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Participation in cash-in-hand work in European rural areas: an evaluation of the marginalization thesis

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ABSTRACT

The marginalisation thesis, which holds that populations marginalised from the formal labour market disproportionately participate in cash-in-hand work, is a core assumption of not only modernisation theory, which views cash-in-hand work as a separate realm in which marginalised groups provide goods and services for ‘bottom of the pyramid’ markets, but also political economy theory, which views cash-in-hand work as integrated into contemporary capitalism through outsourcing and subcontracting arrangements and undertaken by marginalised populations as a survival strategy. Until now however, no

extensive evaluations of the validity of this marginalisation thesis in rural areas have been conducted. To fill this gap, a 2013 survey of the participation of rural populations in cash-in-hand work in 28 European member states is reported. Using multilevel mixed-effects logistic regression analysis, this reveals that although some marginalised groups in rural areas (those having difficulties paying their household bills, divorced or separated, and younger rural dwellers) are significantly more likely to participate in cash-in-hand work, others are not (women). The paper thus concludes by calling for a more nuanced theorisation of which marginal groups participate in cash-in-hand work and explores the policy implications of this more variegated understanding.

Keywords: informal sector; rural areas; undeclared work; marginalisation; Europe.

INTRODUCTION

Marginalised populations, by which is here meant those populations relatively marginalised from the formal labour market, are widely viewed as more likely to participate in cash-in-hand work (Ahmad, 2008; Katungi et al., 2006). This marginalisation thesis thus contends that people living in marginalised areas, such as less affluent countries and peripheral rural areas, are more likely to participate in cash-in-hand work (ILO, 2012, 2014), as are socio-economic groups relatively marginalised from the formal labour market, including women, unemployed people and those in financial difficulty (Brill, 2011; Castree et al., 2004; Slavnic, 2010; Taiwo, 2013). Despite the widespread assumption that this is the case, the evidence-base to support this marginalisation thesis is weak, and comprised of largely small-scale surveys of urban localities (Kesteloot and Meert, 1999; Leonard, 1994; Stănculescu, 2005). The aim of this paper, therefore, is to evaluate this marginalisation thesis in relation to rural Europe using an extensive data set, namely a cross-national survey undertaken in the 28 member states of the European Union (EU28), which comprised 27,563 interviews, of which 9,655 were conducted with rural inhabitants.

In the first section therefore, a brief review is undertaken of the competing views on the participation of marginalised populations in cash-in-hand work. This reveals that although the dominant ‘marginalisation thesis’, which holds that marginalised populations are more likely to participate in cash-in-hand work, is a core assumption in both modernisation and political economy explanations, the advent of agency-oriented neo-liberal and institutional explanations which view such endeavour as conducted out of choice rather than necessity, and identify a wider range of determinants of participation, have led to questions being raised about the validity of the marginalisation thesis. Revealing that the only evidence supporting the marginalisation thesis are small-scale surveys of mainly urban areas, the second section seeks to fill this gap by introducing the methodology used in an

extensive 2013 survey of the participation in cash-in-hand work of rural populations across 28 European countries. The third section reports the results. This displays that whether marginalisation populations are more likely to participate in cash-in-hand work in rural populations depends on how one defines the marginalised. Although some marginalised populations are more likely to participate in cash-in-hand work, others are not, and yet others are significantly less likely. The fourth section then concludes by exploring the implications of these findings for advancing theory and policy on cash-in-hand work.

Mirroring the consensus in the academic and policy literature, cash-in-hand work in this paper is defined as paid activities not declared to the authorities for tax, social security and/or labour law purposes when they should be declared (European Commission, 2014; OECD, 2012; Schneider, 2013; Williams, 2006; Williams and Windebank, 1998, 2005). If paid activity differs to the formal economy in additional ways, then this activity is not here defined as cash-in-hand work. For instance, if the goods and/or services traded are illegal (such as illegal drugs), then such activity is part of the wider ‘criminal’ economy rather than cash-in-hand work, and if the activity is unpaid, then it is part of the separate unpaid economy. In practice, nevertheless, some blurred boundaries remain, such as when the activity is reimbursed with in-kind favours or gifts. In this paper, and reflecting the 2013 survey reported here, activities reimbursed in-kind and with gifts are excluded.

