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Entrepreneurial Attitudes in a Post-Communist Transitional Rural Economy: The Case of Moldova

Abstract

A sample survey of small and medium-sized farms in Moldova is used to examine the prevalence of different aspects of an "entrepreneurial outlook" in a post-communist transitional economy. Within the range of less than 1 to 100 hectare farms, the most pronounced differences are that operators of larger farms have greater "technical knowledge" of different aspects of high value agricultural production and sales as well as having a greater willingness to deal with "uncertainty and debt."

Keywords: Moldova, Post-Socialist Economy, Entrepreneurial Attitudes

Introduction

Moldova is a small, poor, landlocked country located between Ukraine and Romania. Until the early 1990s Moldova was a republic in the Soviet Union, with an agricultural sector which was organised collectively in the large-scale command economy model similar to that in Russia. Unlike Russia, however, Moldova quickly privatised land ownership after the collapse of the Soviet Union and distributed secure land ownership deeds to the former collective farm workers. Most Moldovan rural residents elected either to farm very small plots or rent their land holdings to larger farm operations, the result being that a majority of land is still cultivated by large-scale re-organised former collective farms.

Nonetheless, there is considerable variation in the amount of land cultivated by independent small and medium- sized operators. This variability provides us with an opportunity to compare the "entrepreneurial attitudes" of different sized farm operators and, in turn, to gain insights into the process of institutional transformation of agriculture in the former communist countries of Central/Eastern Europe and the former Soviet Union.

What Attributes are Associated with Entrepreneurship?

The concept of entrepreneurship is inherently fuzzy, since it attempts to describe persons who are effectively *outliers* in their respective communities or societies, insofar as they are able to organise new modes of production, sales or distribution of goods or services. The critical question is: what kinds of attributes are associated with the behaviour that we would consider entrepreneurial within a given historical/environmental context? We will look at three sets of attributes that various scholars have claimed to be associated with entrepreneurship: (1) *technical knowledge* of how to produce and market the product or service upon which the entrepreneurial activities are focused; (2) an individual's willingness to deal with *uncertainty and debt*, in a rapidly changing institutional environment; and (3) perceived *access to credit*.

Technical Knowledge

The first requirement for entrepreneurship in any society is the attitude that one has the knowledge, or can gain the knowledge, of a complex set of activities involved in production, marketing and sales of a particular product that is either currently unavailable and/or is unavailable at what is potentially a higher rate or quality. In a classic work on entrepreneurship, Joseph Schumpeter focuses on the concept of *innovation*, including (1) the introduction of a new good or a new quality of a good; (2) the introduction of a new method of production; (3) the opening of a new market; and (4) the conquest of a new source of supply of raw materials or half-manufactured good; (the carrying out of the new organisation of any industry, like the creation of a monopoly position or the breaking up of a monopoly position (Schumpeter 2000: 51–75). The entrepreneur should, in Schumpeter's words engage in the "creative destruction" of existing ways of doing business (1942: 81–86).

Schultz (1975) develops the classic conceptualisation of the entrepreneur further by focusing on the ability of the entrepreneur to adjust or reallocate resources in response to changing circumstances. Following Schultz, Klein

and Cook (2006) suggest that entrepreneurial research should focus on how environmental conditions, especially the manner in which structural changes and new institutional arrangements in an economy bring about new exigencies and opportunities for potential entrepreneurs. In their view, there is always a potential pool of entrepreneurs, but the "market" for the unique human capital offered by persons in this pool will vary according to the manner in which the institutions of the environment provide constraints and opportunities.

The relationship between significant shifts in the institutional environment, on the one hand, and the capacity of a small number of individuals to deal with this uncertainty would seem to be especially relevant in the case of nations that have been undergoing a transition from a command economy to some version of a market economy. Although the opening up of a market economy provides opportunities for significant material gains that were unavailable to most persons in the communist period [the party cadres being a significant exception (Rona Tas 1994) the realisation of these opportunities requires a set of attitudes and behaviour that were discouraged, with varying degrees of sanctions, in the highly bureaucratised command economy structure in the communist period. It is particularly important to note that this entrepreneurial requirement is not education *per se* (Baumol, Litan and Schramm 2007: 124–128). They point out that, *When various economists have attempted to find a statistical correlation between the amount of schooling and economic growth (controlling for other factors affecting growth) in various countries, they haven't been able to find one* (2007:125). The obvious case that explains the lack of correlation is the weak economic performance of the communist countries of Eastern/Central Europe and the Former Soviet Union, where universal education was of very good quality but the command structure of the institutional environment did not support entrepreneurship.

