

Does farmland market regulation generate utility? Discussing arguments and actors within the German land transaction law.

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Abstract

Farmland market regulation and the respective political instruments are very present in the current discussion, especially since the market faces big price increases. In the European Union, several instruments exist. The evaluation and discussion of those instruments is complex and shaped by subjective arguments. Not only are their utility for the society questioned, but also their accuracy and efficiency. Within those points, different concerned parties might have a different focus and different requirements to the regulation instruments. In this article, we intend to enrich and structure the discussion about farmland market regulation. We present an analytical framework for arguments and parties within farmland market regulation. As an example, the German land transaction law is broken down by process, parties and arguments. The framework allows to weight arguments individually. It implicates two results: First, considers conflicting interests in a clear form. Second, a linear utility curve can be calculated which determines the minimum share of pre-sales right executions to achieve a positive aggregated utility. Hence, the framework is able to analyze the utility of the German farmland transaction law from different perspectives.

Keywords

Analytical framework, German land transaction law, policy analysis, land market

1 Introduction

Non-agricultural activities on farmland markets, price increases and a shrinking farmland supply are quite present in agricultural economics research and discussions. Within this, the call for market regulation becomes louder, especially amongst farmers who are in need for farmland. In the European Union, several instruments to regulate farmland markets exist. For example, France, Germany and Sweden have institutions which must approve farmland transactions (Hoffmeister, 2019; Lapping and Forster, 1982). In Hungary and Lithuania, land owners face a maximum amount of land they can buy (Biro, 2008; Ciaian et al., 2012). Belgium, the Czech Republic, France and Italy grant pre-purchase rights for farmers or tenants (Ciaian et al., 2012). This is only a small excerpt of the political regulations,

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which are discussed broadly in recent research. Politicians, scientists, the press and agricultural professionals debate the need and the functionality of regulatory instruments. Within this discussion, participants were not only confronted with far-reaching effects of political interventions, but also with conflicting arguments and the needs of potentially affected parties. The intention behind those instruments might be that the legislature is striving for a functional agricultural structure to feed the population, lively rural areas and regulated land use change (Netz, 2018). On the one hand, there are arguments that the market needs freedom in order to be able to regulate itself optimally. Representatives of these arguments point to the inadequate and untargeted exercise of the various laws (Hoffmeister, 2018; Busse, 2019). On the other hand, voices call for such laws to be formulated more strongly. They emphasise the importance of such laws for the protection of farmers, the agricultural landscape and rural areas (Netz, 2018; Schürer, 2021). However, the discussion about such regulations is often disabled by a lack of objectivity and the complexity of the instruments and its effects.

The objective of this paper is to contribute to this discussion by analyzing affected parties and contrary interests within the German land transaction law. The law and its utility shall be evaluated with a neutral consideration of all aspects and from different perspectives. The analysis is providing an analytical framework which can be used by politicians and other parties to enrich their own discussion and argumentation in this matter.

This analytical framework is developed to investigate and weight actors and arguments. It is an appropriate case study for discussing farmland market regulation instruments in general, since it is relatively strong and central in the public and political discussion. To our knowledge, we are the first to develop an analytical framework to evaluate the German farmland transaction law.

The article is structured as follows: The second section gives an overview upon the economic perspectives on farmland market regulation instruments and provide the economic foundation for the analytical framework. In the third section, the German farmland transaction law will be explained briefly. The fourth section provides the analysis of the framework and the fifth section concludes.

2 Economic foundation

Market regulation is a controversial topic within policy analysis research. Traditionally, economists plead for regulation when market failure exists (Parker, 2002). The German land transaction law has been established in advance to prevent from market failure: policy makers wanted to secure food supply for the population, especially after world war II. They fear the risk of food scarcity and developed the law with the goal to prevent from land fragmentation and to support landless farmers and tenants. A save and providing agricultural structure should be established, with land ownership in the hands of farmers (Lück, 2017). Certainly, a law which has been developed since 1954 in an economic extreme situation, namely the post-war-period, has become object of discussions. Also, the law allows critical interventions in private trades, which might be problematic from an economic point of view. Hence,

opinions which discuss to remove the law still exist (Hötzel, 1999; Netz, 2018). The discussion around this law becomes recently more vivid, since farmland prices have grown enormously, especially over the last decade (Plogmann *et al.*, 2020).