COMPETING VIEWS ON THE PARTICIPATION OF MARGINALISED POPULATIONS IN CASH-IN-HAND WORK

The ‘marginalisation thesis’ holds that marginalised populations, defined as those relatively excluded from the formal labour market, are more likely to participate in cash-in-hand work (Castree et al., 2004; Katungi et al., 2006). As such, both those living in marginalised places as well as marginalised population groups are seen to be more likely to do so. A long-

standing perspective at all geographical scales, therefore, has been that participation rates in cash-in-hand work are higher in less affluent areas. This applies whether discussing global regions (ILO, 2012; Williams, 2013), cross-national variations (Schneider, 2013; Schneider and Williams, 2013; Williams, 2015), the differences between higher- and lower-income localities (Kesteloot and Meert, 1999; Williams and Windebank, 2001), or the differences between urban and rural areas (Button, 1984; Williams, 2010). It is also the case that marginalised groups are viewed as more likely to participate. Not only are the unemployed widely believed to more commonly participate in cash-in-hand work compared with those in formal jobs (Brill, 2011; Castells and Portes, 1989; Leonard, 1994; Slavnic, 2010; Taiwo, 2013; Williams and Nadin, 2014), but so too are women claimed to be more likely to engage in this sphere than men (ILO, 2013; Leonard, 1994, 1998; Stănculescu, 2004) and those with financial difficulties more likely than more affluent population groups (Barbour and Llanes, 2013; Katungi et al., 2006; Williams, 2004).

This marginalisation thesis emerges out of, and is a central tenet of, two dominant theorisations of cash-in-hand work. For modernisation theory, cash-in-hand work is a leftover of a previous mode of production that persists in marginal enclaves that have not yet been subjected to modernisation and economic development. Cash-in-hand work is thus viewed as disconnected from the formal economy typically conducted by for example uneducated people operating small unproductive enterprises in separate ‘bottom of the pyramid’ markets producing low-quality products for low-income consumers using little capital and adding little value (La Porta and Schleifer, 2008, 2014).

For a second loose grouping of scholars adopting a political economy perspective, cash-in-hand work is viewed as an inherent feature and direct by-product of a deregulated open world economy where outsourcing and subcontracting have become a primary way in which cash-in-hand work has been integrated into contemporary capitalism so as to reduce

production costs (Castells and Portes, 1989; Davis, 2006; Meagher, 2010; Slavnic, 2010; Taiwo, 2013). Moreover, with decreasing state involvement in social protection and economic intervention due to de-regulation, those excluded from the formal labour market and social protection are viewed as being pushed into cash-in-hand work as a survival strategy (ILO, 2014; Meagher, 2010; Taiwo, 2013). Consequently, cash-in-hand work is represented in this political economy perspective as ‘necessity-driven’ endeavour undertaken by marginalised populations excluded from the formal labour market and social protection systems (Castells and Portes, 1989; Gallin, 2001; Williams and Round, 2010).

Nevertheless, this dominant marginalisation thesis has started to be contested in recent decades. Viewing necessity as just one factor driving populations into the cash-in-hand economy, it is not always marginalised populations who are viewed as engaged in cash-in-hand work. Indeed, several studies reveal cash-in-hand work to be more prevalent in affluent regions and localities (Evans et al., 2006; van Geuns et al., 1987; Williams, 2004; Williams and Windebank, 2001). Similarly, the unemployed are found to be less likely to participate than those who have formal jobs (MacDonald, 1994; Pahl, 1984; Renooy, 1990; Williams, 2001). This is the case for at least four reasons: they lack the resources (such as car, tools) necessary to engage in a wide range of cash-in-hand work (Pahl, 1984; Williams, 2004); they receive and hear about fewer opportunities to do so due to their smaller and more confined social networks (Komter, 1996; Morris, 1994; Williams, 2006); they lack the skills and competencies to conduct cash-in-hand work (Fortin et al., 1996; Renooy, 1990) since if their skills and competencies are inappropriate for finding formal employment, there is no reason to believe that they are appropriate for finding cash-in-hand work; and they fear being reported to the authorities, not least because claiming welfare benefits illicitly is popularly considered a more serious offence than tax evasion (Cook, 1997; Williams, 2004, 2014). Women are similarly viewed as less likely than men to participate in cash-in-hand

