Evaluating the relationship between sustainable development, localisation and the informal economy: evidence from Romania

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Abstract

The aim of this paper is to deepen understanding of the relationship between sustainable development, localisation and the purchase of goods and services from the informal economy. This has not before been investigated. To do so, it reports a survey of 1,209 respondents conducted during October-December 2021 in Romania, a country with one of the largest informal economies in the European Union. The findings reveal a link between consumers' motives to purchase informal goods and services and the pursuit of sustainable development through localisation. The analysis shows that there is no purely sustainability-driven consumer in the informal economy, but this rationale is prevalent as one of several motives for a large proportion of consumers purchasing goods and services from the informal economy, who do so explicitly for the purposes of environmental protection and localisation. The implications for theorising and tackling the informal economy are then discussed.

Keywords: sustainable development, localisation, informal economy, sustainable consumption

Introduction

Recently, the proportion of the global labour force whose main employment is in the informal economy has been expanding (ILO, 2020). According to the joint report by the Development Centre of the Organisation for Economic Co-operation

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and Development (OECD) and the International Labour Organisation (ILO) (2020), over 60% of the global population have their main employment in the informal economy. This has been further compounded by the COVID-19 pandemic. As the European Commission (2020, p.1) recently stated, "the pandemic will spark a trend towards declared work shifting into the undeclared economy, as an increased number of businesses operate in survival mode during the aftermath". This destabilises further national economies, potentially increasing the pre-pandemic figure of two-thirds of businesses operating informally and evading tax and social security compliance and labour law (OECD, 2017; Williams, 2019; World Bank, 2019). The outcome will be a consequent ripple effect leading to yet further informality (Williams and Kayaoglu, 2020), significantly increasing the pre-pandemic magnitude of the informal economy in the EU28 of 20% of GDP (Medina and Schneider, 2018). As a result, understanding the underlying motives for engagement in the informal economy becomes critical. In this paper, this is achieved by expanding understanding of the informal economy beyond the traditional supply-side perspective, which focuses on the types of informal work (ILO, 2018; Williams, 2014a, 2015a), the socio-demographic profile of informal workers (Horodnic *et al.*, 2020; Williams and Bezeredi, 2018, 2019; Williams and Franic, 2017; Williams and Horodnic, 2015a, 2015b; World Bank, 2019) and the drivers of those supplying informal work (Nguyen *et al.*, 2020, 2021a, 2021b). Instead, this paper seeks understanding of the demand-side (i.e., those purchasing goods and services form the informal economy) and their motives for doing so. This has so far received little attention, despite there being no supply without demand (Horodnic *et al.*, 2021; Williams and Horodnic, 2016, 2017; Williams and Martinez-Perez, 2014). This paper therefore, is useful to policy makers in achieving progress on the United Nations Sustainable Development Goals, especially Indicator 8.3.1 (Proportion of informal employment in non-agriculture employment, by sex).

The original contribution of this paper is that it is the first to investigate the link between consumers' motives for purchasing from the informal economy and sustainable consumption, along with whether the current policy approaches used to reduce the informal economy are effective for tackling consumers driven by sustainability motives. To do so, we selected Romania as a case study, given that it has the second highest prevalence of participation in the informal economy amongst European Union member states (Williams *et al.*, 2017).

To understand the demand side of the informal economy and its link to sustainable development, the paper is structured as follows. The next section will set the context by reviewing the extant literature on sustainable development, localisation and the informal economy, and what is known about the links between them. The third section then presents the findings regarding the links, followed in the fourth and final section by the theoretical and policy contributions of this study.

1. Literature review

Before commencing, the informal economy must be defined. Here, the widespread consensual view among scholars and practitioners is adopted. The informal economy refers to legally paid transactions, except that they remain unreported to state authorities, evading tax, social security and/or labour laws (Aliyev, 2015; European Commission, 2007; OECD, 2012; Williams, 2014a, 2014b). Therefore, when goods or services are illegal in any other respect (i.e., illicit drugs or firearms), they are part of criminal economy rather than the informal economy (ILO, 2021).

1.1. Sustainable development, localisation and the informal economy

This section discusses three concepts, namely sustainable development, localisation and the informal economy, and what is known about the links between them. The concept of sustainable development was at first "lacking precise definition" (Daly, 2010) but the Brundtland Report started to clarify its meaning when it was defined as the 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs (WCED, 1987: 8 and 43). However, the concept remains slippery and elusive to pin down (Williams and Millington, 2004), gaining the status of a buzzword associated with an "environmental paradox" as it emphasises the misalignment between what we expect the earth to provide and its capability of supplying (see Cahill, 2001; Cahill and Fitzpatrick, 2001; Fitzpatrick and Cahill, 2002). However, regardless of its ongoing elusiveness as a concept, sustainability issues and thus goals gained momentum, catching the interest of policy-makers as the initial eight United Nations Millennium Development Goals (UN MDGs) (2000-2015) increased to 17 (UN SDGs) (2016-2030) (UNDP, 2015).

At the heart of sustainable development is the issue of consumers' purchasing behaviour as a significant contributor to whether sustainable development is achieved, or not. The 2019 Eurobarometer survey reveals that across Europe, sustainable consumption is often seen as related to the consumption of sustainable food and associated with localisation, precisely origin (stated by 53% of citizens), price (51%), food safety (50%) and taste (49%). As such, to support sustainable development, the consumer prioritises localisation, which encompasses the idea of "0 km products and services", healthier food, and a sense of community, which is increasingly seen as the solution to reverse the harmful effects of globalisation. As Hines (2000, p. 4) states, local consumption is "a process that reverses the trend of globalisation, to discriminate in favour of local". Furthermore, evidence suggests that sustainable consumers purchase products and services for various motives, including reduced "food miles", reduced carbon footprint, and reduced packaging (Grant *et al.*, 2022; Kemp *et al.*, 2010). Indeed, whilst some consumers associate

local products with freshness, heathier choices and more organic, others purchase because accessing a short or even direct supply chain, these products may require less or no packaging, which addresses consumers' sustainability concerns (Kiss *et al.*, 2019; Tasca *et al.*, 2017).

According to Petrescu *et al.* (2022) in a cross-cultural study, Belgian sustainable consumers prioritise local products motivated by their quality, whilst Romanian sustainable consumers purchase local products because they associate them with healthier, cheaper and community belonging, that is, connection with traditions, trust, and support of the local economy (Memery *et al.*, 2015; Skallerud and Wien, 2019). Similarly, other studies on sustainable consumption in Romania highlights that buying locally food grown products represents a part of the sustainable food consumption scale, in a reduced form (Ianole-Călin *et al.*, 2020). For these consumers, all such benefits of being minimally processed, fresh or additive-free foods (Scholliers, 2015; Stranieri *et al.*, 2017) are associated with localisation. They contrast these local products with the conventional mass-produced products (Petrescu *et al.*, 2022).