In economic theory, several concepts can be used to evaluate policy regulations. In general economics, game theory is a widely used instrument (Hermans, Cunningham and Slinger, 2014), especially when it comes to the inclusion of different actors. Other methods include for example social network analysis, Q-methodology, comparative cognitive mapping or agent-based models (Hermans *et al.*, 2014; Hermans & van der Lei, 2012). When it comes to agricultural policy analysis, specialized models like GTAP (Corong *et al.*, 2017), FARMIS (Sanders, 2006) or AgriPolis (Happe, Kellermann and Balmann, 2006) come into use, just to name a few examples.

Within this analysis, several problems had to be solved. First, the German land transaction law has been established in 1962 and no land market data could be acquired from the 50s and 60s to have a reliable data basis before and after the law. Second, the law has a considerable amount of six affected parties which are further described in the next section. To capture their interests and outcomes was a further methodical challenge. Third, the utility of the law had to be evaluated in a way that considers the utility of all affected parties and their preferred strategies of action. This work aims to take a neutral position in the current discussion of the law which can be achieved with an analytical framework.

Therefore, several economic concepts, which are also used for game theoretical analysis, will be picked up: The concept of payoffs to describe preferences, the consideration of different affected actors and the identification of a utility-maximizing strategy. Following Straffin (1993) and Schelling (2010), those three concepts can be described as follows:

- Payoffs are used to describe the utility of an outcome. They are mostly defined as numbers in a certain range, which are higher for a higher utility and lower for a lower utility. We adopt the principle of payoffs to define an individual utility value for our arguments.
- Actors, often called players in game-theoretical context, are defined as parties which are affected by decisions within the regulation instrument and potentially able to make decisions within it.
- Strategies which lead to a different utility outcome are the last concept which will be applied here. Two different scenarios are defined which can be achieved through the actor's choice of action. A theoretical scenario of the law's non-existence has been added for evaluation.

3 The German farmland transaction law

3.1 The law in a nutshell

The German farmland transaction law has been published in 1962 to (1) save the existence of farms and improve the agricultural structure by protecting land from unregulated trades, (2) the protection of nature and (3) save the basic provision of food for the population (Netz, 2018). It works in a straight-forward way: The subject to approval is only farmland and forest land. The law takes effect, if (1) an unhealthy distribution of land, (2) plots of land would be reduced in an uneconomical manner or (3) the equivalent value is grossly disproportionate to the value of the property (§9 GrdstVG). Either it is possible to define ownership conditions or to not approve the purchase contract. This gives residential farmers the possibility to exercise the right of pre-sale. However, a list of conditions must be fulfilled.

Under the law, farmland transactions proceed as follows, which is exemplary illustrated in figure 1. After an accepted offer, a purchase contract between seller and (a non-agricultural) buyer will be created. The notary sends this to the agricultural office which checks the contract according to the land transaction law. When there is no concern, the buyer can acquire the farmland, possibly with restrictions from the office. When the agricultural office has concerns, the buyer is prevented from acquiring the land on the first stage. For example, the buyer is no farmer or quasi farmer and there is a residential farmer that is willing and able to stock up his land. Then, the responsible land society buys the farmland what is resold to the farmer. Hence, the farmer is paying the ground transfer tax twice, which requires a willingness to pay of the farmer that is equal or higher than the original price plus the tax. Whether a residential farmer is buying the farmland, we assume agricultural production will be undertaken. If he refuses and the land society didn't enter, the original buyer gets the land. A potential non-agricultural buyer might lead to more uncertainty what will happen with the farmland in the future. For example, the rent to a local farmer is realistic and so is the usage for renewable energy or the promoting for a conversion as building land.

