVID-19, which is an important finding for decision-makers. Based on the results of the research we believe that consumer habits have not shifted towards regular engagement in informal economic activities. Respondents also showed a general supportiveness of informal economic activities of service providers during the pandemics and lockdowns, which might indicate a dissatisfaction with the government restrictions on business activities. With the use of the Pearson chi-squared test, we found no association between the sex of the respondents and their engagement in the informal economic activity or their opinion on the legitimacy of service providers' activities during the pandemics and lockdowns.

Keywords: Informal economic activity; Grey economy; Service sector; Survey; Association

1. Introduction

Several different definitions and terms, including grey economy, shadow economy, underground economy and so on, are used to describe the informal economic activity (Kaže V et al., 2011). Smith (1997) provides a broad explanation of the informal economy, defining it as the "market- and non-market-based production of goods and services, whether legal or illegal, that escapes detection or is intentionally excluded from the official estimates of GDP". In essence, they all denote an economic activity that is consciously hidden from the government regulation and tax authorities. More specifically, informal economic activity results in a revenue loss from value-added tax (or sales tax), tax on corporate income, customs duties revenue, social contributions, charges, and more. In addition, certain businesses that require government licences or permissions become unregulated in the grey economy. In Slovenia, the Financial administration of the Republic of Slovenia has a state authority to monitor and control informal economic activities (Republic of Slovenia, no date).

The service sector is a broad name for businesses that sell personal services rather than material commodities or tangible goods. There is no consensus on the classification of the service industry and different authors include different economic activities within the service sector. Stigler (1956), who has devoted much attention to the service industries, provides a very vague classification of the service sector. Among others, Stigler treats retail trade, government, insurance, private healthcare, and private education as a service industry. For our research we focused on the narrower classification that is used by the Statistical Office of the Republic of Slovenia (Table 1) and is based on the Regulation (EU) 2019/2152 of the European Parliament and of the Council of 27 November 2019 on European business statistics, repealing 10 legal acts in the field of business statistics.

Table 1. Statistical Classification of Economic Activities in the European Community (NACE) of service sector economic activities as used by the Statistical Office of the Republic of Slovenia (European Council, 2006).

Economic Activity	NACE code
H Transportation and Storage	H 49, 50, 51, 52, 53
Land transport and transport via pipelines	H 49
Water transport	H 50
Air transport	H 51
Warehousing and support activities for transportation	H 52
Postal and courier activities	H 53
I Accommodation and Food Service Activities	I 55, 56
Accommodation	I 55
Food and beverage service activities	I 56
J Information and Communication	J 58, 59, 60, 61, 62, 63
Publishing activities	J 58
Motion picture, video and television programme production, sound recording and music publishing activities	J 59
Programming and broadcasting activities	J 60
Telecommunications	J 61
Computer programming, consultancy and related activities	J 62
Information service activities	J 63
L Real Estate Activities	L 68
M Professional, Scientific and Technical Activities	M 69, 70.2, 71, 73, 74
Legal and accounting activities	M 69
Management consultancy activities	M 70.2
Architectural and engineering activities; technical testing and analysis	M 71
Advertising and market research	M 73
Other professional, scientific and technical activities	M 74
N Administrative and Support Service Activities	N 77, 78, 79, 80, 81, 82
Rental and leasing activities	N 77
Employment activities	N 78
Travel agency, tour operator reservation service and related activities	N 79
Security and investigation activities	N 80
Services to buildings and landscape activities	N 81
Office administrative, office support and other business support activities	N 82



2. Methods

We conducted a survey to obtain information about consumer behaviour and the degree of informal economic activity during the pandemics of COVID-19. The research was conducted in January 2022 and was retrospective – respondents were asked to answer a series of questions regarding their purchasing behaviour from the start of the pandemics in Slovenia (12.3.2020) onwards. The survey was shared among respondents via different online channels and no respondent was directly targeted. Regardless, this way of collecting data might bring statistical bias to the results. The survey began with an age-group question, which enabled us to obtain results only from the consumers with purchasing power. Respondents, whose age was lower than 18, finished the survey after this question and their answers were not recorded. The survey was divided into five topical parts, each assessing a different aspect of consumer behaviour. Each segment included an if statement that determined whether the respondent was engaged in given consumer behaviour or practice, followed by a different number of sub-questions.

To make the survey more understandable to an average consumer we defined engagement in the informal economic activity as receiving and paying for a service without getting an appropriate statement that acknowledges the payment (invoice or bill). In this sense, we do not incorporate all economic activities in the definition of grey economy, namely those that do not include payment (neighbour help and barter of legal services).

3. Results

Before we analyse consumer behaviour data, let us examine the demographic data of our respondent pool. The survey was solved by 213 respondents, of whom 72% were women and 28% were men. Approximately 72% of respondents were employed and 5% were retired, the remaining 23% were either unemployed, out of the labour force or still in the educational process. Nevertheless, we included the latter's results as such individuals still have purchasing power. In regards to the demographic data, we acknowledge a statistical bias in the education variable. The distribution of respondents based on the education level was different from for the Slovene population – around 61% of our respondents had higher degree education (bachelor's degree, master's degree, or a PhD), whereas only 25% of the Slovene population have a higher degree education. In addition, only 2% of respondents have primary education or no education, whereas 22% of the Slovene population falls into this category (Statistical Office of the Republic of Slovenia, 2021).

Our research showed that 28.2% of respondents engaged in informal economic activities within the service sector in the defined timeframe (12.3.2020 onwards). The most used services ($f = 50\%$) were (based on NACE classification) *Accommodation and Food Service Activities* (I55 and I56) and *Administrative and Support Service Activities* (N78 – N82), followed by *Transportation and Storage* (H49 – H53) (Figure 1).