Whilst the critical role that sustainable consumption plays and the consumers' role in sustainable development has been widely demonstrated (Abdulrazak and Quoquab, 2018; Dabija *et al.*, 2019; Obadă and Dabija, 2022; Quoquab and Mohammad, 2020; Quoquab *et al.*, 2019; Vătămănescu *et al.*, 2021) and prioritised by the Sustainability Development Goal (SDG) 12 (UN, 2016; UN, 2020), the link between sustainable development and informality has yet to be established, even though these strategic sustainable goals address socio-economic and gender inequalities, many of which are rooted in the informal economy (i.e. SGD 2 addresses poverty and SGD 5 addresses gender inequality). Similarly, despite the fact that informality is commonly linked with local consumption, informal transactions being very common amongst kin as paid favours (Gibson-Graham, 2006; Horodnic *et al.*, 2021; Leyshon *et al.*, 2003; Williams and Horodnic, 2018; Williams and Kosta, 2020), no previous study has explored the relationship between the informal economy and sustainable development. This study is the first to explore this relationship between consumers' motives to purchase from the informal economy and locally-driven sustainable development. The aim is to understand whether informal purchases are explained by consumers` sustainability-driven behaviours or practices (Wroblewski and Dacko-Pikiewicz, 2018). These rationales for purchasing from the informal economy are evaluated alongside other various rationales that have been discussed in previous theoretical explanations and briefly described below.

1.2. From rational to social purchasing rationales

Rooted in the work of Jeremy Bentham and further developed by Allingham and Sadmo (1972) to become the informal economy's dominant perspective, the

rational economic actor perspective portrays individuals as rational decision-makers who prioritise maximising their financial gains. Previous empirical evidence demonstrates that this cost/price-based perspective is an increasingly common explanation in less developed countries, where the informal economy is often portrayed as a cheap option for "bottom of the pyramid" (BOP) market and a tool for economic survival (Ketchen *et al.*, 2014; Williams, 2017). Accordingly, based on this dominant view, the measures proposed to tackle participation in the informal economy aim at increasing the actual or perceived level costs of participation using deterrent measures (i.e., risk of detection and sanctions). To test their effectiveness in reducing the participation of purchasers to the informal economy, we propose to test the following:

- H1: Consumers purchasing from the informal economy due to sustainability-driven rationales are less likely to make such purchases when they perceive higher sanctions for doing so.
- H2: Consumers purchasing from the informal economy due to sustainability-driven rationales are less likely to make such purchases when they perceive a higher risk of being detected.

However, alongside this dominant view of the rational economic actor model, over the past decade, other perspectives have emerged, such as the convenience-based view (i.e. consumers purchase informal goods and services when they perceive them to be of better quality and faster delivery); no other choice view (i.e. consumers' rational decisions to purchasing informal goods or services could also be motivated by formal market imperfections, such as lack of availability such as, for example, lack of formal childcare services until the age of three for working mothers in some countries (Polese *et al.*, 2016) and the unintentional purchase view (i.e. consumers make purchasing decisions based on incomplete or incorrect information regarding the provision of informal goods and services (Horodnic *et al.*, 2021; Williams, 2018).

Transcending the view of the consumer as a rational actor in pursuit of cost-benefit maximisation, the social actor perspective prioritises consumers' social motivations. Specifically, studies show how informal exchanges such as babysitting (Kempson, 1996) take place between and within close social networks of family members, friends, neighbours, work colleagues and acquaintances, driven by social ends instead of purely economic cost-benefit calculations (Gibson-Graham, 2006; Leyshon *et al.*, 2003; White and Williams, 2010; Williams and Horodnic, 2018; Williams and Kosta, 2020).

Reinforcing this view, the 2013 Eurobarometer survey concluded that social motives are the main drivers for 13% of all purchases from the informal market (Williams *et al.*, 2017b), whilst a more recent 2019 Eurobarometer survey finds that many informal transactions are explained by multiple social reasons (Williams and Kosta, 2020). Employing the social actor theoretical perspective for explaining participation in the informal economy, the consequent policy measures for tackling

this phenomenon aim at reducing the acceptability of undeclared work (i.e., increasing tax morale) and increasing the trust of citizens in government (Horodnic *et al.*, 2021; Littlewood *et al.*, 2018; Williams, 2020). As such, we propose to test the following hypotheses:

- H3: Consumers purchasing from the informal economy due to sustainability-driven rationales are less likely to make such purchases when they perceive that only a small share of businesses engages in informal transactions.
- H4: Consumers purchasing from the informal economy due to sustainability-driven rationales are less likely to make such purchases when they display higher trust in authorities.
- H5: Consumers purchasing from the informal economy due to sustainability-driven rationales are less likely to make such purchases when they have higher tax morale.

Considering the various simultaneous rationales that explain the purchases from the informal economy, all the motives identified in previous theories are explored in this paper and, in addition, whether consumers make informal purchases to contribute to sustainable development by choosing to purchase locally. Also, we propose to test whether the current policies implemented in Romania for discouraging purchases in the informal economy (i.e., a Receipt Lottery and a Blue Poster enforced by law, in all stores such as grocery stores, restaurants and so and which reminds about the duty of customers to request tax receipts; if refused by the seller, the customer can get that good/service for free) are effective for reducing this behaviour amongst the consumers doing so for sustainability-driven rationales. As such we propose to test the following:

- H6: Consumers purchasing from the informal economy due to sustainability-driven rationales are asking more often tax receipts due to Receipt Lottery.
- H7: Consumers purchasing from the informal economy due to sustainability-driven rationales are asking more often tax receipts due to the Blue Poster Campaign.

1.3. Who is the purchaser of informal goods and services motivated by sustainable development?

Embracing this lens of understanding consumers' purchasing behaviour through the lens of sustainable development, this study overcomes the lack of prior theoretical and empirical evidence on this topic by relying on existing literature on sustainable consumption. Consequently, the following stereotypical portrait emerges of sustainable consumers who are most likely middle-aged, highly educated, and high-income women (Meyer-Hofer *et al.*, 2015; Stranieri *et al.*, 2017).

Most of the empirical evidence suggests that age, gender, education and income are the most relevant socio-demographic variables. However, the link between income and sustainable consumer motivated purchases remains debatable

across different studies and contexts (Chekima *et al.*, 2016; McCarthy *et al.*, 2016: Rees *et al.*, 2019), whilst the link between higher educational attainment and sustainability motivated purchases is reported more frequently. Meyer-Hofer *et al.* (2015) took a comprehensive approach to construct the profile of the sustainable consumer, revealing that highly-educated and high-income women are more likely than men to make purchases which embed sustainability intent and impact. The rationale behind this trend may be justified by Eagly's (1987) theory of pre-assigned social role expectations, which places women at the heart of domestic work and the likely purchase of food more specifically. However, recently, we witnessed the portrait of younger (16s to 34-year-old) sustainable and pro-environmental consumers emerging as Greta Thunberg's supporters (Gutiérrez, 2020; Pérez, 2020).

By contrast, according to the 2007 Eurobarometer survey, the informal market across Europe seems to attract primarily men consumers (Littlewood *et al.*, 2018; Williams, 2008; Williams and Bezeredi, 2017; Williams and Horodnic, 2016, 2017; Williams and Kosta, 2020, 2021; Williams *et al.*, 2012) and younger purchasers (Williams and Horodnic, 2016), motivated mainly by the rationale of maximising gain or to help someone they know (Horodnic *et al.*, 2021).

Consequently, anchored in the theoretical and empirical evidence detailed above, this study recognises the image of the sustainable consumer as an individual who makes consumption and purchasing decisions that prioritise sustainability over the profit maximisation rationale (Wroblewski and Dacko-Pikiewicz, 2018), which has been the traditional view of the informal economy for decades (Horodnic *et al.*, 2021). Based on these findings, we propose to test the following hypotheses:

- Consumers more likely to make purchases from informal market due to sustainability-driven rationales are: H8: Female; H9: Older consumers; H10: Highly educated; H11: Consumers with children; H12: More affluent consumers; H13: Living in urban areas; H14: Living in more affluent regions.