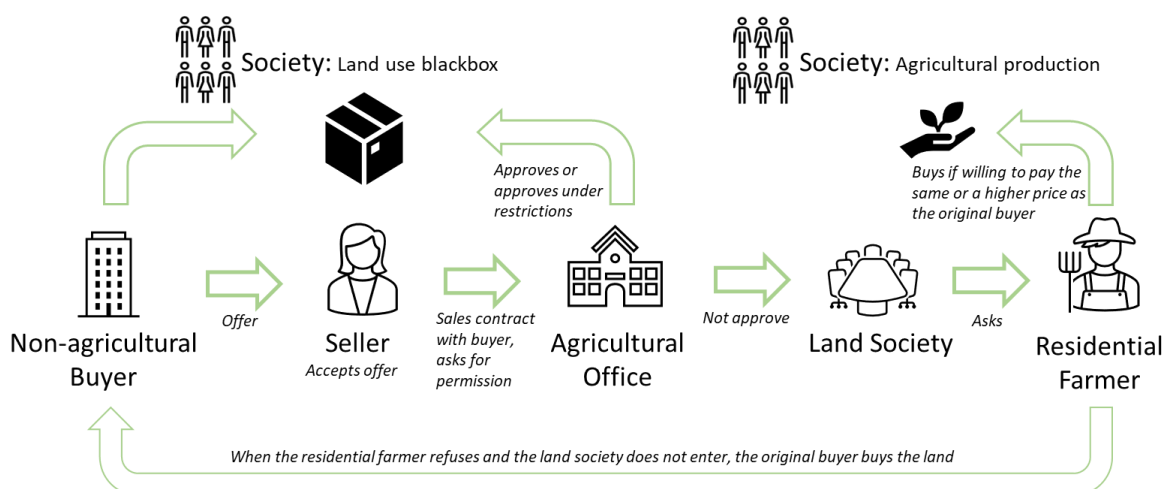


Figure 1: Exemplary farmland transaction under the German land transaction law

3.2 Analysing arguments and parties

The six parties involved in this described process face different interests and limitations and possibilities through the law. Especially the exemplary case which is described in this article, where a non-agricultural investor intends to buy a farmland parcel falling under the restrictions of the law is shaped by different results and present in the public discussion.

During the last decade, non-agricultural investors were several times thought to be one of the main price drivers on the farmland market (Back, Lehn and Bahrs, 2018). This point of view is reinforced by selling activities of the BVVG (Boden Verwertungs- und Verwaltungsgesellschaft) and more concentrated ownership that requires more capital (Forstner and Tietz, 2013; van der Ploeg, Franco and Borrás, 2015). Although recent research concludes to contrary results, this argumentation is still quite present in the daily press (Deter, 2021). Therefore, in the public discussion farmland market regulation is especially required to prevent non-agricultural investors. In this sense it is also relevant to assume that farmers will use farmland for agriculture, which is assumed as beneficial for the society.

For each single transaction different arguments occur, which are listed in figure 2. The seller concludes a purchase contract with the buyer and receives a purchase price for the sale of the area. Until he receives this purchase price from the buyer, the seller incurs waiting costs for the purchase price. The non-agricultural investor is driven by the motive of earning a return by buying the land. During the review of the purchase contract by the agricultural office, the investors incur waiting costs for approval. In addition, there are transaction costs for notary fees, for example. The agricultural office incurs a workload from investigating the contract and the buyer. For example, the land company incurs a workload in finding a residential farmer who is willing and able to expand his farmland. In addition, the land society initially bears the risk of expected court costs. In the event of a contract being concluded, the resident farmer incurs costs for the purchase of land, which are significantly higher than if he were just renting the area. The fact that he can realize profits through land use and that land ownership brings a subjective benefit for the farmer contrasts with the fact that his capital is now tied up in the area. He thus renounces a value of flexibility. This, in turn, weighs on him for improved long-term profitability and improved creditworthiness. If agricultural use of the area is assumed, as shown in figure 1, then society benefits from the preservation of land for the production of agricultural products and the rural revitalization. The maintenance of the landscape also makes a significant contribution to nature conservation, which is becoming increasingly important from a social point of view. In addition, the property tax cannot be avoided if the right of first refusal is exercised in favor of a farmer, which brings a monetary benefit to society. By giving farmers the opportunity to get hold of agricultural land, land can also be made available to young farmers who would otherwise be excluded from the land market. In this way, the continued existence of agriculture and thus the security of the food supply can be ensured.