work (Lemieux et al., 1994; McInnis-Dittrich, 1995) and those with financial difficulties less likely than more affluent population groups to engage in this sphere (Williams, 2004; Williams et al., 2013).

This view that the marginalisation thesis may not be valid arises out of two agency-oriented theorisations of cash-in-hand work. On the one hand, a neo-liberal perspective has depicted cash-in-hand workers as rational economic actors who, after weighing up the costs of cash-in-hand work and benefits of formality, decide not to operate in the formal economy. For these scholars, burdensome regulations, high taxes and corruption among public sector officials lead people to voluntarily exit the formal sector and to operate cash-in-hand (De Soto, 1989, 2001; Nwabuzor, 2005). On the other hand, and drawing inspiration from institutional theory (North, 1990), another agency-oriented group of scholars adopting a more ‘social actor’ approach, view cash-in-hand work as illegal but socially legitimate endeavour that arises when the formal institutions are not in symmetry with the norms, values and beliefs that constitute the informal institutions (De Castro et al., 2014; Kistruck et al., 2015; Siqueira et al., 2016; Thai and Turkina, 2014). When there is symmetry between formal and informal institutions, cash-in-hand work only occurs unintentionally such as due to a lack of awareness of the laws and regulations. When there is institutional asymmetry however, the result is more cash-in-hand work. Indeed, the greater the degree of asymmetry, the higher is the level of cash-in-hand work (Webb et al., 2009, 2013, 2014; Williams and Shahid, 2016).

Until now, nevertheless, most studies (including those reported above) of who participates in cash-in-hand work have been small-scale surveys of mainly urban localities and/or population groups. Few, if any, extensive cross-national surveys have been conducted that examine who participates in cash-in-hand work in rural populations. Here, therefore, we evaluate the dominant view that marginalised populations are more likely to participate in

cash-in-hand work in rural populations by testing the following propositions associated with the marginalisation thesis:

Socio-demographic hypotheses

H1a: Rural women are more likely to participate in cash-in-hand work than men.

H1b: Younger rural inhabitants are more likely to participate in cash-in-hand work than older age groups.

H1c: Unmarried rural inhabitants are more likely to participate in cash-in-hand work than married individuals.

H1d: Rural dwellers who spend fewer years in formal education are more likely to participate in cash-in-hand work than those in formal education for longer.

H1e: Single person rural households are more likely to participate in cash-in-hand work than households with more than one occupant.

H1f: Rural households with children are more likely to participate in cash-in-hand work than households with no children.

H1g: Rural inhabitants with higher tax morale are less likely to participate in cash-in-hand work than those with lower tax morale.

Socio-economic hypotheses

H2a: Unemployed rural individuals are more likely to participate in cash-in-hand work than those employed.

H2b: Rural inhabitants with financial difficulties are more likely to participate in cash-in-hand work than those without financial difficulties.

Spatial hypothesis

H3: Rural inhabitants living in less affluent European regions are more likely to participate in cash-in-hand work than those living in more affluent EU regions.

METHODOLOGY

To evaluate these hypotheses which are grounded in the dominant marginalisation thesis, we here use an extensive data-set, namely Special Eurobarometer No. 402, which was undertaken in the 28 European Union member states in 2013. This applies the standard sampling method of Eurobarometer surveys, with some 500 conducted in smaller countries and 1,500 in larger nations, resulting in 27,563 interviews. In each and every country, a multi-stage random (probability) sampling methodology was used which weighted the sample so that it was proportionate to the country in terms of gender, age, region and locality size. As a result, 9,655 face-to-face interviews were conducted with respondents who self-reported themselves as living in a rural area, and these are here our focus of attention. For the descriptive statistics in consequence, the weighting scheme is applied, as is suggested in the literature (Solon et al., 2013; Winship and Radbill, 1994; Sharon and Liu, 1994). Nevertheless, a debate exists over whether a weighting scheme should be used when conducting multivariate analysis (Solon et al., 2013; Winship and Radbill, 1994; Sharon and Liu, 1994; Pfeffermann, 1993). Mirroring the dominant view, the weighting scheme has not been used for the multivariate analysis.

