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An Analytical Framework for Evaluating Farmland Market Regulation: Examining the German Land Transaction Law

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Abstract: Farmland market regulation and related political interventions are prominent in the current discussion, in particular, because the market faces big price increases. This discussion is often shaped by subjective and emotional perceptions. Its complexity is increased by the considerable number of affected parties and opposing arguments. The parties involved may be focused on different aspects and have different requirements with regard to farmland market regulation instruments. The objective of this paper is to present an analytical framework for more efficient observation and evaluation of the ongoing discussion. The framework was developed using information about the relevant political interventions to structure the arguments and parties. It allows for a holistic evaluation of farmland market regulation. To provide an example of how farmland market regulation can be analyzed, the German land transaction law was broken down by process, parties, and arguments. Within the analytical framework, arguments are weighted individually. As a result, the various farmland market instruments can be discussed in a structured way. Additionally, the framework provides information about the utility of the respective instruments in defined cases from different perspectives.

Keywords: analytical framework; German land transaction law; policy analysis; farmland market



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1. Introduction

Nonagricultural activities on farmland markets, price increases, and a shrinking farmland supply are current topics in agricultural economics research and discussion [1–3]. Farmland market regulation has become the focus of discussion, in particular amongst farmers who are interested in buying farmland. Several instruments for the regulation of farmland markets exist worldwide. For example, in France, Germany, and Sweden, there are institutions that must approve farmland transactions [4,5]. In Hungary and Lithuania, there is a maximum amount of land that can be purchased [6,7]. Belgium, the Czech Republic, France, and Italy grant prepurchase rights to farmers or tenants [7]. Poland has an elaborated legal framework to protect the farmland market, which restricts the purchase of agricultural land by nonfarmers [8]. Furthermore, special regulations and institutions exist for the privatization of former state-owned land across eastern Europe [9,10]. The intentions behind all these instruments might be that the legislature is striving for a functional agricultural structure to feed the population, ensure lively rural areas and regulate changes in land use [11]. This is only a small sample of political regulations that have been discussed in recent research. Politicians, the press, and agricultural professionals continue to debate the need for and functionality of regulatory interventions for the farmland market. In these discussions, participants are conscious of the far-reaching effects of political interventions and the conflicting arguments and needs of potentially affected parties. On the one hand, it can be argued that markets require a certain level of freedom for optimal self-regulation. The proponents of these arguments point to the inadequate and untargeted application of the various laws [5,12]. However, other voices call for stricter laws, emphasizing the importance of farmland market regulation for the protection of farmers, the agricultural landscape, and

rural areas [11,13]. However, the discussion about regulations is often hindered by a lack of objectivity, attributable to subjective interests and the complexity of the instruments and their effects. Enormous price increases contribute further to subjective and emotional opinions [14,15]. Recent scientific research on farmland market regulation has concentrated on comparisons between European states [7,16] and the effects of regulatory instruments on prices [17,18]. To our knowledge, no analysis within a country considering the complexity of the parties involved and their arguments has been undertaken to date.

The objective of this paper is to present an analytical framework that enables farmland market regulation instruments to be evaluated in a holistic and structured way. The framework could be used by politicians and other parties to enrich their own discussions and arguments regarding farmland market regulation. Analytical frameworks are widely used in scientific analysis, for example, in the work of Hirschauer and Musshoff [19] and Bennet et al. [20]. To our knowledge, we are the first to adopt an analytical framework for the evaluation of farmland market regulation instruments. We took the German land transaction law as an example and evaluated it from the perspective of a politician oriented toward public welfare.

This article is structured as follows: The literature review in Section 2 provides an overview of perspectives on farmland market regulation instruments in recent research. It also sets out the underlying concepts for the analytical framework. In Section 3, the components of the framework are explained and applied to the example of the German land transaction law. Section 4 presents the results of the analytical framework applied to the German land transaction law, and Section 5 provides our conclusions.

