The commercialisation of subsistence farms: Evidence from the new member states of the EU

Lena Fredriksson [a], Alastair Bailey [b], Sophia Davidova [b], Matthew Gorton [c,*], Diana Traikova [d]

[a] Swedish National Audit Office (Riksrevisionen), Stockholm, Sweden
[b] School of Economics, Keynes College, University of Kent, Canterbury, Kent CT2 7NP, UK
[c] Newcastle University Business School, 5 Barrack Road, Newcastle upon Tyne, NE1 4SE, UK
[d] Leibniz Institute of Agricultural Development in Transition Economies (IAMO) Theodor-Lieser Str. 2, 06120 Halle, Saale, Germany

ARTICLE INFO

ABSTRACT

For selected regions of five EU Member States (Bulgaria, Hungary, Poland, Romania and Slovenia), this paper examines the determinants of the commercialisation of (semi)subsistence farms. While subsistence farming has become an important feature of the EU, there is a lack of evidence on its spatial distribution, importance and reasons for persistence. The analysis utilises cross-regional survey data and qualitative interviews. Results suggest the absence of a subsistence poverty trap driven by either farmer perceptions or transactions costs although capital endowment appears to play a significant part. On the other hand the degree of market engagement depends on access costs, which vary with location, households' productive assets, specialisation, and risk propensity. Implications for land use policy are discussed.

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1. Introduction

The regional landscape of the European Union (EU) changed dramatically during the early years of the 21st Century. Two waves of enlargement, first in 2004 and then in 2007, followed by the accession of Croatia in 2013 saw the Union grow from 15 to 28 member states and its geographic gravity moved eastward. In the process, the number of farmers in the EU more than doubled, increasing from 5.7 to 13.7 million, while the utilised agricultural land area (UAA) rose from 125 to 174 million hectares (Eurostat, 2014), a rise of 39%. Overall, farms in the EU's New Member States (NMS) tend to be both smaller and less productive than in the EU-15, and a significant number of these farms do not market their output at all or only sell a small portion of it. For instance, in 2007, nearly three quarters (74%) of farms in the NMS (5 million units), produced mainly for their own consumption (Eurostat, 2007). While subsistence farming has previously largely been perceived as a 'developing country problem', the expansion of the borders of the Union thus means that it is now an important feature of land use in the overall EU.

It is expected that low levels of market engagement lead to poor rates of regional economic growth (World Bank, 2007) and contribute to rural poverty. This has the potential to challenge the logic of the EU's Common Agricultural Policy (CAP), with its focus on supporting medium-sized, by international standards, commercially oriented family farms (Calus and Huylenbroeck, 2010). Action was taken in June 2013 to redesign parts of Pillar 1 of the CAP specifically to provide flat-rate aid to small-scale farmers. Facilitating the restructuring of farms with a low degree of market participation is also a policy objective of the 2014–2020 Rural Development Programmes within Pillar 2 of the CAP (for instance in the area of farm and business development).

Against this background, the objective of this study is to investigate the determinants of, and barriers to, the increased commercialisation of subsistence and semi-subsistence farmers in three regions within each of five NMS (Bulgaria, Hungary, Poland, Romania and Slovenia). Collectively, in 2007, these five countries accounted for 53% of the total number of farms in the EU-27 and 82% of semi-subsistence farms (Eurostat, 2007).

These countries present a variety of land use policy contexts, having followed different paths of structural adjustment of agriculture and possess different degrees of rurality and dependence on farming. Swinnen et al. (2005) emphasise that, due to largely private agriculture before transition, structural reforms in Poland and Slovenia were less marked than in the other three countries, and

therefore the farm size distribution in Poland and Slovenia is less polarised, in contrast to Bulgaria, Hungary and Romania. A cluster analysis of 22 EU Member States[1] with a special emphasis on predominantly rural areas and agriculture, placed these five countries in three different clusters (Tocco et al., 2012). Bulgaria, Hungary and Poland, together with some Southern EU-15, exhibit a relatively high share of population, employment and value added in predominantly rural areas with agriculture's share of total employment just below 9%. Slovenia is in a cluster with even higher economic importance of rural areas but with a high level of education and training of rural labour, including farmers, which suggests that they may be more able to commercialise and respond to market signals. In another cluster, Romania presents the highest level of employment in agriculture but the farm labour force has a very low level of training and a high share of farm holders are 65 years of age or older. Throughout the region, the level of human capital in agricultural households, which is a significant determinant of farm decision making (Rizov, 2005) and has a positive effect on farm survival and growth (Rizov and Mathijs, 2003), is low. However, the effect of human capital depends strongly on the degree of market imperfections (Rizov and Swinnen, 2004).