The survey collected data on engagement in cash-in-hand work using face-to-face interviews with adults (aged 15 years and older) in their national language. The interview schedule firstly built up rapport with the respondents by asking them questions regarding their attitudes towards cash-in-hand work, and then asked questions regarding the goods and services that they had purchased on a cash-in-hand basis before asking the more sensitive questions on their own participation in cash-in-hand work. Interviewers were asked about the perceived reliability of the interviews. Interviewers asserted that cooperation was in just 1.3 per cent of the interviews, average in 7.4 per cent of the interviews, fair in 28 per cent and excellent in the remaining 63.3 per cent.

To analyse the results, multilevel mixed-effects logistic regression analysis is used. The dependent variable examines if respondents participated in cash-in-hand work using the question: ‘Apart from regular employment, have you yourself carried out any undeclared paid activities in the last 12 months?’. The independent variables used to analyse whether marginalised populations are more likely to participate in cash-in-hand work are divided into socio-demographic, socio-economic and spatial variables and are as follows:

- *Socio-demographic independent variables*: Gender, Age, Marital Status, Age when stopped full time education, Household size, Children, Tax morality index.
- *Socio-economic independent variables*: Employment status, Difficulties paying bills.
- *Spatial independent variable*: Region.

Details about these variables are available in Table A1 in the Appendix. We kept in the analysis only the individuals for which data on each and every independent variable is available. Below, the findings are reported.

FINDINGS: THE PARTICIPATION OF MARGINALISED POPULATIONS IN CASH-IN-HAND WORK IN RURAL EUROPE

Descriptive Statistics

As Table 1 displays, 3.8 per cent of rural participants surveyed report undertaking cash-in-hand work over the previous 12 months. Even if participation in cash-in-hand work is a sensitive issue and the differences between the reported situation and lived practice might be significant, this survey nevertheless reveals that 1 in 26 citizens living in rural areas of the 28 member states of the European Union (EU28) are willing to report that they have engaged in cash-in-hand work during the past year. The mean earnings from their cash-in-hand work are €799, although there are variations between countries and regions of the

European Union (EU28). Some 33 per cent of those engaged in cash-in-hand work nevertheless, either do not remember how much they earned, do not know or refused to answer.

Table 1 Participation in cash-in-hand work in rural areas in the past 12 months, by European country (n = 8407)

Region/ Country	Rural people engaged in cash-in-hand work	Percent of all rural people engaged in cash-in-hand work	Percent of all rural people	Earnings from cash-in-hand work:		
				Declared	Don't know; Refusal	Mean
	(%)	(%)	(%)	(%)	(%)	(€)
All EU-28	3.8	--	--	67	33	799
<i>Nordic nations</i>	7	100	100	83	17	1341
Sweden	9	66	48	87	13	1410
Denmark	8	31	28	75	25	1315
Finland	1	3	24	100	0	169
<i>East-Central Europe</i>	5	100	100	57	43	574
Latvia	15	5	2	81	19	455
Estonia	10	2	1	56	44	529
Croatia	9	10	5	61	39	970
Lithuania	8	4	2	80	20	489
Slovakia	7	10	7	52	48	653
Slovenia	7	4	2	67	33	1292
Bulgaria	5	6	5	59	41	208
Hungary	5	10	9	47	53	450
Romania	4	19	23	29	71	387
Poland	3	26	36	70	30	581
Czech Republic	2	4	8	73	27	210
<i>Southern Europe</i>	5	100	100	60	40	890
Spain	7	90	60	64	36	856
Cyprus	2	0	1	50	50	150
Greece	2	3	7	53	47	2473
Malta	2	0	1	45	55	100
Italy	1	6	23	0	100	--
Portugal	1	1	8	0	100	--
<i>Western Europe</i>	3	100	100	77	23	769
Netherlands	11	32	8	87	13	1047
Austria	6	8	4	58	42	660
Luxembourg	6	1	1	64	36	1378
Belgium	5	9	6	80	20	698
Ireland	5	3	2	95	5	764
France	4	36	28	65	35	724
Germany	1	5	31	100	0	295
United Kingdom	1	6	20	100	0	157