2. Literature Review

Market regulation is a controversial topic in policy analysis research. Traditionally, economists plead for regulation when there is market failure [21]. In the research related to the farmland market, market failures are a widely discussed topic. Issues such as market concentration [22,23], lack of liquidity [24] or asymmetric information [25,26] exist in farmland markets. Hence, the demand for regulatory instruments is understandable. Nonetheless, it is necessary to evaluate existing regulatory instruments to determine whether they target the interests of all concerned parties [27]. A special issue in farmland markets is that nonagricultural investors were often thought to be one of the main price drivers [28,29]. In Germany, this point of view is reinforced by the selling activities of BVVG (Bodenverwertungs-und-Verwaltungs GmbH), an institution that sells state-owned land in eastern Germany via public auctions, and this is more concentrated ownership that requires more capital [22,30]. Although recent research has concluded the opposite, this argument is still quite prevalent in media reports [31]. Therefore, in the public discussion, it is perceived that farmland market regulation is clearly required in order to prohibit nonagricultural investors. In this sense, it is also assumed that farmers will use farmland for agriculture, which is assumed to be beneficial for society. In Germany, strong farmland market interventions are discussed as potential solutions [17].

Different methods can be used to evaluate policy regulations. In economics research, game theory is a widely used instrument [32], particularly when several parties are involved. Some examples of other methods include social network analysis, Q-methodology, comparative cognitive mapping, and agent-based models [32,33]. With regard to agricultural policy analysis, specialized models such as the Global Trade Analysis Project (GTAP) [34], CH-FARMIS (a comparative static, process analytical, nonlinear programming model) [35], and the Agricultural Policy Simulator (AgriPolis) [36] are used, among others.

Farmland market regulation policies have also been widely investigated in recent years. Ciaian et al. [7] carried out an extensive descriptive analysis of farmland market regulation in eastern Europe. They found remarkable differences between the regulatory instruments, taxation systems, and transaction costs. Swinnen et al. [16] produced a comparative analysis of land market regulation in Europe and observed differences in the level of tenant and ownership protection, and the level of total land regulation. Other studies have explored

the linkage between market regulation and farmland prices. Drescher and McNamara [18] compared the markets in Germany and Minnesota and noted the effects on prices caused by market regulation in Germany. Lehn and Bahrs [17] identified that legal regulations in Germany reinforce farmland price drivers such as urban sprawl and livestock density. However, recent research has concentrated on the variety of instruments across different countries and the pricing implications. To our knowledge, so far, there has been no detailed consideration of the complexity of arguments and parties involved in farmland market regulation at a more individual level.

To structure the discussion of those arguments and parties, we developed a specialized analytical framework for evaluating farmland market regulation. It provides a structured, individual evaluation, without being dependent on long-term data. Therefore, several concepts, which are also used in game theory analysis, are included: the concept of payoffs to describe preferences, the consideration of different affected actors, and the identification of a utility-maximizing strategy. Following Schelling [37] and Straffin [38], these three concepts can be described as follows:

- Payoffs are used to describe the utility of an outcome. They are usually defined as numbers in a certain range, which are higher for a higher utility and lower for a lower utility. We adopted the principle of payoffs to define an individual utility value for relevant arguments in this specific context.
- Actors, often called players in the context of game theory, are defined as parties affected by decisions resulting from the regulatory instrument and potentially able to make decisions within it.
- Strategies that lead to a different utility outcome represent the final concept that is applied here. Two different cases are defined which can be achieved through the actor's choice of action.

3. Materials and Methods

3.1. Methodology

To evaluate farmland market regulation, the analytical framework was developed with regard to the concepts described in Section 2. Similar frameworks have been used for other research questions [19,20]. Analytical frameworks are always useful in those cases where there are different perspectives on a topic. These frameworks make it possible to structure different points of view so that they can be assessed and further analyzed. In this paper, a framework was developed to meet policy analysis requirements. In general, to evaluate a policy intervention, the benefits and costs have to be compared. If the benefits outweigh the costs, the intervention might generate utility. However, this result does not necessarily imply that the intervention is the best possible option. If the costs outweigh the benefits, the intervention can be discarded. This relationship can be described as

$$B - C = U \quad (1)$$

where B represents the benefits resulting from the policy intervention and C represents the costs resulting from the policy intervention. They are summed to obtain a value for utility U . If $U > 0$, a positive utility is expected from the intervention. If $U < 0$, the opposite is expected.

To identify costs and benefits within the analytical framework, the involved parties have to be identified. These parties have opinions on the farmland market regulation instrument. Some of their views are related to benefits, while others are related to costs. For a numerical presentation of those costs and benefits, numeric weightings are used. To make it easier to assess the analytical framework, we prepared an example using the German land transaction law. This required information gathering in four steps. First, the process of the regulatory instrument needed to be understood comprehensively. Hence, the process of the law is described in Section 3.2. This was extracted from a scientific literature review and the legal text itself. Second, the parties involved had to be listed. These were also

derived from the literature review and the legal text. Third, selected arguments for each involved party were gathered from the description of the process and peer discussions. The list of arguments could also be expanded by more subjective arguments or those that are applicable only to individual cases. Finally, the weighting of those arguments was considered from different perspectives. They are based on the three concepts described in Section 2.