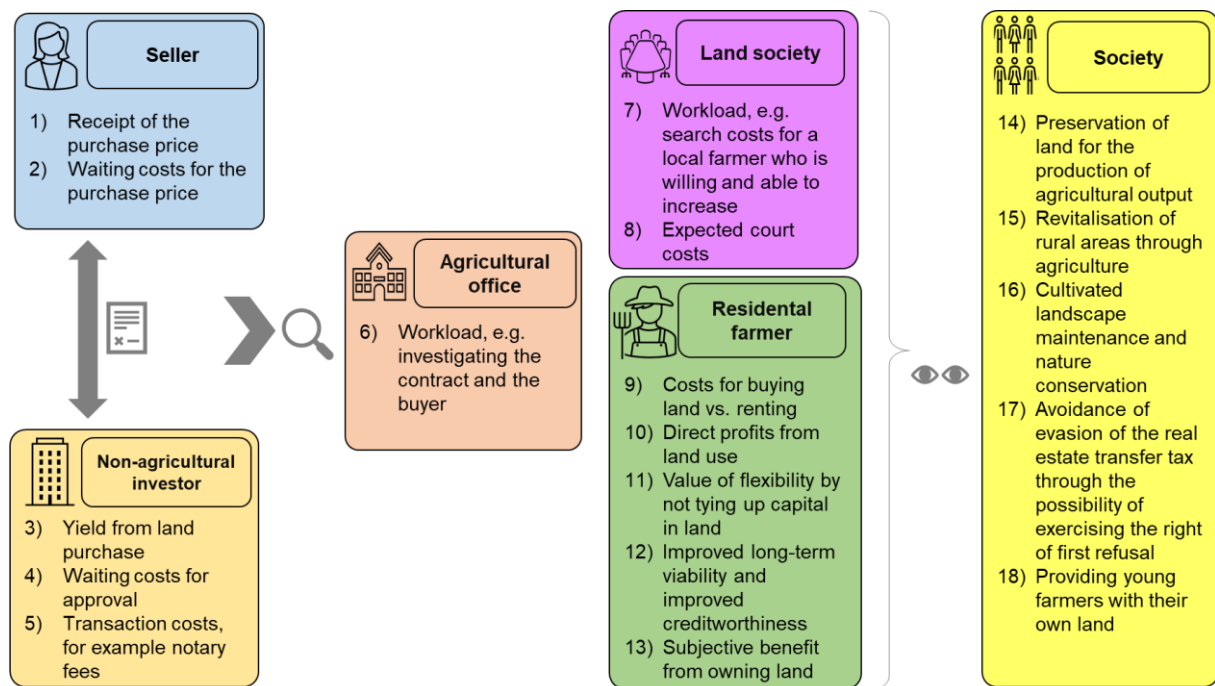


Figure 2: Interests affected by the German land transaction law

The weighting of the arguments is not trivial and asks for further discussion. For example, it is in most cases probably inadequate to weight argument 6 and 13 equally, while 13 is probably differing for each single farmland transaction. Also, the arguments 14, 15 and 16 can be put into perspective by considering, that also non-agricultural investors might have an incentive to maintain the cultural landscape. By renting the farmland to a residential farmer in the long term, the non-agricultural investor might have a positive impact as a capital provider. Argument 9 directly refers to this fact, where the capital commitment of the farmer leads to higher costs in the short term. Argument 10 is likewise discussable in this manner since farmers can also generate profits with rented land. Nonetheless, all of those outcomes are depending on the owner's behavior, pointed out in argument 17 which is an interesting assumption to avoid misbehavior. It is also conceivable that a non-agricultural investor might only be interested in profit maximisation and leaves the promotion of rural areas behind. Another assumption might affect potential court costs or searching costs. Those costs vary individually for each case and are difficult to generalise. Last but not least, the list of arguments can be expandable by more individual arguments. These underlines, that different interests and priorities collide within the spectrum of the land transaction law. As an exemplary result of the analytical framework we get the utility balance with and without exercise of the pre-sales right, compared to the theoretical case that no law exists.