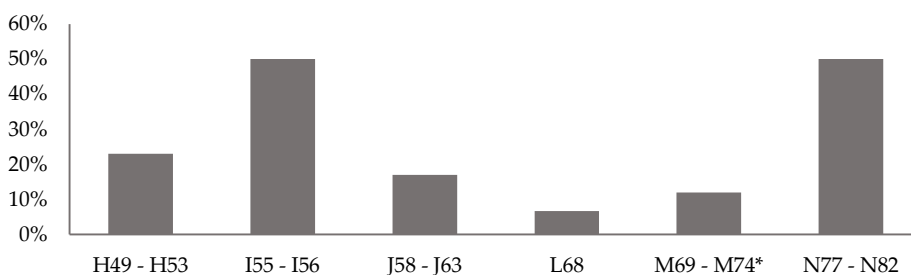


Figure 1. Frequency of informal economic activity in different service industries, based on NACE classification (Table 1). *Economic activities pertaining to M70.1 and M72 were not included in the research. The respondents' pool is described in Section 2.

Respondents that engaged in the informal economic activities were asked to provide reason(s) for such engagement (out of 213 respondents, 60 respondents engaged in the informal economic activity. All relative data in this paragraph refers to the latter respondents pool ($N = 60$)). The most common answer ($f = 47\%$) was the lower price of a service that results from a provider's tax evasion. The next answer with the highest frequency was directly linked to the consequence of COVID-19 – approximately 38% of respondents engaged in informal economic activity to support service providers in tough financial times. Similarly, 25% of respondents engaged in informal economic activity because

of the state restrictions on the business activity, therefore limiting the possibility to buy certain services. During these times, consumers could purchase such services solely with the engagement in the informal economic activity (receiving no invoice after payment). These two answers provide us with an insight into the consumer decision-making process and can offer a preliminary assessment that informal economic activity was higher during the pandemics of COVID-19 than before. As the legal supply of certain services was cut off by the state as a health measure, some providers started offering services off-the-books to meet the demand from customers. This claim is supported also by our findings of the frequency of engagement in the informal economic activity when purchasing services. We found that 18% of respondents participated in the grey economy only when state restrictions on the business activity were imposed, which meant that they could not buy the desired services legally. The majority of the respondent ($f = 65\%$) engaged in the informal economic activity when purchasing services only occasionally and 15% of respondents engaged every time, they purchased a service. Respondents were also asked to provide a self-assessment on the average amount of the purchase of services for which they did not receive an appropriate invoice. The most common average amount ($f = 33\%$) was 20–50 Eur, followed by <20 Eur ($f = 32\%$). Around 20% of respondents had an average amount of 50 – 100 Eur.

In the last segment of the survey, we checked for the respondents' sentiment on informal economic activity. We present an interesting finding – 55% of respondents believe that the informal economic activity of service providers during the pandemics of COVID-19 was legitimate. Furthermore, 52% of respondents did not oppose informal economic activity even during the lockdowns, when certain service businesses had to be closed.

We performed a *Pearson chi-squared* (χ^2) test of independence to assess the possible association between nominal variable *SEX* and three different nominal variables. We named these three variables *IEA* (nominal variable determining whether a respondent engaged in the informal economic activity), *OPINION* (nominal variable determining whether a respondent thinks informal economic activity of service providers during the pandemics of COVID-19 was legitimate) and *DISPUTE* (nominal variable determining whether a respondent opposes the informal economic activity of service providers during lockdowns). Our null hypotheses were the same for all three tests – H_0 : There is no association between variables ($f_{kg} = f'_{kg}$). All tests were made at $\alpha = 0.05$. We present basic findings in **Table 2**.

Table 2. Results of *Pearson chi-squared* test for different hypotheses at $\alpha = 0.05$.

	χ^2 -test value	<i>p</i> -value
<i>SEX-IEA</i>	2.425	0.1194
<i>SEX-OPINION</i>	0.31124	0.5769
<i>SEX-DISPUTE</i>	0.57417	0.4486

The critical value of the chi-square distribution at $\alpha = 0.05$ and degrees of freedom = 1 is 3.841. The *p*-value is greater than $\alpha = 0.05$ for all three tests, therefore there is insufficient evidence to reject the null hypothesis.

4. Discussion

Informal economic activity is negatively correlated with the health of public finance, tax revenues and quality of government policies. However, especially in times of economic downturn, positive impacts of informal economic activity can also be observed. Engaging in the grey economy can act as a social cushion that provides temporary monetary relief to the unemployed, thus improving their purchasing power which results in higher consumption. This simultaneously means higher value-added tax (or sales tax) revenue (Kaže et al., 2011). Our findings suggest that less than a third of respondents engaged in informal economic activities and the reasons for the majority of those were directly linked to the pandemics of COVID-19. This suggests that although the informal economy might have expanded during the pandemics, once restrictions are fully lifted and consumption habits normalise, the degree of the grey economy will return to the pre-pandemic level. Almost two-thirds of respondents engaged in the informal economic activity only occasionally, which indicates that such engagements have not become a habit for the majority of consumers. The majority of respondents supported (or did not oppose) the informal economic activities of service providers during the pandemics and the strict lockdowns. This shows that a lot of people opposed

government restrictions and supported small businesses' efforts to survive, despite their engagement in illegal activities. We found that sex is not associated with any of the three tested variables. Males were just as likely to engage in informal economic activity as females and their opinion on the legitimacy of service providers' activities during the pandemics and lockdowns was not associated with sex.

This research suits as a preliminary assessment of the informal economic activity that has occurred during the pandemics of COVID-19 and is a good starting point for our further quantitative study.

Conflicts of Interest: The authors declare no conflict of interest.

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