To begin to evaluate the marginalisation thesis, Table 1 reports the cross-national variations in the tendency of rural populations to participation in cash-in-hand work in order to

understand whether rural inhabitants in the poorer regions of East-Central and Southern Europe have higher participation rates than those living in the more affluent Nordic and Western European nations. Rural populations living in the most affluent European region, namely the Nordic nations, are identified as having the highest levels of participation in cash-in-hand work (7 per cent), compared with 5 per cent in the East-Central European region, 5 per cent in the Southern European region and 3 per cent in the Western European region. This therefore negates the marginalisation thesis with regard to its distribution across EU regions, and this is further reinforced when average earnings are examined. Those rural inhabitants living in Nordic nations working in the cash-in-hand economy earn on average €1341 compared with €890 in Southern Europe, €769 in Western Europe and €574 in East-Central Europe. Consequently, the marginalisation thesis appears to be refuted with regard to the participation of marginalised rural populations in cash-in-hand work at the European regional level. Rural areas in affluent European regions have higher participation rates in cash-in-hand work than rural areas in less affluent European regions and earn more from such work.

Turning to socio-demographic, socio-economic and other forms of spatial variation, Table 2 displays that, contrary to the marginalisation thesis, participation in cash-in-hand work in rural areas is higher amongst men than women (5 per cent of men participated compared with 3 per cent of women, with men representing 62 per cent of those engaged in cash-in-hand work) and women earn less than men from cash-in-hand work (i.e., their earnings are 87 per cent the amount earned by men). Furthermore, the unemployed are no more likely to participate in cash-in-hand work than the employed and even when they do, their earnings are 64 per cent the amount earned by the employed. These descriptive statistics thus tentatively suggest that the marginalisation thesis is not applicable in relation to gender and employment status in rural Europe.

Table 2 Participation in cash-in-hand work in rural areas of the European Union: by socio-demographic, socio-economic and spatial characteristics

Variables	Rural people engaged in cash-in-hand work	Percent of all rural people engaged in cash-in-hand work	Percent of all rural people	Earnings from cash-in-hand work:		
				Declared	Don't know; Refusal	Mean
	(%)	(%)	(%)	(%)	(%)	(€)
All EU-28	3.8	100	100	67	33	799
Gender						
Women	3	38	51	68	32	733
Men	5	62	49	66	34	840
Age						
15-24	8	23	11	81	19	674
25-39	6	38	24	69	31	737
40-54	3	21	28	48	52	1237
55+	2	18	37	65	35	750
Marital status						
Married/Remarried	3	38	57	58	42	793
Cohabiting	7	20	11	80	20	1000
Single	6	27	17	77	23	570
Divorced/Separated	6	9	6	55	45	734
Widowed/Other	3	6	9	55	45	1354
Age stopped full time education						
-15 years	3	17	24	58	42	290
16-19	4	50	45	62	38	772
20+	4	23	25	77	23	1032
Still Studying	6	10	6	85	15	997
Number of persons 15+ years in household						
1 person	5	23	19	65	35	763
2 persons	3	35	49	72	28	856
3+ persons	5	42	32	64	36	766
Children						
Not having children	3	62	72	62	38	930
Having children	5	38	28	75	25	621
Tax morale (mean=2.34)						
Bellow mean	2	25	63	58	42	717
Above mean	8	75	37	70	30	821
Employment						
Unemployed	4	51	51	68	32	631
Employed	4	49	49	66	34	981
Difficulty paying bills last year						
Most of the time	7	22	12	72	28	700
From time to time	5	34	25	62	38	1092
Almost never/never	3	44	63	68	32	644