The aforementioned suggests, therefore, that an *attitudinal* component associated with technical knowledge may be important as a predictor of entrepreneurial behaviour. In particular, this means that entrepreneurs can be expected to have confidence that they possess the requisite skills to engage in production, marketing and sales on their own, or in collaboration with others, rather than as workers in a bureaucratic organisation. In the case of Moldovan agriculture this would translate into confidence about the ability to master the tasks associated with high value agricultural production, including the complex processes involved in irrigation, as well as understanding marketing and meeting quality standards of potential buyers of their products.

Uncertainty and Willingness to Take on Debt

There would seem to be great opportunities for rewards in Moldovan agriculture because the climate and access to irrigation provides the wherewithal to produce high value crops such as grapes, plums and other fruit. Assuming that a farmer possesses or believes that he or she has the technical knowledge to grow and market these crops, there remains an important obstacle to the development of a larger enterprise. This is the willingness of the farm operator to assume the necessary debt required to purchase equipment, such as irrigation sprayers to connect to an existing irrigation system that was created during the communist period or to build larger storage facilities for fruit and vegetables.

At its core, obtaining credit involves accepting a level of *uncertainty* about the impact of present actions on future outcomes. In a classic book on entrepreneurship, *Risk, Uncertainty and Profit*, Frank Knight (1921) points out that risk is something that can be anticipated and calculated in a quantitative way, as, for example, is done with actuarial tables that establish life insurance rates for persons of various ages and medical conditions. *Uncertainty*, however, is much more difficult to quantify, especially with respect to what are likely to be new production processes, markets and sources of funding for inputs. Those farmers who are willing to take on debt to increase the productivity and sales of their enterprises are also most likely to have the personality that Knight saw as central to successful entrepreneurship.

Perceived Access to Credit

There is likely to be an additional obstacle to entrepreneurship in post-communist societies that is rooted in uncertainty about the legitimacy of organisations that provide credit. Especially in the early years as a post-communist country, it is not unreasonable for individuals to have some anxiety about the permanence of market and democratic reforms. This might include, for example, uncertainty about the strength of institutions to provide third party enforcement of contracts, including those involving credit arrangements. Most borrowing during the communist period was conducted in informal networks through loans from kin and friends. For persons who have grown up in a non-market environment, borrowing money from banks or government loan programmes would be an exercise rife with perceived uncertainty. We might expect, however, that those persons who believe that lending institutions will serve them and live up to their contractual arrangements will be more entrepreneurial than their peers.

Farm Size and Entrepreneurial Attitudes

The process of the Land reform in Moldova following the collapse of the Soviet Union provides us with a unique opportunity to examine which attitudes are most likely to be associated with entrepreneurial activity following a dramatic structural change in a post-communist economy. In Moldova all individuals who had been working on collective farms during the Soviet period were given ownership rights to small parcels of land. Most households either rented out their shares to large enterprises or farmed small plots of land on their own. Although some independent economic activity in agriculture was possible in the Soviet Union through sales from small household garden plots, entrepreneurial activity was extremely limited. The dramatic opening of new opportunities to purchase and/or rent land in the post-Soviet period meant that there was the potential for small-scale farm operators to increase their productive capacity. Finding ways to increase the size of one's farm, therefore, can be viewed as an indicator of entrepreneurial orientation.

Members of the communist elites had significant advantages in gaining access to equipment, processing facilities and marketing capacity (Rona-Tas 1994). In Russia, for example, many of the former collective farm chairmen became, in effect, brokers who bought commodities from small-scale household producers and sold them in regional markets. Yet, other researchers using more sophisticated multivariate techniques have found support for the so-called "selection theory" which posits that at least some of those who have been the most economically successful in the post-Soviet period in fact possessed entrepreneurial skills that were unleashed when the institutional environment changed to a market economy (Gerber 2001). This view is consistent with that of Schultz (1975), Klein and Cook (2006) referred to above.

Moldova proclaimed its independence from the Soviet Union on August 27th, 1991. In contrast to Russia, however, post-Soviet Moldovan land privatisation was very swift. Members of collective farms were issued certificates of ownership of plots of land which they could either farm themselves or lease to other citizens. Although there may have been a hope, especially among Western economists, that many Moldovans would sell their land and thus provide a land market that would result in the creation of middle-sized family farms, the vast majority of new land holders chose to retain ownership of their property and either work small plots or lease their land to large enterprises. Nonetheless, the existence of secure property rights,

the absence of legal impediments to land ownership and especially institutions to support formal leasing arrangements provided an environment in which a small but significant number of Moldovan households, often in partnership with several other households increased the size of their farms.