4 Utility effects of the German land transaction law

When it comes to an economic analysis of laws, the concept of utility maximization, which is introduced in section 2, can be central. When a farmland market regulation instrument is established, is it improving the farmland market situation for all parties? Therefore, subjective interests and utility weighting of arguments is essential. To handle this question, an analytical framework has been developed which can be comprehended in table 1. Here, the single arguments for each actor are utilized as a basis for the analysis. Using the first introduced economic concept of numeric payoffs, the numbers are exemplary set as 1 for a positive utility and -1 for a negative utility. Zero suggests no utility effect in the respective scenario. We compare three cases: (A) The benefit within the existing land transaction law without pre-sales right execution, (B) successful exercise of the pre-sales right and (C) the theoretical case without a land transaction law. The balances of the aggregated benefits in the last line of table 1, which are summarising all arguments into two numbers, can now be used for a further evaluation.

Argument	(A) Benefit with the land transaction law, pre-sales right is not exercised	(B) Benefit with the land transaction law, pre-sales right is exercised	(C) Benefit without the land transaction law	Balance A-C (without execution)	Balance B-C (with execution)
Seller					
1 Receipt of the purchase price	1	1	1	0	0
2 Waiting costs for the purchase price	-1	-1	0	-1	-1
Non-agricultural investor					
3 Yield from land purchase	1	0	1	0	-1
4 Waiting costs for approval	-1	-1	0	-1	-1
5 Transaction costs, for example notary fees	-1	-1	-1	0	0
Agricultural office					
6 Workload, e.g. investigating the contract and the buyer	-1	-1	0	-1	-1
Land society					
7 Workload, e.g. search costs for a local farmer who is willing and able to increase	0	-1	0	0	-1
8 Expected court costs	0	-1	0	0	-1
Residential farmer					
9 Costs for buying land vs. renting	0	-1	0	0	-1
10 Direct profits from land use	0	1	0	0	1
11 Value of flexibility by not tying up capital in land	1	0	1	0	-1
12 Improved long-term viability and improved creditworthiness	-1	1	-1	0	2
13 Subjective benefit from owning land (bounded rationality)	0	1	0	0	1
14 Double ground transfer tax	0	-1	0	0	-1
Society					
14 Preservation of land for the production of agricultural output	-1	1	-1	0	2
15 Revitalization of rural areas through agriculture	-1	1	-1	0	2
16 Cultivated landscape maintenance and nature conservation	-1	1	-1	0	2
17 Avoidance of evasion of the real estate transfer tax through the possibility of exercising the right of first refusal	1	1	-1	2	2
18 Providing young farmers with their own land	-1	1	-1	0	2
Aggregated Benefit	-5	2	-4	-1	6

Table 1: Analytical framework with a suggested utility valuation of the land transaction law

Considering the interests of the different parties, the expectations that parties project on the law might differ to a high degree. A possibility to compare the expectations simple is to calculate an individual linear utility curve for each framework user:

$$U_{LTL} = p_v U_v + p_r U_r + p_n U_n \quad \text{with} \quad p_n = 1 - p_v - p_r \quad (1)$$

With U_{LTL} as the cumulated utility, U_v as the utility of the assumed deterrent effect of the law (non-suitable buyers do not take land purchases into consideration because they assume to be stopped by the law), U_r as the utility balance with execution of the pre-sales right, so that the land goes to the residential farmer, U_n as the utility balance without execution of the pre-sales right, so that the land goes to the non-agricultural investor (6 for U_r and -1 for U_n in our example in Table 1). p_v , p_r and p_n are the respective shares.

Given p_v with a change of p_r and p_n we can generate the utility function which is visible for this example in Figure 3. Setting equation (1) to zero, we get the share of pre-sales right exercises which turn the utility of the land transaction law into zero. In Figure 3, p_v is set to 10%, p_r and p_n are dynamic. The intersection with the x-axis represents the minimum share of pre-sales right executions which could be necessary to generate a positive outcome for the society. Within the exemplary weighting, 12% of all farmland transactions have to contain pre-sales right executions. In case of a smaller share, the law's costs in term of administrative work and established institutions is higher than its value. In case of a higher share, the utility of the law gets positive. The current real share of pre-sales right executions p_r , related to the total number of transactions, was 0.66% in 2018 (Bundesverband der gemeinnützigen Landgesellschaften, 2020), which seems rather small compared especially to the administrative workload which comes within the law.

Nonetheless, the theoretical result is based on a subjective weighing and can vary for each single user. It is possible to change the weighting of each argument. Users might valuate some arguments higher or lower. Also, the assumption of positive or negative utility might be changeable. Subjectively relevant arguments can be added.

