The Economics of Farm Organization in Transition Countries

The farm structure determines which products the country will be internationally competitive in

Pavel Ciaian, Jan Pokrivcak, Dusan Drabik

The structure of agriculture in former communist countries was strongly biased towards extremely large farms directly controlled by the state. The average farm size ranged from 1,157 hectares in Poland to around 124,770 hectares in Turkmenistan. For comparison, the average farm size in the EU-15 was 20 ha, and in the USA 197 ha.

In the beginning of the 1990s farm restructuring followed after privatization and restoration of private property rights. New owners of farm assets and land were allowed to break away from cooperative farms and start family farming. At the same time, some old socialist cooperatives were turned into cooperatives of owners of agricultural assets, joint-stock or limited-liability companies or partnerships. Depending on the methods of privatization and state policies, different farm structures emerged in different countries. While in Albania and the Baltic States many small size family farms were created (see Table), agriculture in Slovakia, the Czech Republic and most former Soviet Union (FSU) countries are still dominated by large transformed corporate farms.

Comparative Advantages

Farms choose the production structure in which they have comparative advantage. The comparative advantage of large corporate farms is in capital intensive products for which monitoring of labor is relatively low and in which specialization in labor is possible. Small family farms have comparative advantage in products in which labor monitoring is important, measurement of labor effort is difficult and capital intensity is unimportant.

Significant transaction costs explain why corporate farms can keep their dominant position in Central and Eastern Europe (CEE) and the FSU. However, corporate farms compete with family farms for land resources and in domestic and international output markets. High transaction costs protect the existence of corporate farms, but they still have to choose the production structure that most strengthens their competitiveness on the land market relative to growing family farms, and on the output market relative to domestic family farms and international competitors. Thus, in transition countries the crucial choice is not between farm organization, but rather what production structure is chosen by corporate farms and family farms, respectively.

Our empirical investigation of agricultural commodities, in which family farms and corporate farms, have comparative advantage, takes into account labor monitoring requirements and capital intensity by farm types in ten transition countries in CEE and in the EU-15. We find that:

- Corporate farms have comparative advantage in cereals and oilseed production, which have low labor requirement and are capital intensive;
- Family farms have comparative advantage in permanent crops (such as fruits), which have high labor requirement and low capital intensity;

Farm Structures in Selected Transition Countries

	Family Farms		Transformed cooperative farms	
	Share of total agricultural land (%)	Average size (ha)	Share of total agricultural land (%)	Average size (ha)
Albania	96	-	4	-
Czech Rep.	28	20	72	937
Hungary	59	4	41	312
Kazakhstan	20	-	80	-
Latvia	90	12	10	297
Lithuania	89	4	11	483
Poland	87	8	13	-
Russia	11	-	89	6100
Ukraine	17	-	83	2100

Note: data from various years from 1997 to 2003 from national ministries of agriculture/statistical offices

Additional empirical tests confirm that the observed product specialization is indeed as stated above and is similar both in CEE and the EU-15. However, the evidence is mixed for animal sector and field crops (potatoes and sugar beet). In CEE small farms (which use more labor intensive technology) specialize in field crops, while the opposite is true for the EU-15 (where production is more capital intensive).

Consistent with the above, a test at the country level finds that in countries where the share of family farms on land use is higher, a smaller area is allocated to cereals and oilseeds and more to labor intensive crops. In these countries the number of livestock and pigs per ha is higher than in countries with a lower share of family farms on the land.

Conclusions

Thus, the farm structure determines which products the country will be competitive in on international markets. As high transaction costs hinder the change of farm organization in transition countries, the choice of product structure is more important than the choice of farm organization.

Moreover, when comparing efficiency of family and corporate farms, the transaction costs of using markets should also be taken into consideration. In many transition countries, output markets suit large corporate farms and prevent the development of family farms. Labor intensive products usually require different types of contracting and vertical integration than, for example, capital intensive products.

Pavel Ciaian is a researcher at Katholieke Universiteit, Belgium, and Slovak Agricultural University in Nitra, Slovakia, Jan Pokrivcak, Dusan Drabik are from Slovak Agricultural University in Nitra, Slovakia. The paper was presented at the joint IAAE-104th EAAE Seminar "Agricultural Economics and Transition" in Budapest in 2007. **BT**