Given these hypotheses, the next section details the research methods to evaluate the validity of these competing potential explanations of why consumers purchase informal goods and services, the profile of the consumer of informal goods and services motivated by sustainable development and the effectiveness of the various policy measures to tackle this behaviour.

2. Material and methods

To explore whether there is a link between sustainable development, localisation and purchases from the informal market as well as to test hypotheses related to the profile of the sustainability-driven consumer and the effectiveness of the policy measures for reducing the participation in informal economy, data was collected between October to December 2021 in Romania, covering 1209 consumers from all eight of the country`s developing regions. The survey was conducted on-line and considering the sensitivity of the topic (i.e., illicit activity), participation was

based on snowballing and self-selection which is recommended in investigating this sensitive research topic (Williams, 2015b). The survey took a gradual approach starting with more general questions such as the estimated share of the informal market, the expected sanctions and the risk of detection before moving to questions on whether the respondent made purchases from the informal market and the reasons for doing so. The respondents had informed about the sensitivity of the topic from the beginning of the survey and were reminded that they can choose not to answer at any time. As a methodological approach we used logistic regression and for testing the robustness of the findings we provide both the results based only on crude data (excluding the missing values) and those obtained using an imputation strategy for the missing data. Information on the variables used, how they were measured and some descriptive statistics are available in Table A1 in the appendix. Below, we report the results.

3. Results

Starting with whether there is a link between sustainable development, localisation and the purchases from the informal market, Table 1 display the various motives for consumers making purchases from the informal economy. These reasons are extracted from the previous literature detailed above and adds the sustainability-driven rationales, namely, to support the local economy and to help protect the environment. The respondents were allowed to tick all the reasons they consider when make such purchases, the majority of the consumers reporting multiple simultaneous reasons (60%). As Table 1 displays, 39% of the respondents report they have purchased goods and services from the informal economy. The most common rationale is the rational choice of lower price (50%), followed by a better quality (25%). The localisation rationale is the third most cited (20%) and the explicit motive of protecting the environment is cited by 11%. As such, the findings clearly show that locally-driven sustainable development is an important rationale for consumers making purchases from the informal realm.

Table 1. Motives to buy undeclared goods/services in Romania (%; N = 1,209)

	Total	**by NUTS 1 region - Macroregion**			
		One[1]	Two[2]	Three[3]	Four[4]
Undeclared goods/services[5]	39	33	42	38	28
By motive:					
Lower price	50	43	44	65	67
Better quality	25	25	24	24	33
To support the local economy	*20*	*22*	*19*	*20*	*25*
To help someone in need of money	19	31	16	16	21
Unavailable / Difficult to find on the regula market	19	22	16	30	8
To help small businesses during the Covid-1 pandemic	18	21	17	19	29
Favour amongst friends / relatives / colleague	17	22	14	24	13
Realised afterwards that it was undeclared (n receipt)	17	12	19	17	13
Faster delivery	16	12	16	17	21
Normal practice among sellers and buyers	15	15	12	19	29
To help protect the environment	*11*	*19*	*9*	*11*	*13*
Ashamed to ask for a tax receipt or an invoic	10	10	10	11	8
The State does nothing for citizens, why paying taxes?	9	16	6	15	0
More confidence in those selling their ow products	8	7	7	10	4
Not buyer responsibility	5	7	5	7	0
The seller insisted not to declare	4	3	3	5	4
The seller refused to issue the receipt	4	3	4	2	8
Other motive	2	0	2	1	0

Notes: [1] Centre, North-West; [2] South-East, North-East; [3] Bucharest-Ilfov, South; [4] West, South-West; [5] Do not know / Refusal included.
Source: Authors' representation

     To understand the consumer driven to the informal economy for sustainable rationales and the policy approaches most effective for tackling this behaviour, Table 2 and Table 3 provide logistic regressions of the likelihood of buy informal goods/services to help protect the environment and to support the local economy in Romania.

Table 2. Logistic regressions of the likelihood to buy undeclared goods/services to help protect the environment in Romania: by socio-demographic and policy related characteristics

Variables	Buying undeclared goods and services to help protect the environment								
	Model 1			Model 2			Model 3		
	β	se(β)	Exp(β)	β	se(β)	Exp(β)	β	se(β)	Exp(β)
Socio-demographic profile									
Male	-0.342	0.326	0.710	-0.537	0.339	0.584	-0.537	0.339	0.585
Age	0.018	0.018	1.018	0.018	0.020	1.018	0.018	0.020	1.018
Higher education	0.141	0.348	1.151	0.060	0.360	1.062	0.047	0.360	1.048
Children	-0.876*	0.480	0.417	-1.002**	0.489	0.367	-1.000**	0.490	0.368
Financial Status Index[1]	0.107	0.088	1.113	0.120	0.090	1.127	0.120	0.090	1.127
Urban	1.277**	0.535	3.587	1.198**	0.542	3.313	1.194**	0.542	3.300
Region NUTS 1 (Ref: Macroregion One[2])									
Macroregion Two[3]	-0.477	0.361	0.621	-0.664*	0.371	0.515	-0.693*	0.375	0.500
Macroregion Three[4]	-0.462	0.426	0.630	-0.703	0.439	0.495	-0.728*	0.442	0.483
Macroregion Four[5]	-0.910	0.776	0.403	-1.154	0.788	0.315	-1.168	0.789	0.311
Policy approaches									
Expected sanctions for customers (Ref: No sanction)									
Confiscation				-0.372	0.393	0.690	-0.384	0.395	0.681
Normal tax due				0.536	0.664	1.710	0.554	0.665	1.739
Normal tax due plus fine / Prison / Other sanction				-0.581	0.514	0.559	-0.577	0.517	0.562
Don`t know				0.147	0.485	1.159	0.135	0.487	1.144
Expected risk of detection (Ref: High risk)									
Low risk				1.416**	0.613	4.119	1.395**	0.614	4.037
Don`t know				0.026	1.212	1.026	0.006	1.212	1.006
Social norms - Estimated % of businesses selling undeclared goods and services (Under 10%)									
10-29.9%				0.817	0.771	2.264	0.820	0.774	2.270
30% and more				1.422*	0.754	4.145	1.426*	0.756	4.163
Don`t know				1.005	1.057	2.731	1.001	1.057	2.720
Trust in Public Authorities Index[6]				-0.782	0.589	0.458	-0.772	0.590	0.462
Tax Morality Index[7]				-0.206**	0.091	0.814	-0.206**	0.091	0.814
Implemented demand-side policy measures - awareness raising									
Receipt Lottery (Incentive) - Customer's behaviour changed[8]							-0.022	0.657	0.978
Campaign - Blue Poster - Customer's behaviour changed[9]							0.131	0.428	1.140
Constant	-4.884***	0.951		-4.937***	1.465		-4.904***	1.464	
Observations			1,160			1,155			1,147
Pseudo R²			0.04			0.11			0.11
Log likelihood			-197.00			-182.27			-181.99
χ²			18.22			47.25			47.09
p>			0.03			0.00			0.00

Notes: Significant at *** p<0.01, ** p<0.05, * p<0.1; [1] Financial Status Index: an index measuring the financial status of the respondent on a scale from 1 (facing financial difficulties) to 10 (not facing any financial difficulties); the higher the index the higher the financial status; [2] Centre, North-West; [3] South-East, North-East; [4] Bucharest-Ilfov, South; [5] West, South-West; [6] Trust in Public Authorities Index: a computed index measuring trust in public authorities (justice, police, civil servants, tax and social security authorities, labour inspection, Government, Parliament, President) on a scale from 0 (tend not to trust) to 1 (tend to trust); the higher the index the higher the trust in public authorities; [7] Tax Morality Index: a computed index across eight non-compliant behaviours on a scale from 1 (acceptable behaviour) to 10 (unacceptable behaviour); the higher the index the higher the tax morale; [8] Asking more often tax receipts due to Receipt Lottery (with cash prizes); [9] Asking more often tax receipts due to this campaign (Blue Poster).