By the end of 2000 more than 1,500,000 hectares of agricultural land had been transferred to 1,100,000 new owners, with an average holding of 1.3 hectare per landowner, often in several non-contiguous parcels. In other cases, landowners left the land fallow, farmed it directly, leased or sold it to other small farmers thereby forming small 'individual' farms averaging just 2 hectares. In 2003, individual (or "peasant") farms constituted 40% of total agricultural land. In 2003 nearly 40% of households surveyed leased out land to large farm enterprises. At present, the general consensus is that there are approximately 1,500 corporate farms, farming an average of 400–800 hectares, constituting from 33–42% of total agricultural land use.

As a result, Moldova's agricultural production is bifurcated between large corporate farms (primarily producing grains) and smaller/individual farms (primarily producing fruits and vegetables). The range for the reported number of small, "peasant" farms is from 300,000 to 558,000 with the average size ranging from 1.9 to 1.3 ha depending on source/report. The World Bank reports that approx 82% of total owner operated farms are less than 50 ha and about 80% are less than 10 hectares. A recent published study, however, indicates that the smaller independent farms are more productive than the large corporate farms (Lerman and Cimpoies 2006; Lerman and Sutton 2008, Ministerul Economiei şi Comerţului 2007; USAID 2006; World Bank, 2005, 2006).

Research design

The research design for the survey described below allows for a comparison of the extent to which small and medium-sized farm operators in Moldova subscribe to the different aspects of entrepreneurial outlook that have been described above; technical knowledge of different aspects of high value agriculture, willingness to deal with uncertainty and debt, and perceived access to credit.

Sampling Strategy

The sampling strategy was designed to compare how different sized farms in Moldova would react to a planned rehabilitation of a large-scale Soviet-era

irrigation system that was jointly sponsored by the Millennium Challenge Corporation USA and MCA Moldova. The survey of farms was conducted by the University of Missouri under contract with the United States Department of Agriculture (USDA). The Sub-Contractor in Moldova, which had responsibility for actual data collection, was ACSA, the National Agency for Rural Development (see O'Brien et al. 2009 for details on the research design of the survey).

A stratified sampling design was employed to compare the organisation of different sized farms. The sampling frame was a population of farms located within 16 Central Irrigation Systems (CISs) along the two major river basins in the country – the Dniestr and the Prut – as well as a sub-sample of farms located next to lakes and ponds. Thus, the sampling frame covered a large swath of rural Moldova in which irrigation was at least potentially possible.

Three strata of farms were sampled: small – < 10 ha; medium – 10–100 ha; and large – > 100 ha. The large > 100 ha enterprises are essentially collective farms that were re-organised into corporate farms and are not included in the analysis reported in this paper. Our primary concern in this analysis is to examine the entrepreneurial characteristics of respondents in small versus medium sized farms.

Because of the large number of small farms, a sample of that stratum was drawn, but the limited number of medium sized farms permitted a survey of all of them. Within each farm household selected for the sample, both a male and

Table 1. Mean Hectare Cut Points for Ten Equal Groups of Farm Size in the Sample of Moldovan Farms, from lowest to highest (N=600 farms; 1198 respondents)

Percentiles	Mean
10	.7410
20	1.1000
30	1.5060
40	2.0000
50	2.5400
60	3.3000
70	5.2000
80	10.4000
90	24.7200
Sample Mean	9.9277
Sample Standard Deviation	19.59

Source: Survey of Moldovan Small and Medium Farms

a female "head of household" was interviewed separately if both were present. The interviewers were trained ACSA Extension personnel, with considerable experience in rural/agricultural surveys that are conducted in Moldova on a regular basis. Table 1 shows the distribution of different farm sizes with the sample. The total population of medium size, 10 to 100 hectares, farms accounts for 20 per cent of the total sample. The stratum of small farms, less than 10 hectares, contains considerable variation, ranging from 0.74 hectares to 9.90 hectares. The cut off points for ten equal groups of farm size in the sample is shown in Table 1.

Measurement

The survey instrument contained a number of questions to elicit respondents' degree of agreement or disagreement with the three aspects of an entrepreneurial outlook. Responses to these questions were then analysed with factor analysis and the derived factors then became the basis for forming scales for each of the three dependent variables.