3.2. Description of the Process

As the German land transaction law was investigated in this study, it is described in detail in this section. The law was established in 1962 to (1) preserve farms and improve the agricultural structure by protecting land from unregulated trades, (2) protect nature, and (3) guarantee the basic provision of food for the population [11]. In addition, it aimed to prevent market failure: policymakers wanted to secure food supply for the population, particularly after World War II. They feared food scarcity and developed the law to prevent land fragmentation and support landless farmers and tenants. A safe and productive agricultural structure needed to be established, with land ownership in the hands of farmers [39]. It is not surprising that a law that started to be developed in 1954 in an extreme economic situation, namely the postwar period, has become a subject of discussion. The law also allows for critical interventions in private trading that might be considered problematic from an economic point of view. Hence, there are still those who believe that this law should be abolished [11,40]. The discussion regarding this law recently became more animated because of the huge growth in farmland prices, especially over the last decade [41].

The law works in the following way: It only applies to farmland and forest areas. The law takes effect if (1) an unhealthy distribution of land would result, (2) plots of land would be reduced in an uneconomical manner, or (3) the equivalent value would be grossly disproportionate to the value of the property (§9 Grundstücksverkehrsgesetz, GrdstVG). In such cases, it is possible to impose ownership conditions or to refuse the approval of the purchase contract. This allows residential farmers to exercise the right of the presale. However, a list of conditions must be fulfilled. The most important one is that the parcel has to be of a minimum size as defined by the law. These sizes differ at the federal-state level, ranging between 0.15 and 2 hectares [42].

Within the law, farmland transactions proceed as illustrated in the example in Figure 1. After an offer is accepted, a purchase contract between the seller and (a nonagricultural) buyer is created. This contract is sent to the agricultural office, which checks that the contract is in accordance with the land transaction law. If there are no concerns, the buyer can acquire the farmland, possibly with some conditions attached by the agricultural office. If the agricultural office has concerns, the buyer is prevented from acquiring the land at this first stage. This might happen, for example, if the buyer is not a farmer or quasi-farmer, and there is a residential farmer who is willing and able to increase his land holding. In such a case, the responsible land society buys the farmland, which is then resold to the residential farmer [43]. Hence, the farmer is paying the ground transfer tax twice, which requires a willingness on their part to pay a price that is equal to or higher than the original price plus the tax. When a residential farmer buys farmland, it is assumed that this is for the purpose of agricultural production. This implies local food production and is regarded as positive for society. If no farmer is found, and the land society does not express an interest, the original buyer receives the land or the seller has to retain it. A potential nonagricultural buyer might lead to more uncertainty about what will happen to the farmland in the future. Possible scenarios include a rental contract with a local farmer, renewable energy installations, changes in use to build the land, and allowing the land to lie fallow or to be used for horse-keeping. This implies a “land use black box” for society.

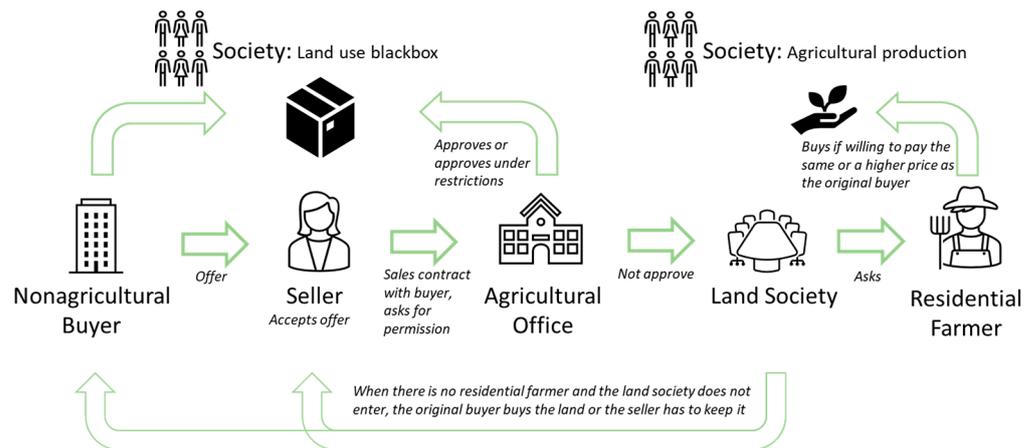


Figure 1. Example farmland transaction under German land transaction law.