Table 3. Logistic regressions of the likelihood to buy undeclared goods/services to support the local economy in Romania: by socio-demographic and policy related characteristics

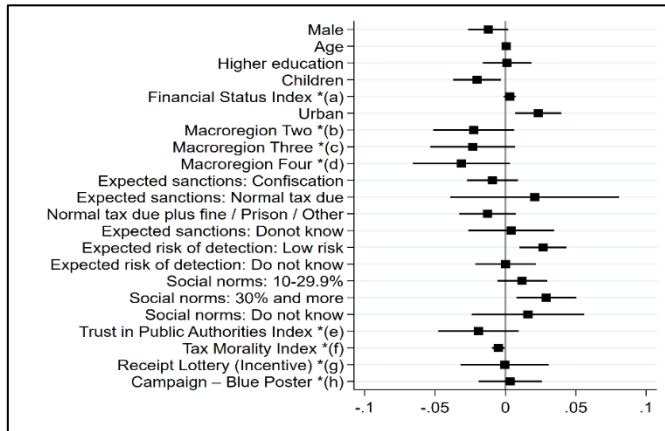|	Buying undeclared goods and services to support the local economy								
	Model 1			Model 2			Model 3		
Variables	β		se(β)	Exp(β)	β		se(β)	Exp(β)	β		se(β)	Exp(β)

Variables	β		se(β)	Exp(β)	β		se(β)	Exp(β)	β		se(β)	Exp(β)
Socio-demographic profile												
Male	0.179		0.229	1.196	0.120		0.238	1.128	0.123		0.239	1.131
Age	0.023	*	0.013	1.023	0.019		0.014	1.019	0.021		0.014	1.021
Higher education	0.481	*	0.278	1.617	0.424		0.286	1.529	0.408		0.286	1.503
Children	-0.221		0.320	0.802	-0.282		0.326	0.754	-0.288		0.327	0.749
Financial Status Index[1]	0.146	**	0.068	1.157	0.134	**	0.068	1.143	0.136	**	0.068	1.145
Urban	0.730	**	0.326	2.074	0.663	**	0.333	1.941	0.664	**	0.334	1.943
Region NUTS 1 (Ref: Macroregion One[2])												
Macroregion Two[3]	0.341		0.310	1.406	0.237		0.319	1.268	0.221		0.321	1.248
Macroregion Three[4]	-0.069		0.373	0.933	-0.261		0.384	0.771	-0.261		0.385	0.770
Macroregion Four[5]	0.097		0.510	1.102	-0.001		0.520	0.999	0.021		0.522	1.021
Policy approaches												
Expected sanctions for customers (Ref: No sanction)												
Confiscation					-0.229		0.277	0.795	-0.237		0.277	0.789
Normal tax due					-0.837		0.751	0.433	-0.841		0.753	0.431
Normal tax due plus fine / Prison / Other sanction					-1.253	***	0.453	0.286	-1.290	***	0.456	0.275
Don`t know					-0.294		0.378	0.745	-0.301		0.380	0.740
Expected risk of detection (Ref: High risk)												
Low risk					1.182	***	0.439	3.260	1.177	***	0.440	3.246
Don`t know					0.141		0.774	1.151	0.128		0.773	1.136
Social norms - Estimated % of businesses selling undeclared goods and services (Under 10%)												
10-29.9%					-0.323		0.411	0.724	-0.338		0.411	0.713
30% and more					0.068		0.396	1.070	0.057		0.396	1.058
Don`t know					0.873		0.560	2.394	0.887		0.560	2.428
Trust in Public Authorities Index[6]					-0.737	*	0.448	0.478	-0.730		0.451	0.482
Tax Morality Index[7]					-0.141	**	0.070	0.868	-0.147	**	0.070	0.864
Implemented demand-side policy measures - awareness raising												
Receipt Lottery (Incentive) - Customer's behaviour changed[8]									-0.445		0.514	0.641
Campaign - Blue Poster - Customer's behaviour changed[9]									0.324		0.313	1.382
Constant	-5.314	***	0.719		-4.245	***	1.017		-4.258	***	1.017	
Observations			1,160				1,155				1,147	
Pseudo R[2]			0.04				0.10				0.10	
Log likelihood			-310.13				-291.09				-290.20	
χ[2]			27.46				64.70				65.13	
p>			0.00				0.00				0.00	

Notes: Significant at *** p<0.01, ** p<0.05, * p<0.1; [1] Financial Status Index: an index measuring the financial status of the respondent on a scale from 1 (facing financial difficulties) to 10 (not facing any financial difficulties); the higher the index the higher the financial status; [2] Centre, North-West; [3] South-East, North-East; [4] Bucharest-Ilfov, South; [5] West, South-West; [6] Trust in Public Authorities Index: a computed index measuring trust in public authorities (justice, police, civil servants, tax and social security authorities, labour inspection, Government, Parliament, President) on a scale from 0 (tend not to trust) to 1 (tend to trust); the higher the index the higher the trust in public authorities; [7] Tax Morality Index: a computed index across eight non-compliant behaviours on a scale from 1 (acceptable behaviour) to 10 (unacceptable behaviour); the higher the index the higher the tax morale; [8] Asking more often tax receipts due to Receipt Lottery (with cash prizes); [9] Asking more often tax receipts due to this campaign (Blue Poster).

Starting with the profile of the consumer purchasing from the informal economy for sustainability-driven rationales, as Model 1 in Table 2 and Table 3 display, the finding is no significant association was identified as far as gender and region are concerned (refuting *H8* and *H14)*. A weak association has been identified in relation to whether the consumer has children but only for consumers aiming at protecting the environment and with an opposite sign than expected, refuting *H11*. Similarly, a weak association has been identified between the age and education but only in relation with the consumers aiming at supporting the local economy. The older consumers are more likely to support the local economy (partially confirming *H9*) and so are those more educated (partially confirming *H10*). Similarly, the more affluent consumers are more likely to make purchases from the informal market to support local economy (partially confirming *H12)*. Meanwhile, those living in urban areas are more likely to make such purchases for both sustainability-driven rationales, to protect the environment and to support the local economy (confirming *H13*).