To date, the analysis of subsistence farming in the NMS has been compromised by a lack of adequate data. These small yet numerous farms have been excluded from many official statistical surveys as they fall below the set size thresholds for data collection and, as a consequence, little is known about their asset holdings, market and production activity or indeed their attitudes and goals (Davidova et al., 2013). In order to define subsistence farming, this study follows Wharton (1969), who proposed a cut-off point differentiating semi-subsistence from commercial farming at 50% of output sold, a threshold which has been used widely in studies focused on small semi-subsistence farms. Throughout this paper, the terms subsistence and semi-subsistence farms are used interchangeably.

This paper takes an agricultural household perspective, noting that households can engage in multiple economic practices to create livelihoods. Particular strategies followed (practices) reflect both the social and economic networks in which households are embedded (Brown and Kulcsar, 2001) as well as preceptoral dispositions (Sitkin and Pablo, 1992). Farm households can be both producers and consumers of their agricultural output, so that conventional models of firm behaviour are inappropriate for understanding commercialisation decisions. Rather, an agricultural household faces three alternative market regimes for each good. These include a position as a net seller, a net buyer or self-sufficiency, thus not participating in the market. The basic proposition is that a household's choice of market regime (practice) will depend on the socio-economic networks in which it is embedded, reflecting varying nested geographies (Smith and Stenning, 2006), as well as internal household characteristics, both structural and preceptoral. The factors that may affect the market regime of a household can be classified, thus, into three broad categories: (a) locational; (b) internal to the household; and (c) external to the household, mainly the market environment. This classification informs the empirical research.

Barrett (2008) introduces the concept of a subsistence poverty trap in the case of sub-Saharan agriculture. This situation, he explains, can be generated by the presence of significant transactions costs which form barriers to market entry and a lack of finance, productive assets and technology that limit the scale of marketable surpluses. The data used in this study allow for the analysis of each of these factors. However, the work presented below permits us to also consider the impact of other latent factors in this problem. Potential latent factors which may influence the behaviour of householders could include, but are not limited to, entrepreneurial ability and motivation, perceptions of market risks or potential exploitation by traders, which might help trap households into subsistence livelihoods.

2. Material and methods

2.1. Research strategy

The research combines both quantitative and qualitative methods. The quantitative approach, applied to data from a bespoke survey across five NMS[2] captures the regional diversity that exists in rural areas in the region. At the first stage of the sampling procedure three NUTS3 regions[3] were selected depending on their level of economic development, and at the second stage, three villages were selected within each region again depending on their level of economic development.

The quantitative analysis may face the problem of sample selection bias. It is plausible that market participation as a seller is correlated with unobservable factors which also affect the decision of how much output to sell. The decision to engage in markets in the first place then may be considered as a self-selection problem. In other words, sellers may not form a random subgroup of the sampled population but differ systematically, in unobservable aspects, from those not participating in output markets. Heckman (1976) introduced a two-step process for data analysis to correct for sample-induced endogeneity. The first step utilises a probit model (Eq. (2)) to estimate the probability of an observation entering a sample, and the second stage uses Ordinary Least Squares (OLS) regression (Eq. (1)) to predict the dependent variable. To account for potential biases which may derive from non-randomness, this process uses Eq. (2) (in conjunction with Eq. (1)) to create a selection parameter, the inverse Mills ratio (IMR). This selection parameter is included in Eq. (1) to account for potential sample selection bias (Heckman, 1979). In this analysis, in the first step, the determinants of market participation are estimated alongside the associated Mills ratio. The second step estimates the determinants of the degree of market integration. This procedure, in addition to ensuring that estimates are consistent in the presence of self-selection, allows us to test an interesting proposition. The presence of a self-selection bias can suggest that there are latent barriers to market integration that hold farms into potentially low welfare subsistence behaviours. As such it allows us to test a special case of the subsistence poverty trap (Barrett, 2008) generated by household factors not captured in our data set. This can be labelled a perceptions driven subsistence poverty trap.

The qualitative part consists of a content analysis of material gathered from in-depth, semi-structured interviews with rural Bulgarian households selected from the survey sample. Interviews involved households in five of the surveyed villages in two NUTS3 regions. These households were revisited twice after the collection of data for the quantitative survey with visits occurring in 2010 and 2014 in order to investigate their plans for, and paths of, farm development. Emphasis was placed on commercialisation, and in some cases, disengagement from agriculture or lack of change. In each case, the factors determining these paths were investigated in