However, examining other rural population groups, the marginalisation thesis appears to be valid. Not only are younger rural dwellers more likely to participate in cash-in-hand work

than older age groups, but so too do those not married compared with married/remarried participants, those with children, and those who have difficulty paying bills compared with those who seldom have difficulties. For all these population groups in rural areas, the marginalisation thesis appears to be valid. Furthermore, those having a low tax morale participate in cash-in-hand work to a greater extent compared with those with a high tax morale (8 per cent compared with 2 per cent) and they represent 75 per cent of those engaging in cash-in-hand work.

These descriptive statistics therefore tentatively indicate that the marginalisation thesis is not universally applicable at every spatial scale and in relation to each and every marginalised socio-demographic and socio-economic group.

Analysis: are Marginalised Populations More Likely to Participate in Cash-in-Hand Work in Rural Europe?

We here analyse the hypothesis that participation in cash-in-hand work in rural Europe significantly varies according to individual socio-demographic, socio-economic and spatial characteristics when other variables are held constant. Based on the hierarchical nature of the data (i.e., individuals in countries), the multivariate analysis employs a multilevel model. Given that the dependent variable is dichotomous, moreover, a multilevel mixed-effects logistic regression is used (Snijders and Bosker, 2012). The first stage in the analysis was to estimate a baseline random intercept model with no explanatory variables to identify whether a multi-level approach was appropriate. This reveals that over 17 per cent of the variance in participation in cash-in-hand work was accounted for at the country level (Wald = 8.11, df=1, p<0.01), indicating significant variation between countries in the prevalence of rural participation in cash-in hand. Hence, a multilevel mixed-effects logistic regression is adopted. The second stage examines the relationship between the various independent

variables and participation in cash-in-hand work when other variables are held constant, and uses an additive model. The first stage model (M1) covers only the socio-demographic variables to examine their association with participation in cash-in-hand work. The second stage model (M2) then adds socio-economic variables to the socio-demographic variables, while the third stage model (M3) adds the spatial variables to the socio-demographic and socio-economic variables to analyse their relationship with participation in cash-in-hand work in rural Europe. The results are reported in Table 3.

Model 1 in Table 3 reveals that the marginalisation thesis is valid in rural Europe in relation to some socio-demographic characteristics but not others. Younger rural dwellers are significantly more likely to participate in cash-in-hand work (confirming *H1b*), doubtless due to their greater exclusion from the formal labour market (European Commission, 2014). In addition, those rural dwellers more tolerant of cash-in-hand work and holding non-conformist attitudes towards tax compliance are more likely to participate in such endeavour (confirming *H1g*), providing some support for the institutional theory explanation discussed above. That is, those marginalised in that their beliefs and norms regarding participation in cash-in-hand work do not align with the regulations of the formal institutions more commonly participate in such work in rural Europe (Williams and Martinez, 2014a,b).

Contrary to the marginalisation thesis however, rural men are significantly more likely to participate in cash-in-hand work than women (refuting *H1a*), reflecting how the exclusion of rural women from the formal labour market is further compounded when examining cash-in-hand work in rural Europe. No significant association with participation in cash-in-hand work is found when analysing the age participants stopped education (refuting *H1d*), rural household size (refuting *H1e*), the existence of children in the household (refuting *H1f*) and marital status, except amongst widowed/separated people who are more likely to participate than married/remarried people (partially confirming *H1c*),

again doubtless because they may need to participate in cash-in-hand work to make ends meet and do so in ways not traceable by the authorities, such as for matrimony payments.