Turning to how this practice could be curbed, as Models 2 and 3 display, the finding is that the policies aimed at increasing the cost of participation in informal economy are only partially valid. A higher perceived level of sanction is only associated with a lower participation in the informal economy for those doing so to protect the environment (partially confirming *H1*), whilst a higher level of detection risk is associated with a lower participation in the informal economy for both categories of consumer, driven by protecting the environment or by supporting the local economy (confirming *H2*). Turning to the policies aimed at reducing the acceptability of informal work and increasing consumers' trust, the finding is that a higher tax morale is associated with a lower participation in the informal economy for both types of consumer purchasing from the informal economy due to sustainability-driven rationales (confirming *H5*). Meanwhile, only a weak association is identified between the social norm (the perceived behaviour of other sellers and buyers) and participation in the informal economy but only for the consumers aiming to protect the environment (partially confirming *H3*) and also, only a weak association between the trust in public authorities and participation in the informal economy but only for the consumers aiming to support the local economy (partially confirming *H4*). Finally, moving from perceptions to actual behaviours, and analysing whether consumers ask more often for fiscal receipts for their purchases, reducing therefore their participation to the informal economy, the finding is that none of the current policies currently implemented in Romania reduce the participation in the informal economy of the sustainability-driven consumer (refuting *H6* and *H7*). As such, the Fiscal Lottery and the obligation of sellers to display the Blue Poster informing the customers on their duty of providing fiscal receipts do not reduce the participation to informal economy of these consumers. The findings are robust when multiple imputation is used, as Table A2 in the Appendix displays. To better reveal the effect of these variables, Figure 1 displays the marginal effects.

Figure 1. Marginal effects after logistic regressions

A. Buying undeclared goods and services to help protect the environment
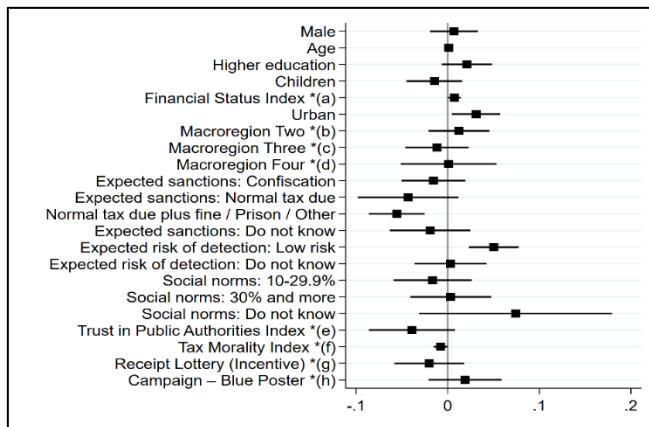
B. Buying undeclared goods and services to support the local economy

Notes: *(a) Financial Status Index: an index measuring the financial status of the respondent on a scale from 1 (facing financial difficulties) to 10 (not facing any financial difficulties); the higher the index the higher the financial status; *(b) South-East, North-East; *(c) Bucharest-Ilfov, South; *(d) West, South-West; *(e) Trust in Public Authorities Index: a computed index measuring trust in public authorities (justice, police, civil servants, tax and social security authorities, labour inspection, Government, Parliament, President) on a scale from 0 (tend not to trust) to 1 (tend to trust); the higher the index the higher the trust in public authorities; *(f) Tax Morality Index: a computed index across eight non-compliant behaviours on a scale from 1 (acceptable behaviour) to 10 (unacceptable behaviour); the higher the index the higher the tax morale; *(g) Customer's behaviour changed: Asking more often tax receipts due to Receipt Lottery (with cash prizes); *(h) Customer's attitude changed: Asking more often tax receipts due to this campaign (Blue Poster).
Source: Authors' representation

Discussion and conclusions

This study has evaluated the relationship between purchasing goods and services from the informal economy, sustainable consumption and localisation. The findings contribute to the literature on the demand-side of the informal economy and the formulation of evidence-based policies and practices.

Theoretically, the original contribution of this paper is that it reveals for the first time a link between consumers' motives to purchase informal goods and services and sustainable development through localisation. It shows that there is no purely sustainability-driven "representative" consumer in the informal economy. Even if the rationales of environmental protection and localisation are highly prevalent among consumers' motives, these sit alongside other additional rational economic actor and social actor reasons. Nevertheless, to deepen our understanding of consumers' motives for purchasing in the informal economy, there will be a need in future to incorporate these sustainable development rationales into evaluations of their reasons. Whether this is unique to Romania is not known. Further research will be required in other countries to evaluate whether this is the case.

In terms of policy implications, this paper has revealed that the among the current policy measures adopted in Romania to reduce informal economy purchases, those that a significantly correlated with reductions in consumer purchasing from the informal economy, applying to those purchasing for both sustainable-driven rationales, are to increase the risk of detection and to enhance consumers tax morale. The other policy measures are not working for this type of sustainable consumer who purchases from the informal economy. On the way forward in policy terms, there is a need for much more discussion and debate. Given the wider negative impacts of the informal economy (see Williams, 2019), it is obvious that the growth of the informal economy should not be encouraged. Rather, and as the existent literature argues, there is a need to formalise the informal economy. How this can be achieved, whilst retaining the environmental protection and localisation aspects of the current production and consumption in the informal economy, requires further consideration. Given the limited progress made towards sustainability (Bolton, 2022; Lim, 2022a, 2022b), perhaps incentives to make it easier and beneficial for producers and consumers to operate in the formal market might be considered, including by providing tax rebates for purchasers, used in Denmark and Sweden, and service vouchers used in France and Belgium (European Commission, 2021; Michalopoulos, 2017; Williams, 2020). Whatever approach is adopted, there is a need to harmonise policy approaches towards the informal economy and towards sustainable development and localisation.

In sum, this paper has provided a novel contemporary analysis of the motives for consumers' purchases from the informal market. If showing the link between sustainable consumption and purchasing informal goods and services results in a comprehensive wider evaluation of whether this link exists elsewhere, then this

paper will have achieved one of its intentions. If it leads to more attention being paid to how policy can harness this purchasing behaviour that turns to the informal economy to facilitate localisation and sustainable development, then it will have achieved it wider intention.

References

Abdulrazak, S. and Quoquab, F. (2018), Exploring consumers' motivations for sustainable consumption: a self-deterministic approach, *Journal of International Consumer Marketing*, 30(1), pp. 14-28. https://doi.org/10.1080/08961530.2017.1354350

Aliyev, H. (2015), Post-Soviet Informality: Towards Theory-Building, *International Journal of Sociology and Social Policy*, 35(3-4), pp. 182-198. https://doi.org/10.1108/IJSSP-05-2014-0041

Allingham, M. and Sandmo, A. (1972), Income Tax Evasion: A Theoretical Analysis, *Journal of Public Economics*, 1(2), pp. 323-338. https://doi.org/10.1016/0047-2727(72)90010-2

Bolton, R.N. (2022), The convergence of sustainability and marketing: Transforming marketing to respond to a new world, *Australasian Marketing Journal*, 30(2), pp. 243-251. https://doi.org/10.1177/18393349211005200

Cahill, M. (2001), *Social policy and the environment*, Brighton: The Gildredge Press.

Cahill, M. and Fitzpatrick, T. (2001), *Environmental issues and social welfare*, Oxford: Blackwell.

Chekima, B., Wafa, S., Igau, O., Chekima, S. and Sondoh, S. (2016), Examining green consumerism motivational drivers: do premium price and demographics matter to green purchasing? *Journal of Cleaner Production,* 112(4), pp. 3436-3450. https://doi.org/10.1016/j.jclepro.2015.09.102

Dabija, D.C., Bejan, B.M. and Dinu, V. (2019), How Sustainability Oriented is Generation Z in Retail? A Literature Review, *Transformations in Business & Economics*, 18(2), pp. 140-155.

Eagly, A. (1987), *Sex Differences in Social Behaviour: A Social Role Interpretation*, Hillsdale, NJ: Earlbaum.