Findings

A factor analysis identified three factors that roughly correspond with the aspects of entrepreneurial outlook that were discussed above. The factor loadings are shown in Table 2.

The first factor, which accounts for the most variance (36 per cent) in responses to all of the questions, is that of "technical knowledge", which is made up of respondents' confidence, about their knowledge in critical areas that are essential in developing a successful operation for the production and sales of high value agriculture. On a scale of 1 to 5, respondents were asked to assess their degree of knowledge about the following: "irrigation techniques", "marketing", and "meeting buyer's expectations for volume and quality."

Both the second and third factors, which account for 17 and 16 per cent of the variance, respectively, deal with attitudes about trying to access credit to develop household enterprises. The second factor, "perceived access to credit", is drawn from respondents' views of the likelihood that banks, savings and credit institutions would lend money to people like them. On a scale of 1 to 5, respondents were asked for their level of agreement with the following: "banks do not offer loans to farms like ours"; "savings and credit associations do not offer loans to farms like ours"; and "banks, savings and

Table 2. Factor Analysis – Rotated Component Matrix of Indicators Used in Entrepreneurial Scales

	Component		
	1% of Variance – 36.1 Technical Knowledge Scale (Alpha=.80)	2% of Variance – 17.2 Perceived Access to Credit Scale (Alpha=.770)	3 % of Variance – 15.5 Uncertainty and Debt Scale (Alpha=.725)
It is risky for us/me to take on debt. (q. 18.1)	–.141	.117	.817
It is difficult for us/me to satisfy bank's collateral requirements. (q. 18.2)	–.177	.129	.811
The cost of credit is too high to make borrowing worthwhile. (q. 18.3)	–.055	.028	.746
Banks do not offer loans to farms like ours. (q. 18.4)	–.160	.815	.118
Savings and credit associations do not offer loans to farms like ours. (q. 18.5)	–.121	.862	.041
Banks and SCAs do not provide loans of the maturity that farms like ours need. (q. 18.6)	–.064	.760	.105
Farming, irrigated crops and techniques of irrigation. (q. 23.1)	.848	–.065	–.097
Marketing of irrigated crops in domestic markets. (q. 23.2)	.861	–.135	–.080
Meeting buyer's quality, volume, and other expectations for fruit and vegetables. (q. 23.4)	.770	–.163	–.219

Source: Survey of Moldovan Small and Medium Farms

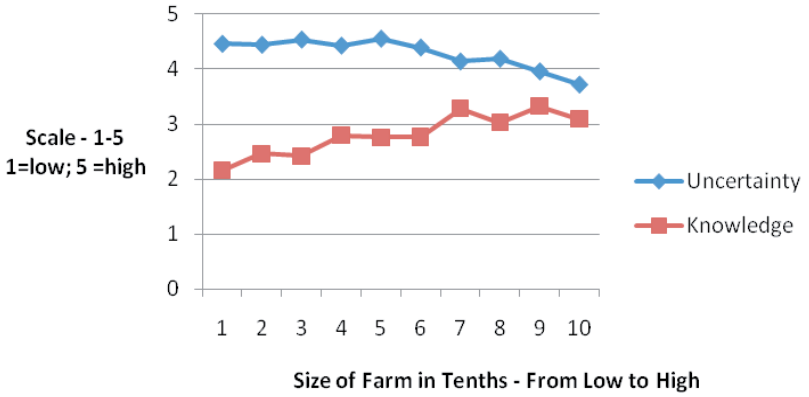
credit associations do not provide loans of the maturity that farms like ours need." The third factor, "uncertainty and debt", refers to the extent to which farm operators are willing to deal with uncertainty associated with borrowing money to expand their enterprises. On a scale of 1 to 5, respondents were asked for their degree of agreement with the following: "it is risky for us/me to take on debt"; "it is difficult for us/me to satisfy the bank's collateral requirements"; and "the cost of credit is too high to make borrowing worthwhile."