Table 3 Multilevel mixed-effects logistic regression of participation in cash-in-hand work in rural Europe

Variables	Model 1	Model 2	Model 3
Gender (CG: Women):			
Men	0.894*** (0.114)	0.931*** (0.116)	0.929*** (0.116)
Age (CG: 15-24):			
25-39	-0.564** (0.221)	-0.505** (0.222)	-0.491** (0.222)
40-54	-0.863*** (0.227)	-0.820*** (0.228)	-0.819*** (0.228)
55+	-1.242*** (0.252)	-1.202*** (0.258)	-1.210*** (0.258)
Marital status: (CG:			
Married/Remarried):			
Cohabiting	0.177 (0.172)	0.147 (0.173)	0.144 (0.173)
Single	-0.0686 (0.192)	-0.0821 (0.193)	-0.0773 (0.193)
Divorced/Separated	0.571** (0.231)	0.500** (0.231)	0.496** (0.231)
Widowed/Other	-0.128 (0.258)	-0.123 (0.258)	-0.124 (0.258)
Age stopped full time education (CG: under 15 years):			
16-19	0.197 (0.178)	0.276 (0.180)	0.249 (0.181)
20+	0.0839 (0.198)	0.256 (0.203)	0.224 (0.203)
Still Studying	-0.441 (0.308)	-0.358 (0.316)	-0.384 (0.315)
Number of persons 15+ years in household (CG:1 person):			
2 persons	-0.182 (0.194)	-0.130 (0.194)	-0.117 (0.194)
3+ persons	0.0252 (0.193)	0.0926 (0.193)	0.113 (0.193)
Children (CG: Not having children):			
Having children	0.0941 (0.134)	0.00120 (0.136)	-0.00861 (0.136)
Tax morale	0.434*** (0.0280)	0.425*** (0.0282)	0.420*** (0.0283)
Employment (CG: Unemployed):			
Employed		-0.142 (0.136)	-0.143 (0.136)
Difficulty paying bills last year (CG: Most of the time):			
From time to time		-0.483*** (0.155)	-0.494*** (0.155)
Almost never/never		-0.879*** (0.159)	-0.909*** (0.159)
EU Region: (CG: Western Europe):			
Southern Europe			-0.773* (0.458)
East-Central Europe			0.180 (0.357)
Nordic nations			0.772 (0.530)
Constant	-4.340*** (0.403)	-3.812*** (0.415)	-3.764*** (0.470)
Observations	8,407	8,407	8,407
Number of groups	28	28	28
Random-effects Parameters			
Identity: Country			
Variance (constant)	0.602***	0.652***	0.483***

Notes: Standard errors in parentheses. Significant at *** p<0.01, ** p<0.05, * p<0.1

Analysing the socio-demographic variables therefore, the marginalisation thesis is confirmed with regard to some marginalised rural population groups (e.g., younger rural dwellers, those with non-conformist attitudes), but not in relation to others (e.g., rural women, the less educated, single persons).

No major changes result to the influence of the socio-demographic characteristics on participation in cash-in-hand work in rural Europe when the socio-economic characteristics (i.e., employment status, financial circumstances) are added in model 2. The socio-demographic variables that are statistically significant in Model 1 remain so. However, the additional finding is that those rural populations with financial difficulties are significantly more likely to participate in cash-in-hand work than those with fewer financial difficulties (confirming *H2b*), thus providing support for the marginalisation thesis. However, no significant association with participation in cash-in-hand work is found when analysing employment status (refuting *H2a*).

When model 3 adds the European region variable, the significance of the socio-demographic and socio-economic characteristics again remain the same. However, a weak association is revealed as those living in Southern Europe are less likely to participate in cash-in-hand work than those living in Western Europe (refuting *H3*). As such, there is no support for the marginalisation thesis when considering the European regional variations.

DISCUSSION AND CONCLUSIONS

To evaluate the validity of the marginalisation thesis in relation to rural Europe, this paper has reported the results of a 2013 survey of participation in cash-in-hand work in the rural areas of 28 member states of the European Union. A multilevel mixed-effects logistic regression analysis, has found that younger rural dwellers, the divorced/separated, those more tolerant of cash-in-hand work and those with financial difficulties, are significantly more likely to participate in cash-in-hand work. The marginalisation thesis is not confirmed, however, with regard to gender, with rural men being significantly more likely than rural women to participate in cash-in-hand. No significant relationship exists however, so far as

the educational level, household size and the existence of children in the household are concerned.