European Commission (2007), *Stepping up the Fight Against Undeclared Work*, Brussels: European Commission.

European Commission (2020), *COVID-19: the impact on undeclared work and key challenges* (retrieved from https://ec.europa.eu/social/main.jsp?langId=en&catId=1299&furtherNews=yes&newsId=9702).

European Commission (2021), European Platform Tackling Undeclared Work, Virtual Library (retrieved https://ec.europa.eu/social/main.jsp?catId=1495&langId=en).

Fitzpatrick, T. and Cahill, M. (2002), *Greening the welfare state*, London: Palgrave.

Gibson-Graham, J-K. (2006), *Post-Capitalist Politics*, Minneapolis: University of Minnesota Press.

Grant, D.B., Dabija, D.C. and Tuomala, V. (2022), Reshaping green retail supply chains in a new world order, in: Taylor, A. (ed.), *Rethinking Leadership for a Green World*, London: Routledge. https://doi.org/10.4324/9781003190820

Gutiérrez, M. (2020), *El efecto Greta llega a los súpers, que multiplican los productos sostenibles*, *La Vanguardia* (retrieved https://www.lavanguardia.com/economia/20200309/474038259935/consumosostenible-greta-thunberg-aecoc-fiab.html).

Hines, C. (2000), *Localisation: A Global Manifesto*, London: Earthscan.

Horodnic, I.A., Williams, C.C. and Ianole-Călin, R. (2020), Does higher cash-in-hand income motivate young people to engage in under-declared employment?, *Eastern Journal of European Studies*, 11(2), pp. 48-69.

Horodnic, I.A., Williams, C.C., Windebank, J., Zaiţ, A. and Ciobanu, C.I. (2021), Explaining consumer motives to purchase in the informal economy, *PLoS ONE*, 16(10), e0258686. https://doi.org/10.1371/journal.pone.0258686

Ianole-Călin, R., Rădulescu, M. and Druică, E. (2020), Sustainable Consumption Behavior Among Romanian Students, in: Omran, A., Schwarz-Herion, O. (eds.), *Sustaining Our Environment for Better Future*, pp. 159-174. Singapore: Springer. https://doi.org/10.1007/978-981-13-7158-5_10

International Labour Organization (ILO) (2018), *Women and men in the informal economy: A statistical picture*, Geneva: ILO.

International Labour Organization (ILO) (2020), *World Employment and Social Outlook Trends 2020*, Geneva: ILO.

International Labour Organization (ILO) (2021), *Global challenges - Global solutions: COVID-19 and the Employment Policy Response*, United States: ILO.

Kemp, K., Insch, A., Holdsworth, D.K. and Knight, J.G. (2010), Food miles: do UK consumers actually care? *Food Policy*, 35, pp. 504-513. https://doi.org/10.1016/j.foodpol.2010.05.011

Kempson, E. (1996), *Life on a Low Income*, York: York Publishing Services.

Kiss, K., Ruszkai, C. and Takács-György, K. (2019), Examination of Short Supply Chains Based on Circular Economy and Sustainability Aspects, *Resources*, 8(4), 161. https://doi.org/10.3390/resources8040161

Leyshon, A., Lee, R. and Williams, C.C. (eds.) (2003), *Alternative Economic Spaces*, London: Sage.

Lim, W.M. (2022a), Empowering marketing organisations to create and each socially responsible consumers for greater sustainability, in: Bhattacharyya, J., Dash, M.K., Hewege, C., Balaji, M.S., Lim, W.M. (eds.), *Social and sustainability marketing: A*

    casebook for reaching your socially responsible consumers through marketing science, pp. 3-9. New York: Routledge. https://doi.org/10.4324/9781003188186

Lim, W.M. (2022b), The Sustainability Pyramid: A Hierarchical Approach to Greater Sustainability and the United Nations Sustainable Development Goals with Implications for Marketing Theory, Practice, and Public Policy, *Australasian Marketing Journal*, 30(2), pp. 142-150. https://doi.org/10.1177/18393349211069152

Littlewood, D., Rodgers, P. and Yang, J. (2018), The price is different depending on whether you want a receipt or not': examining the purchasing of goods and services from the informal economy in South-East Europe, *The Service Industries Journal*, 38(11-12), pp. 688-707. https://doi.org/10.1080/02642069.2018.1444032

McCarthy, B., Liu, H. and Chen, T. (2016), Innovation in the agro-food system: adoption of certified organic food by Chinese consumers, *British Food Journal*, 118(6), pp. 1334-1349. https://doi.org/10.1108/BFJ-10-2015-0375

Medina, L. and Schneider, F. (2018), Shadow economies around the world: what did we learn over the last 20 years? *IMF Working Papers,* 17, pp. 1-76.

Memery, J., Angell, R., Megicks, P. and Lindgreen, A. (2015), Unpicking motives to purchase locally-produced food: Analysis of direct and moderation effects, *European Journal of Marketing*, 49(7/8), pp. 1207-1233. https://doi.org/10.1108/EJM-02-2014-0075

Meyer-Hofer, M., Wense, V. and Spiller, A. (2015), Characterising convinced sustainable food consumers, *British Food Journal*, 117(3), pp. 1082-1104. https://doi.org/10.1108/BFJ-01-2014-0003

Michalopoulos, S. (2017), *Proper voucher use will move people into labour market, EU official says* (retrieved https://www.euractiv.com/section/economy-jobs/news/ commission-proper-voucher-use-will-move-more-people-into-labour-market/).

Nguyen, C.P., Schinckus, C. and Thanh, S.D. (2020), Economic fluctuations and the shadow economy: A global study, *Global Economy Journal*, 20, pp. 1-24. https://doi.org/10.1142/S2194565920500153

Nguyen, C.P., Schinckus, C. and Thanh, S.D. (2021a), What are the drivers of shadow economy? A further evidence of economic integration and institutional quality, *The Journal of International Trade & Economic Development*, 30, pp. 47-67. https://doi.org/10.1080/09638199.2020.1799428

Nguyen, C.P., Schinckus, C., Thanh, S.D. and Chong, F.H.L. (2021b), The determinants of the energy consumption: A shadow economy-based perspective, *Energy*, 225, 120210. https://doi.org/10.1016/j.energy.2021.120210

Obadă, D.R. and Dabija, D.C. (2022), "In Flow"! Why Do Social-Media Users Share Fake News About Environmentally Friendly Brands on Social Media? *International Journal of Environmental Research and Public Health*, 19(8), 4861. https://doi.org/10.3390/ijerph19084861

OECD (2012), *Reducing Opportunities for Tax Non-Compliance in the Underground Economy*, Paris: OECD.

OECD (2017), *Shining light on the shadow economy: Opportunities and threats*, Paris: OECD.

Pérez, M. (2020), *El 61% de los millennials, dispuestos a pagar más por productos sostenibles y ecológicos*, Compromiso RSE.

Petrescu, P.C., Vermeir, I., Burny, P. and Petrescu-Mag, R.M. (2022), Consumer evaluation of food quality and the role of environmental cues. A comprehensive cross-country study, *European Research on Management and Business Economics*, 28(2), 100178. https://doi.org/10.1016/j.iedeen.2021.100178

Polese, A., Kovacs, B. and Jancsics, D. (2016), Practici informale nocive sau inofensive? "In pofida" şi "dincolo de" stat; cazul Ungariei şi Romaniei. [Harmful or harmless informal practices? "In spite of" and "beyond" the state; the case of Hungary and Romania], *Studia Politica: Romanian Political Science Review*, XVI, pp. 219-241.