Table 3. Mean Scores of Small (< 10 ha) and Medium (10–100 ha) Size Farm Operators on Entrepreneurial Attitude Scales in Moldova (N=1116)

Farm Size	Technical Knowledge Scale (Scale 1–5; positive score= higher knowledge)	Perceived Access to Credit Scale (Scale 1–5; positive score = less access)	Uncertainty and Debt Scale (Scale 1–5; negative score = less risk averse)
< 10 ha	2.7214	2.7987	4.3848
10–100 ha	3.2047	2.5150	3.8389
Total	2.8147	2.71443	4.2817
ANOVA	F (1)=38.794, p<.001	F (1)=7.422, p<.01	F (1)=82.879, p<.001

Source: Survey of Moldovan Small and Medium Farms

Figure 1. Uncertainty/Debt and Technical Knowledge by Size of Farm (in Tenths)



Source: Survey of Moldovan Small and Medium Farms

Table 3 shows the mean scores of different sized farm operators on scales constructed from the three factors associated with an entrepreneurial outlook (the alpha reliability levels for each of the scales is shown in Table 2). There are statistically significant differences between respondents from the small and medium farm households on all three factors, but the ANOVA F test results show that there is a much stronger relationship between farm size and the "technical knowledge" and "uncertainty and debt" scales than there is between farm size and the "perceived access to credit scale." Regression analyses (not shown here) indicated that the relationship between farm size and responses to the "technical knowledge" and "uncertainty and debt" scales remained statistically significant after controlling for the effects of household demographic variables, including age, gender, education and level of labour

available in the household. The relationship between farm size and responses to the "perceived access to credit" scale, however, was not statistically significant when the control variables were introduced into the equation.

A more nuanced picture of the relationship between farm size and responses to the "technical knowledge" and "uncertainty and debt" scales is shown in Figure 1. This chart breaks down the mean level of responses of each farm size broken down into ten equal groups which are shown on the horizontal X axis. The corresponding cut off points for each of the ten farms was shown earlier in Table 1. On the vertical Y axis are the numbers 1 to 5 indicating responses to the items that constitute each of the two scales.

The top trend line shows that the decline in the mean scores on the "uncertainty and debt" scale, indicating a greater tolerance for dealing with inherently uncertain entrepreneurial activities, begins in farms which fall into the sixth (out of ten) largest sizes. The cut off point here is 3.3 hectares (see Table 1 for farm cut off sizes). Compared to the scale of farming operations in Western Europe and North America, this may seem like a relatively small incremental gain in scale, but apparently in the case of Moldovan farms this represents a critical change in attitudes toward what many researchers have seen as the central component of the entrepreneurial outlook. The bottom trend line shows a much steeper gain in knowledge pertaining to high value agriculture enterprises with even small incremental gains in size of farms.

Conclusion

An important cautionary note must be added to our concluding comments on the comparison of entrepreneurial attitudes among smaller and medium sized farm operators in Moldova. We do not know the extent to which the sorting of individuals into different sized farms was a result of a previous attitude-set that made them more entrepreneurial than their counterparts who remained in smaller-scale operations versus the extent to which operating larger scale operations has an independent causal effect of enhancing entrepreneurial attitudes simply by engaging in certain practices that their counterparts in smaller sized farms do not engage in as frequently or on such a scale. In order to scientifically answer that question precisely it would be necessary to conduct a panel study to follow decisions by Moldovan farmers from the beginning of land privatisation to some point in the future. We did not have that option in this survey.

Nonetheless, panel data from Russian rural households from the early post-Soviet years up to 2003 support the view that among the large group of non-communist party elites, the average "peasant households", variation in entrepreneurial outlook was associated with significant differences in agricultural production and sales (O'Brien and Patsiorkovsky 2006: 75–94). Our findings are also consistent with Gerber's (2001) findings that pre-existing attitudes toward entrepreneurship are a powerful explanatory variable in accounting for success in post-communist societies and DeSoto's (2000) assertion, based on cross-national surveys, that the most important obstacle to entrepreneurship in transitional societies is not the lack of individual "talent" but rather the lack of institutional arrangements to encourage the development of talent that already exists. It would appear that this is exactly what has happened in Moldovan agriculture.

The unique contributions of the study reported here is that we can empirically differentiate between two relatively distinct components of entrepreneurship. The factor analysis shown in Table 2 identified the traditional focus of Knight (1921) on the willingness to deal with uncertainty, which is indicated by a willingness to take on debt, but also an aspect of small scale entrepreneurship which involves the ability and willingness to learn a new complex mix of skills (see Schumpeter 2000), which in the case of Moldovan high value agriculture means marketing, farming techniques and knowing buyers' preferences and how to meet them.

The differentiation between smaller and medium-sized farms, in both behaviour and attitudes reflects a growing differentiation in the countryside of the Eastern European and Former Soviet Union countries (O'Brien, Patsiorkovsky and Wegren 2008), which has significant long-term consequences for subjective as well as material quality of life (O'Brien, Wegren and Patsiorkovsky 2010).

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