



## Security of property rights and transition in land use<sup>☆</sup>



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### ABSTRACT

**Nizalov, Denys, Thornsbury, Suzanne, Loveridge, Scott, Woods, Mollie, and Zadorozhna, Olha**—Security of property rights and transition in land use

Price and yield uncertainty are traditional considerations in agricultural markets and their impact on development. Agricultural producers in transition economies face an additional risk factor – changes in the institutional protection of property rights. This paper illustrates how institutional uncertainty may affect investment, land use, and crop mix patterns. In particular, in the Ukrainian example, the rights of tenants are viewed as uncertain in anticipation of establishment of an open market for sale of agricultural land. Establishment of the land market in Ukraine has been postponed several times over the last 15 years and a significant number of lease contracts are not formalized. A large panel of farm-level data was used to show that a higher share of rented land is associated with a lower share of land used for investment intensive perennial crops controlling for prices and other factors. The difference in response to uncertainty is found to be significant among three crop types: perennials, grains and oil crops. The implication is that the lower level of protection of use rights and uncertainty regarding the future regulation of land sales market lead to under-investments in more capital intensive crops. As a result, tenants deviate from the optimal crop mix, reducing the productivity of tenant farms. Farms under 200 ha are affected most negatively as they are less likely to be able to access the level of legal and political protection enjoyed by large farms. *Journal of Comparative Economics* 44 (1) (2016) 76–91. Kyiv Economics Institute at the Kyiv School of Economics, Ukraine, University of Kent, United Kingdom; USDA Economic Research Service, United States; Michigan State University, United States; Lazarski University, Poland.

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## 1. Introduction

Price and yield uncertainty are traditionally considered to be important impediments to development of a country's agricultural sector and rural areas. Developed countries for example, often implement programs intended to reduce farmer exposure

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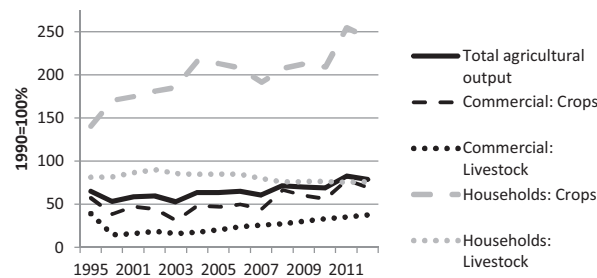


Fig. 1. Index of agricultural output, Ukraine, 1995–2012.  
Data: State Statistics Service (2013).

to price and yield fluctuations. In addition to these traditional sources of uncertainty, agriculture in transition economies face additional uncertainty factors including changes in the institutional protection of property rights. This paper illustrates how such institutional changes affect the land use, crop mix patterns and land-related investments in Ukraine.

Ukraine is often characterized as a “breadbasket” of Europe due to its agricultural potential (Bezlepkin et al., 2013). The country has some of the richest arable land in the world and is among the largest agricultural producers. For example, Ukraine belongs to the top 10 global producers and exporters of wheat, corn, and sunflower oil (FAO, 2010). Ukraine has twice as much cropland as France and three times more than Germany or Poland; however, production remains at a low level compared to potential in the sector.

The State Statistics Committee of Ukraine publishes annual reports of agricultural production by sub-sector (subsistence household farms vs. commercial farms; livestock vs. crop production) (Fig. 1). In 2012 Ukraine’s agricultural production level was only 79 percent of the 1990s (State Statistics Committee, 2013). This decline results primarily from a substantial drop in production by commercial farms (former collective farms), which produced 82 percent of agricultural output in 1990. These farms were largely affected by institutional changes in input and output markets as well as by changes in ownership, organizational structure and management. In contrast, household crop production continued to show growth despite the turmoil of transition. Output from households more than doubled during the last 20 years. For many households, both in rural and urban areas, subsistence farming was one of the major coping strategies during the transition crisis and about 50 percent of households combined subsistence and commercial farming in 2012 (State Statistics Committee, 2012).

Ukraine’s declining agricultural output is mostly due to how the sector is organized, rather than depleted soils or droughts common in other parts of the world.<sup>1</sup> With world population predicted to rise to 9 billion by 2050, returning Ukrainian agriculture to its former productivity or expanding output above former historic highs could be a key in addressing the global challenge of food security. Restoring Ukraine’s agriculture could also reduce pressure to expand cultivation into fragile equatorial forest ecosystems needed to reoxygenate the air. Unlike many developing countries, increasing Ukraine’s agricultural productivity is not overly dependent on varietal improvements or bringing new acreage into production. Ukrainian climate and soils are similar to highly productive systems in Western Europe, the U.S., and Canada, where there are high levels of agronomic research investment from both public and private sectors. Varietal improvements, if needed, should therefore not be difficult. As Ukraine’s adult literacy rate is over 99 percent (UNESCO, 2009), adoption of new agricultural techniques should present few difficulties in terms of human capital. Several cases of new industrial farms confirm this statement. Moreover, Ukraine is a very urbanized country<sup>2</sup> with potential for efficient large-scale farming without the trauma of relocating a rural population.

This descriptive evidence suggests that institutional changes to reduce uncertainty and provide better protection of property rights could contribute to agricultural output growth, improvement of the national trade balance, and contribute to global food security. These changes are likely to be addressed by the new government as a part of its Development Strategy 2020. Accession to WTO in 2008 and signing the Trade Agreement with the EU opens up additional opportunities for agricultural export and provides incentives for expansion. However, empirical evidence is needed to support the above conclusion and the proposed development strategy.

Besides addressing the practical importance of property rights protection, this paper contributes to a large literature on agricultural productivity. Several papers explain the gap in agricultural productivity with misallocation of labor (starting with Rosenstein-Rodan, 1943; Lewis, 1955 and Rostow, 1960; to more recent Gollin et al., 2014) and capital (e.g. Restuccia and Rogerson, 2008; Hsieh and Klenow, 2009). This paper shows that misallocation of land is yet another determinant of productivity gaps. The role of institutions is critical in this misallocation. Hall and Jones (1999) and Acemoglu et al. (2001) among others have shown the importance of strong land property rights in improving mobility and allocation of labor in the agricultural sector. This paper provides empirical evidence that insecure rights for land lead to allocation of land to less risky but lower value added and less capital intensive crop enterprises.

<sup>1</sup> Ukraine can be characterized as a land abundant country. The decrease in output is related primarily to decreased productivity of commercial farms (former collective) during 1990s. For further discussion see Deininger and Nizalov (2013) and Nizalov et al. (2015).

<sup>2</sup> In 2012, 68.9 percent of population was urban (State Statistics, 2013). With a rural population of 14M, roughly half (6.8M) are in the labor force; of them, 0.7M are employed in agriculture.

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