Quoquab, F. and Mohammad, J. (2020), A Review of Sustainable Consumption (2000 to 2020): What We Know and What We Need to Know, *Journal of Global Marketing*, 33(5), pp. 305.334. https://doi.org/10.1080/08911762.2020.1811441

Quoquab, F., Mohammad, J. and Sukari, N.N. (2019), A multiple-item scale for measuring "sustainable consumption behaviour" construct: Development and psychometric evaluation, *Asia Pacific Journal of Marketing and Logistics*, 31(4), pp. 791-816. https://doi.org/10.1108/APJML-02-2018-0047

Rees, R., Tremma, O. and Manning, L. (2019), Sustainability cues on packaging: The influence of recognition on purchasing behaviour, *Journal of Cleaner Production*, 235, pp. 841-853. https://doi.org/10.1016/j.jclepro.2019.06.217

Scholliers, P. (2015), Convenience foods. What, why, and when, *Appetite*, 94, pp. 2-6. https://doi.org/10.1016/j.appet.2015.02.017

Skallerud, K. and Wien, A.H. (2019), Preference for local food as a matter of helping behaviour: Insights from Norway, *Journal of Rural Studies*, 67, pp. 79-88. https://doi.org/10.1016/j.jrurstud.2019.02.020

Stranieri, S., Ricci, E.C. and Banterle, A. (2017), Convenience food with environmentally-sustainable attributes: A consumer perspective, *Appetite*, 116, pp. 11-20. https://doi.org/10.1016/j.appet.2017.04.015

Tasca, A.L., Nessi, S. and Rigamonti, L. (2017), Environmental sustainability of agri-food supply chains: An LCA comparison between two alternative forms of production and distribution of endive in northern Italy, *Journal of Cleaner Production*, 140, pp. 725-741. https://doi.org/10.1016/j.jclepro.2016.06.170

UNDP, United Nations Development Programme (2015), *Sustainable Development Goals* (SDGs) (retrieved http://www.undp.org/content/undp/en/home/mdgoverview/post-2015-development-agenda/).

United Nations (2016), *Transforming our world: The 2030 agenda for sustainable development* (retrieved https://sustainabledevelopment.un.org/content/documents/ 21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf).

United Nations (2020), *Sustainable consumption and production* (retrieved https://sdgs.un.org/topics/sustainable-consumption-and-production).

Vătămănescu, E.M., Dabija, D.C., Gazzola, P., Cegarro-Navarro, J.G. and Buzzi, T. (2021), Before and after the outbreak of Covid-19: Linking fashion companies' corporate social responsibility approach to consumers' demand for sustainable products, *Journal of Cleaner Production*, 321, 128945. https://doi.org/10.1016/j.jclepro.2021.128945

White, R. and Williams, C.C. (2010), Re-Thinking Monetary Exchange: Some Lessons from England, *Review of Social Economy*, 68, pp. 317-338. https://doi.org/10.1080/00346760902968488

Williams, C.C. (2008), Consumers' Motives for Buying Goods and Services on an Off-The-Books Basis, *International Review of Retail, Distribution and Consumer Research*, 18, pp. 405-421. https://doi.org/10.1080/09593960802299460

Williams, C.C. (2014a), Out of the Shadows: A Classification of Economies by the Size and Character of Their Informal Sector, *Work, Employment and Society*, 28(5), pp. 735-753. https://doi.org/10.1177/0950017013501951

Williams, C.C. (2014b), *Confronting the Shadow Economy: Evaluating Tax Compliance Behaviour and Policies*, Cheltenham: Edward Elgar.

Williams, C.C. (2015a), Out of the Margins: Classifying Economies by the Prevalence and Character of Employment in the Informal Economy, *International Labour Review*, 154, pp. 331-351. https://doi.org/10.1111/j.1564-913X.2015.00245.x

Williams, C.C. (2015b), Designing Survey Methods to Evaluate the Undeclared Economy: A Review of the Options, *GREY Working Paper,* No. 7., Sheffield: University of Sheffield.

Williams, C.C. (2019), *The informal economy*. New York: Columbia University Press.

Williams, C.C. (2020), *A handbook of preventative approaches towards undeclared work*, Sarajevo: Regional Cooperation Council, Western Balkan Network tackling undeclared work.

Williams, C.C. and Bezeredi, S. (2017), Explaining Consumers' Motives for Purchasing from the Informal Economy: Some Lessons from a Study of Bulgaria, Croatia and FYR of Macedonia, *Economic Alternatives*, 4, pp. 515-531.

Williams, C.C. and Bezeredi, S. (2018), Explaining informal entrepreneurship in South-East Europe: a tax morale approach, *Eastern Journal of European Studies*, 9(2), pp. 47-68.

Williams, C.C. and Bezeredi, S. (2019), Explaining and tackling unregistered employment: evidence from an employers' survey, *Journal of Contemporary Central and Eastern Europe*, 27, pp. 173-189. https://doi.org/10.1080/25739638.2019.1694254

Williams, C.C. and Franic, J. (2017), Tackling the illegitimate under-reporting of salaries in Southeast Europe: some lessons from a 2015 survey in Bulgaria, Croatia and FYR Macedonia, *Eastern Journal of European Studies*, 8(1), pp. 5-28.

Williams, C.C. and Horodnic, I.A. (2015a), Evaluating the Prevalence of the Undeclared Economy in Central and Eastern Europe: An Institutional Asymmetry Perspective, *European Journal of Industrial Relations*, 21, pp. 389-406. https://doi.org/10.1177/0143831X14568835

Williams, C.C. and Horodnic, I.A. (2015b), Explaining and Tackling the Shadow Economy in Estonia, Latvia and Lithuania: A Tax Morale Approach, *Baltic Journal of Economics,* 15, pp. 81-98. https://doi.org/10.1080/1406099X.2015.1114714

Williams, C.C. and Horodnic, I.A. (2016), Evaluating the multifarious motives for acquiring goods and services from the informal sector in Central and Eastern Europe, *Journal of Contemporary Central and Eastern Europe*, 24, pp. 321-338. https://doi.org/10.1080/0965156X.2016.1259915

Williams, C.C. and Horodnic, I.A. (2017), Explaining participation in the undeclared economy in Central and Eastern Europe: A demand-side approach, *Post-Communist Economies*, 29, pp. 297-312. https://doi.org/10.1080/14631377.2017.1335453

Williams, C.C. and Horodnic, I.A. (2018), Reconceptualising undeclared work as paid favours: Implications for community economic development, *Community Development Journal*, 53, pp. 732-750. https://doi.org/10.1093/cdj/bsx016

Williams, C.C. and Kayaoglu, A. (2020), COVID-19 and undeclared work: impacts and policy responses in Europe, *The Service Industries Journal*, 40(13-14), pp. 914-931. https://doi.org/10.1080/02642069.2020.1757073

Williams, C.C. and Kosta, B. (2020), Explaining the cash-in-hand consumer culture in the European home repairs and renovations sector, *Journal of Financial Management of Property and Construction*, 25, pp. 387-405. https://doi.org/10.1108/JFMPC-03-2020-0011

Williams, C.C. and Kosta, B. (2021), Why do Consumers Buy from Informal Sector Suppliers in East-Central Europe? A Case Study of Home Repair and Renovation Services, *Economic Alternatives*, 1, pp. 134-152. https://doi.org/10.37075/EA.2021.1.08

Williams, C.C. and Martinez-Perez, A. (2014), Why do Consumers Purchase Goods and Services in the Informal Economy? *Journal of Business Research*, 67, pp. 802-806. https://doi.org/10.1016/j.jbusres.2013.11.048

Williams, C.C., Bejakovic, P., Mikulic, D., Franić, J., Kedir, A. and Horodnic, I.A. (2017), *An Evaluation of the Scale of Undeclared Work in the European Union and its Structural Determinants: Estimates using the Labour Input Method*, Brussels: European Commission.