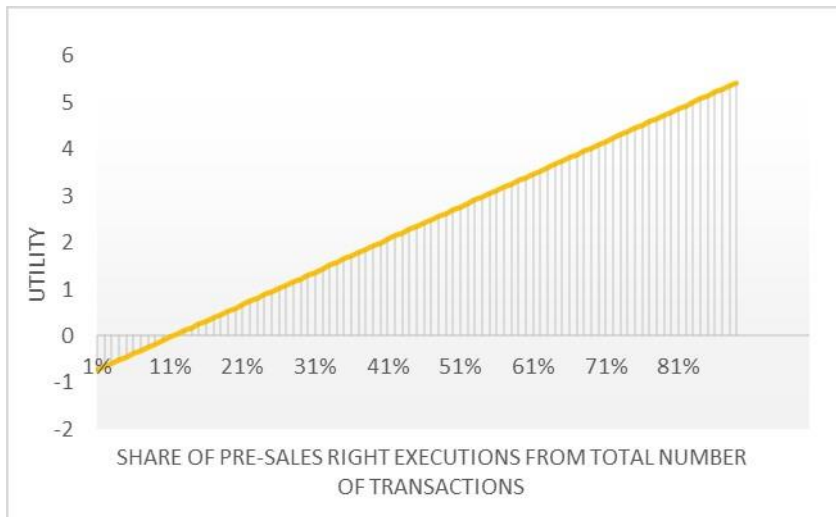


Figure 3: Exemplary utility curve of the German land transaction law, based on table 1 with $p_v = 10\%$: defines an exemplary minimum share of necessary pre-sales right executions for a positive utility of the German land transaction law

Discussion and Conclusion

Within this article, parties and arguments concerning the German land transaction law have been discussed. An economic analysis has been added to evaluate and weight possible utility effects of the law. Depending on the individual weighting of each user, a minimum share of pre-sales right executions might be necessary to generate positive aggregated utility within the German land transaction law. This is especially relevant with an eye upon the current discussion of non-agricultural investors, who found farmland to be an attractive investment to secure their portfolio (Lins et al., 1992; Noland et al., 2011). In our example, farmers are expected to have the necessary expertise for cultivating farmland in a proper way. This does not only mean cultivation of agricultural products but also the valuable contribution of farmers to livable rural areas, local job markets and proper soil management. Hence, the ownership of farmers might generate a higher utility compared to the case where a non-agricultural investor owns the land and the desired share of pre-sales right executions might grow. An argument in this line might be to allow land societies to buy farmland without the availability of a fitting residential farmer. This could expand the time interval for an investment decision of farms and allows smaller companies to prepare an investment.

A possible argument to weight the utility of the law lower could be that currently a huge share of agricultural land is owned by non-agricultural persons (Tietz, Neumann and Volkenand, 2021). In many cases this land is rented to farmers and the landowner acts as a capital provider. This is especially relevant in so called “sale and lease back” cases, where farmers are selling farmland to non-agricultural investors to balance losses from bad years on the one side and share risk and capital intensity of agricultural production on the other side. Here, a non-agricultural owner can also be a driver for business continuity, innovation and growth, even if the capital for farmland purchases is not available. The

permission for non-agricultural investors to buy land might also be important to save a certain price level – otherwise, the buyer’s concurrence might be too small. Last but not least, the high administrative effort which goes with the law appears critical keeping the small number of land transactions in general as well as the small number of cases where the law applies in mind. Additionally, the original intention of the law should be further considered in the public discussion. Some of the political goals which had to be fulfilled in the post-war-period are no longer essential problems. The possibility of missing current targets through different target setting in the past should be considered more intensively.

To conclude, this analysis of arguments and parties might be useful for politicians and others to value the German land transaction law and create a foundation for their further argumentation. Further research could analyze other regulatory instruments in other European countries, to compare and evaluate them. Also, the revealed arguments can be further discussed; for example, whether land use or land rental contract transparency should be implemented. A “blackbox” concerning land use, which is appearing under the current legal conditions when a non-agricultural investor acquires farmland, might be not desirable for society. Also, the implementation of regulations capturing share deals, where investors can achieve big farmland stocks without regulation, should stay a central point in the current discussion.

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