

## Agricultural Land Markets – Recent Developments and Determinants

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Land is a crucial production factor in agriculture. In developed countries this factor is usually in short supply and its total agricultural area generally declines over time due to increasing non-agricultural uses. Particularly in recent years land prices have increased significantly. A main driver for the growing attractiveness of investments in agricultural land can be seen in the recent boom in food prices. Farms aiming to realise economies of scale and hoping to benefit from this boom have caused price pressure on the land market. On a global level, primarily in developing and emerging countries, large-scale land acquisitions have been realised and have received attention under the term “land grabbing”. In some parts of the world, the rising demand for farmland has entailed an expansion of the total cultivated area. However, in most industrialised countries, farmland expansion is not an option. After the 2008 financial crisis, the low profitability of other financial assets and low interest rates led to a (re)discovery of the agricultural sector, also by non-agricultural investors. There is evidence that in times of diminishing confidence in financial assets, investments in land are preferred by investors to preserve wealth and to hedge against inflation.

In general, any changes in farmland values are relevant to stakeholders such as landowners, farmers and lenders. This is because land generates an income stream for landowners and may constitute an important share of the retirement portfolios held by previous farmers. Moreover, farmland values have an impact on the solvency of farmers and their access to capital. The price of land is also relevant for structural change within the sector because land prices influence both the dynamics of farm growth and the timing of farm exits. While high land prices constitute an incentive to quit farming, they also form a barrier for potentially expanding farms. Though the analysis of land markets is a core topic in agricultural economics, many questions remain unanswered. For example, do land prices reflect the current price boom for agricultural commodities and bio-energy? Can land prices be

fully explained by fundamental factors or are they also driven by speculative bubbles? How do direct payments transmit to land prices? Further, what is the role of non-agricultural investors? Should land markets be regulated? And if so, what are the most efficient instruments for regulation?

The aim of this Special Issue is to improve our understanding of recent developments on land markets. Of particular interest are the roles of non-agricultural investors, institutional land suppliers, the price formation process in land market auctions, as well as the impact of decoupled area payments and regulatory control over land conversion on land prices.

This Special Issue consists of five contributions dealing with the aforementioned aspects both theoretically and empirically. The empirical analyses focus on Germany but also consider the Czech Republic and Malaysia.

The volume starts with a meta-analysis of the determinants of agricultural land prices provided by Feichtinger and Salhofer. The focus here is on the capitalisation of governmental payments into land prices. Under increasing shares of rented land per farm, it is of particular interest to determine whether the payments arrive at the operating farmer. A direct comparison of different studies using different data, models and time periods, but also analysing different types of payments is challenging. Therefore, the authors control for different types of support payments within a meta-regression to estimate the capitalisation elasticity. The authors find that on average over all support measures, up to one-third of the support is capitalised into land prices, but this finding depends on model assumptions, data structure and estimation techniques.

Tietz, Forstner and Weingarten investigate the role of investments in agricultural land through non-agricultural and supra-regional investors in Germany. The authors draw upon three regional case studies in the New Federal States (former GDR), and on one case study in the Old Federal States of Germany. It

turns out that it is challenging to clearly define the group of non-agricultural investors, and it seems appropriate to distinguish between different types of investors, particularly land investors and firms' cooperation with capital involvement like the purchase of shares in farm corporations. Non-agricultural investors are more relevant in Eastern Germany though the magnitude of their activities and their relevance differs regionally. The core result is that the group of 'non-agricultural investors' is quite heterogeneous, and so is their impact on regional land markets. While it seems indisputable that investors have a strong willingness to bid for land at a high level, their promoting role as a regional employer or within the village culture is often neglected.

Although the determinants of agricultural land prices have received considerable attention, little is known about price formation on structured markets such as land auctions. Hüttel, Odening, Kataria and Balmann empirically test theoretical predictions regarding price formation in land market auctions. Their analysis was conducted for the Federal State of Saxony-Anhalt in East Germany, where the privatisation of state-owned land constitutes a significant share of the agricultural land market. The utilised data consists of public auction data provided by the Landesgesellschaft Sachsen-Anhalt (i.e. the rural development agency in Saxony-Anhalt), and covers approximately 700 calls for bids from 2003 to 2010, supplemented with regional and structural data. Spatial correlation of land prices is considered by applying a spatial econometrics approach. The authors' findings show that apart from land characteristics, the number of bidders and the share of non-agricultural investors have a significant impact on the land price.

Curtiss, Jelínek, Hruška, Medonos and Vilhelm analyse the impact of the type of buyer on land prices in the Czech Republic. Applying a hedonic land pricing model on data from 579 land sale contracts from five districts from 2008 to 2010, the authors find strong evidence that land prices are affected by buyer-specific characteristics and buyer-specific interests in land characteristics. Non-agricultural buyers overbid agricultural buyers in certain locations and site characteristics, while non-agricultural bidders seem to be less interested in productive qualities. Among agricultural buyers, individual private farms and limited liability companies pay price premiums, while joint stock companies and cooperatives enjoy land price discounts. These organisations' members and shareholders'

economic interests, as well as personal relationships and loyalties may explain these land price discounts. On the contrary, the price premium paid by private farms and limited liabilities seems to be driven by their specific interest in the high quality of the land.

Finally, Khalid, Lloyd and Morgan develop a hedonic model of agricultural land prices to investigate the efficacy of planning controls that target regulating the conversion of farmland. While the development potential (commercial, industrial and residential) of farmland affects agricultural land values in all countries, its impact is probably higher in emerging economies where development pressure is strong and planning law is often weakly enforced. The authors show that if planning controls are weakly enforced or periodically relaxed, a development rent for agricultural land emerges on top of its agricultural value. The magnitude of this additional price component is estimated for the Malaysian land market using an extensive dataset of over 2,000 land sales. The analysis reveals that the development rent is in fact large, exceeding 400 percent of agricultural value in some cases. It is concluded that the development rent reflects factors that have led to ad hoc and inappropriate developments in agricultural land.

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