

Extended Abstract
Please do not add your name or affiliation

Paper/Poster Title	Subsidies and Employment: Exploring the experience in Russian farm economy
---------------------------	---

Abstract prepared for presentation at the 96th Annual Conference of the Agricultural Economics Society, K U Leuven, Belgium

4th – 6th April 2022

Abstract	<i>200 words max</i>
<p>The paper evaluates the effect of agricultural subsidies on agricultural employment in Russia to reveal the differential effects of different forms of government support on the two distinctive sectors characterising the farm structure in Russia – agricultural enterprises (corporate farms) and family sector. The paper models the two sectors separately assuming different objective functions – profit maximisation for enterprises and utility maximisation for the family sector. Empirical estimations are based on subsidy data from the Ministry of Agriculture. The empirical model is characterised by endogeneity and its identification strategy follows Lewbel (1997). Results show that capital (investment) subsidies increase employment in both sectors. Production subsidies increase employment in the family sector characterised by low labour elasticity, but reduce it in the more labour elastic enterprises sector. Other subsidies appear to increase employment in agricultural enterprises but reduce it in the family sector. The remaining covariates have opposing signs in the two models. The results suggest a qualitative difference between the agricultural enterprises and the family sector in Russia, and their different responses to some forms of agricultural support.</p>	
Keywords	Agricultural employment; agricultural subsidies; Russia
JEL Code	C23, C26, E24, Q18
Introduction	<i>100 – 250 words</i>
<p>The objective of this paper is to evaluate the potential employment effects of agricultural subsidies in Russia. The main research question is whether the taxpayers money spent on agricultural subsidies produce a desirable social outcome, i.e. jobs in rural Russian communities. We consider this issue in the light of inherent heterogeneity of agricultural production structure of Russian agriculture which comprises agricultural enterprises alongside family farms and household plots.</p> <p>Since 2002 rural development has been included explicitly in the State Programmes for Development of Agriculture. In the current programme (2013-2025) the target is to maintain a minimum share of rural population of 25.3% by 2025 and to tackle the problem of a lack of rural jobs.</p>	

Capital, output (production) and other subsidies are used in Russia. Capital subsidies are interest subsidies given to borrowers on long-term investment loans. There is a list indicating the use of these loans to be eligible for subsidies. The eligibility requirements for production subsidies include either a minimum share of output sold or an obligation to increase the sold quantities. If these requirements were not satisfied, producers had to return the subsidy.

Capital subsidies are expected to lead to a capital/labour substitution which would decrease employment. Production subsidies are expected to increase labour usage in the family sector, characterised with smaller labour elasticity, but possibly lead to negative labour effects for the enterprise sector which has higher labour elasticity and is likely to exhibit lower capital elasticities. Finally, the employment effects of other subsidies could be ambiguous.

Methodology

100 – 250 words

The main unit of analysis is the region and all data is at regional level (78 regions 2006-2010, 2012-2015; no published data for 2011).

The two dependent variables (for enterprise and family sector) are expressed as an annual change in the rate of employment. The subsidies are measured as a share of the value of the regional agricultural output. Based on a conceptual model, the following covariates are employed: the relative wages in agriculture compared to the rest of the economy, regional unemployment rate, regional population density and regional labour intensity.

There are two econometric issues that have to be considered: the possible endogeneity and individual or time heterogeneity due to the panel nature of the data set. These two issues are inseparable. They have to be simultaneously and concurrently examined - the endogeneity implementation depends on correct specification of the corresponding panel data effects, while the tests for these subsume the endogeneity issue by using modelling specification that accounts for it.

Endogeneity arises from the fact that a common process drives general unemployment and the two agriculture sectoral employment rates. The conventional approach relies upon instruments. It is however difficult to find appropriate instruments that can fully identify the variation in the endogenous variable. The quite common reliance upon lagged values of the covariates did not in that instance provide a valid identification. Owing to this, the strategy in this paper follows the approach suggested by Lewbel (1997) which uses non-linear transformations of exogenous variables to construct valid instruments.

Results

100 – 250 words

Following standard tests, the panel model specification used fixed time effects.



The first point of interest is the effect of the capital subsidies, which were expected to create a capital/labour trade-off and hence have a negative effect on employment. While the above effect is statistically significant for the family sector, it is not so for the enterprises (despite having the expected sign).

The expected labour increasing effect of product subsidies on the family sector is confirmed. Due to its higher reliance on labour and its lower labour elasticity, the family sector has to increase its labour usage to meet the increased output/sale requirements to be eligible for production subsidies. The effect of production subsidies on the agricultural enterprises is negative. Due their more capital-intensive nature they rely more heavily on capital to meet such requirements.

Finally other subsidies appear to reduce employment in the family sector but increase it in the enterprises sector

Discussion and Conclusion

100 – 250 words

Results indicated that investment subsidies work in a conventional capital/labour substitution framework in that they reduced employment in the sector to which they directly applied, but also indirectly increase employment in the alternative agricultural sector.

Production subsidies reduce employment in the enterprise sector, but increase it in the family sector, reflecting the different reliance on labour of these two sectors, and the predominance of household plots in the family sector.

One of the general conclusions of the study is that from employment point of view the family sector acted as a 'residual' sector driven by the developments in agricultural enterprises and in the wider economy. So, a direct policy support for employment reasons is not an appealing proposition. However, it seems that more policy-oriented research is necessary to inform policy-makers of the consequences for the family sector of public support to agricultural enterprises and other non-agricultural industries.

In summary, whilst by design the agricultural support policies in Russia might have been expected to reduce agricultural employment, the combination and implementation of different support mechanisms, and the existence of large semi-subsistence household plots sector have led to some unintended employment spillovers.