Williams, CC. and Millington, A. (2004), The diverse and contested meanings of sustainable development, *The Geographical Journal*, 170(2), pp. 99-104. https://doi.org/10.1111/j.0016-7398.2004.00111.x

World Bank (2019), *Global economic prospects: Darkening skies*, Washington: World Bank.

World Commission on Environment and Development (WCED) (1987), *Our common future*, Oxford: Oxford University Press.

Wroblewski, L. and Dacko-Pikiewicz, Z. (2018), Sustainable consumer behaviour in the market of cultural services in Central European countries: the example of Poland, *Sustainability*, 10(11), 3856. https://doi.org/10.3390/su10113856

Appendix

Table A1. Variables in the analysis (n = 1,209)

Variable	Code	Mode or mean
Buying undeclared goods and services to help protect the environment	0 - No; 1 - Yes	0 (96%)
Buying undeclared goods and services to support the local economy	0 - No; 1 - Yes	0 (92%)
Male	0 - Female; 1 - Male	0 (67%)
Age	Years (exact age)	29 years
Higher education	0 - Primary and secondary education; 1 - Higher education	1 (62%)
Children	0 - No; 1 - Yes	0 (75%)
Financial Status Index	Index: 1 (facing financial difficulties) to 10 (not facing any financial difficulties)	7.03
Urban	0 - Rural; 1 - Urban	1 (75%)
Region NUTS 1	1 - Macro-region 1; 2 - Macro-region 2; 3 - Macro-region 3; 4 - Macro-region 4	2 (55%)
Expected sanctions for customers	1 - No sanction; 2 - Confiscation; 3 - Normal tax due; 4 - Normal tax due plus fine / Prison / Other sanction; 5 - Don`t know	1 (42%)
Expected risk of detection	1 - High risk; 2 - Low risk; 3 - Don`t know	2 (74%)
Social norms - Estimated % of businesses selling undeclared goods and services	1 - Under 10%; 2 - 10-29.9%; 3 - 30% and more; 4 - Don`t know	3 (44%)
Trust in Public Authorities Index	Index (trust in justice, police, civil servants, tax and social security authorities, labor inspection, Government, Parliament, President): 0 (tend not to trust) to 1 (tend to trust)	0.36
Tax Morality Index	Index (eight non-compliant behaviors): 1 (acceptable behavior) to 10 (unacceptable behavior)	7.86
Receipt Lottery (Incentive) - Customer's behaviour changed	0 - Customer's behaviour not changed; 1 - Customer's attitude changed	0 (94%)
Campaign - Blue Poster - Customer's behaviour changed	0 - Customer's behaviour not changed; 1 - Customer's attitude changed	0 (83%)

Source: Authors' representation

Table A2. Logistic regressions of the likelihood to buy undeclared goods/services to help protect the environment and to support the local economy in Romania: by socio-demographic and policy related characteristics (with multiple imputation for missing data)

Variables	Buying undeclared goods and services to:					
	help protect the environment			support the local economy		
	Model 1			Model 2		
	β	se(β)	Exp(β)	β	se(β)	Exp(β)
Socio-demographic profile						
Male	-0.533	0.337	0.587	0.140	0.239	1.150
Age	0.017	0.020	1.017	0.022	0.014	1.022
Higher education	0.133	0.360	1.142	0.372	0.282	1.450
Children	-1.026**	0.485	0.359	-0.252	0.324	0.777
Financial Status Index[1]	0.116	0.090	1.123	0.137**	0.067	1.147
Urban	0.952*	0.498	2.590	0.641*	0.332	1.899
Region NUTS 1 (Ref: Macroregion One[2])						
Macroregion Two[3]	-0.644*	0.375	0.525	0.251	0.321	1.286
Macroregion Three[4]	-0.655	0.438	0.519	-0.135	0.375	0.874
Macroregion Four[5]	-0.709	0.669	0.492	0.025	0.522	1.025
Policy approaches						
Expected sanctions for customers (Ref: No sanction)						
Confiscation	-0.454	0.392	0.635	-0.264	0.277	0.768
Normal tax due	0.459	0.657	1.582	-0.866	0.751	0.421
Normal tax due plus fine / Prison / Other	-0.619	0.515	0.538	-1.299***	0.453	0.273
Don`t know	0.011	0.482	1.011	-0.336	0.376	0.714
Expected risk of detection (Ref: High risk)						
Low risk	1.463**	0.612	4.320	1.051**	0.412	2.862
Don`t know	0.151	1.220	1.163	-0.102	0.753	0.903
Social norms - Estimated % of businesses selling undeclared goods and services (Under 10%)						
10-29.9%	0.909	0.770	2.483	-0.262	0.409	0.770
30% and more	1.419*	0.755	4.135	0.110	0.395	1.116
Don`t know	1.004	1.053	2.730	0.878	0.557	2.405
Trust in Public Authorities Index[6]	-0.550	0.577	0.577	-0.818*	0.450	0.441
Tax Morality Index[7]	-0.188**	0.090	0.828	-0.167**	0.068	0.846
Implemented demand-side policy measures - awareness raising						
Receipt Lottery (Incentive)[8]	-0.021	0.654	0.980	-0.394	0.517	0.674
Campaign - Blue Poster[9]	0.126	0.423	1.134	0.308	0.311	1.361
Constant	-5.009***	1.455		-4.057***	0.995	
Observations			1,209			1,209
Imputations[10]			10			10

Notes: Significant at *** p<0.01, ** p<0.05, * p<0.1; [1] Financial Status Index: an index measuring the financial status of the respondent on a scale from 1 (facing financial difficulties) to 10 (not facing any financial difficulties); the higher the index the higher the financial status; [2] Centre, North-West; [3] South-East, North-East; [4] Bucharest-Ilfov, South; [5] West, South-West; [6] Trust in Public Authorities Index: 0 (tend not to trust) to 1 (tend to trust); the higher the index the higher the trust in public authorities; [7] Tax Morality Index: 1 (acceptable behavior) to 10 (unacceptable behavior); the higher the

index the higher the tax morale; [8] Asking more often tax receipts due to Receipt Lottery (with cash prizes); [9] Asking more often tax receipts due to this campaign (Blue Poster); [10] Imputed (by variable): Buying undeclared goods and services to help protect the environment (16), Buying undeclared goods and services to support the local economy (16), Male (10), Age (3), Higher education (7), Children (7), Financial Status Index (3), Urban (16), Region NUTS 1 (0), Expected sanctions for customers (1), Expected risk of detection (6), Social norms - Estimated % of businesses selling undeclared goods and services (4), Trust in Public Authorities Index (0), Tax Morality Index (0), Receipt Lottery (Incentive) - Customer's behaviour changed (12), Campaign - Blue Poster - Customer's behaviour changed (2).

Source: Authors' representation