These findings thus advance theory by displaying the need for a more nuanced understanding of the validity of the marginalisation thesis when analysing participation in cash-in-hand work in rural Europe. The marginalisation thesis is valid in rural Europe in relation to age, marriage status, tax morality and household financial circumstances. However, the marginalisation thesis is refuted in rural Europe in relation to gender and European regional variations, and no significant relationship exists when other characteristics are analysed moreover, such as household size and the presence of children. Whether the same findings are identified when analysing rural populations in other global regions, particularly in the developing world, now needs to be investigated, as does whether the findings are similar at other geographical scales when examining rural populations in particular localities, regions and countries.

These findings also have important implications for policy. They display the populations which need to be targeted when tackling cash-in-hand work. Across the European Union for example, poorer EU regions in East-Central and Southern Europe have been so far targeted when dedicating resources to tackling cash-in-hand work via European structural funds (Dekker et al., 2010; European Commission, 2014). This paper, nevertheless, has displayed that rural areas in poorer EU regions are not more likely to participate in cash-in-hand work. Instead, rural dwellers in the more affluent regions of the EU have significantly greater rates of participation in cash-in-hand work, intimating the need for rethinking how European funds for tackling cash-in-hand work are allocated across EU regions. Moreover, although targeting some marginalised populations when tackling cash-in-hand work is inappropriate (e.g., rural women, the less educated, rural dwellers living in less affluent EU regions), it does appear appropriate to target other marginalised populations

(e.g., younger rural dwellers, the divorced/widowed and those rural households with financial difficulties). Consequently, analyses such as this provide a useful risk assessment of the validity of targeting various populations, enabling a more targeted approach to be adopted.

In sum, this paper has advanced enquiry by providing a variegated appreciation of the validity of the marginalisation thesis in rural Europe. Although it is applicable when considering some marginalised populations in rural Europe (such as younger age groups, those with financial difficulties), who are more likely to participate in cash-in-hand work, it is not valid in relation to other rural marginalised populations (such as the less educated, poor European regions, large households). If the outcome is the emergence of a more variegated understanding of which marginal populations participate in cash-in-hand work in rural Europe, then one of its intentions will have been fulfilled. If this then leads to changes in policy, not least in terms of the populations targeted by governments when tackling cash-in-hand work in rural Europe, then its wider intention will have been fulfilled.

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APPENDIX

Table A1 Variables used in the analysis: description and descriptive statistics

Variables	Definition	Mode or mean	Min / Max
Undeclared activities (dependent variable)	1 = Yes, 0 = No	No (96.2%)	0 / 1
Gender	1 = Men, 0 = Women	Women (51.4%)	0 / 1
Age	1 = 15 to 24 years old, 2 = 25 to 39 years old, 3 = 40 to 54 years old, 4 = 55 years old and over	55 and over (37.1%)	1 / 4
Marital status	1 = Married/ Remarried people, 2 = Cohabitors, 3 = Singles, 4 = Separated or divorced, 5 = Widowed/ Other forms of marital status	Married/ Remarried (57.3%)	1 / 5
Age when stopped full time education	1 = 15 years old and under, 2 = 16-19 years old, 3 = 20 years old or over, 4 = Still studying.	16 – 19 years old (45.4%)	1 / 4
Household size	1 = One person, 2 = Two persons, 3 = Three persons or more.	Two people (49.3%)	1 / 3
Children (up to 14 years old in the household)	1 = Yes, 0 = No	No children (71.7%)	0 / 1
Tax morality index	Constructed index of self-reported tolerance towards tax non-compliance	2.34	1 / 10
Employment status	1 = Employed respondents, 0 = Unemployed respondents	Unemployed (50.6%)	0 / 1
Difficulties paying bills	1 = Most of the time, 2 = Occasionally, 3 = Almost never/Never.	Almost never/Never (62.8%)	1 / 3
Region	1= Western Europe, 2 = Southern Europe, 3 = East-Central Europe, 4 = Nordic nations.	Western Europe (48.6%)	1 / 4