3.3. Parties

The affected parties are determined in the second step. Using the example of the German land transaction law, six affected parties were identified, as already described in the previous section and shown in Figures 1 and 2. These are the nonagricultural investor, the seller, the agricultural office, the land society, the residential farmer, and society. These six parties involved in the process have different interests, limitations, and possibilities with regard to the law. This is particularly illustrated by our case study, in which a nonagricultural investor intends to buy a farmland parcel falling under the restrictions of the German land transaction law, with possible differing outcomes.

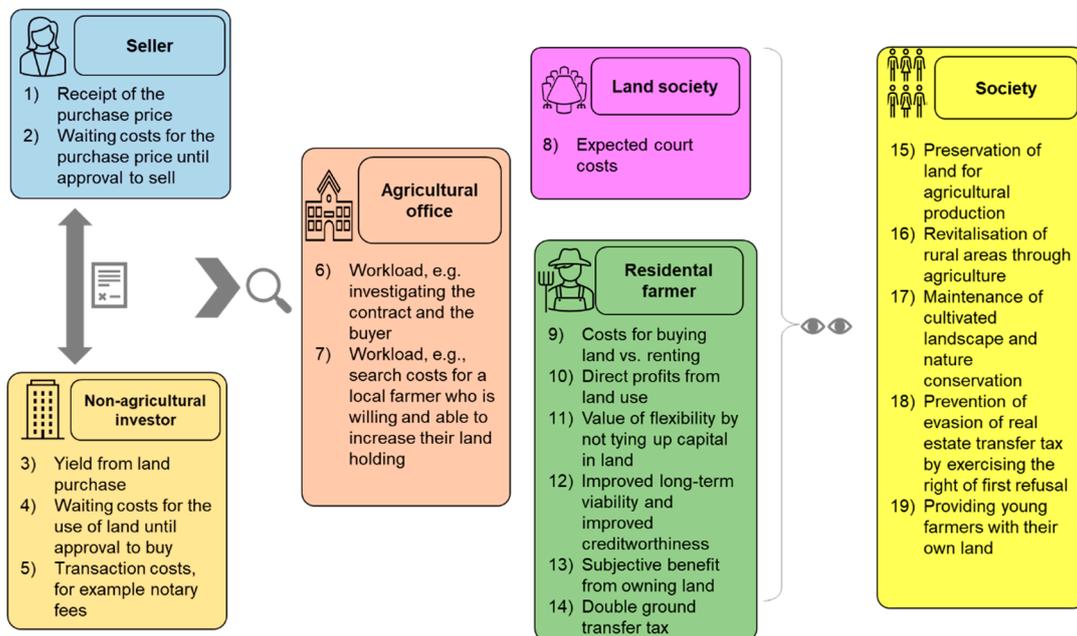


Figure 2. Arguments for each party affected by German land transaction law.

3.4. Arguments

In our third step, the arguments relating to each party are collected and listed in Figure 2. The seller concludes a purchase contract with the buyer and receives a purchase price for the farmland parcel, usually after the approval of the contract by the agricultural office. Until he receives a payment of the purchase price from the buyer, the seller incurs waiting costs. The nonagricultural 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. In addition, there are transaction costs, such as taxes. The agricultural office has the workload associated with investigating the contract and the buyer. In addition, the agricultural office incurs a workload in finding a residential farmer who is willing and able to expand. This process can differ between the federal states, but for simplicity, we stay within the case described. The land society initially bears the risk of court costs. In the event of a contract being concluded, the residential farmer incurs costs for the purchase of the land (the original purchase price and double ground transfer tax), which are, in the short term, considerably higher than a potential rental arrangement. The fact that they can realize profits through land use and that land ownership brings a subjective benefit for the farmer is set against the fact that their capital is now tied up, and they have renounced the value of flexibility. This, in turn, presents a burden in relation to long-term profitability and creditworthiness. If the 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 rural revitalization. The maintenance of the landscape also makes a significant contribution to nature conservation, which is becoming increasingly important from a societal point of view. If a part of the land is paid for in cash, and the right of first refusal is exercised in favor of a farmer, the cash payment gain is lost, which prevents tax avoidance on the part of the seller. This brings a monetary benefit to society. By giving farmers the opportunity to acquire agricultural land, it 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.

3.5. Weightings

In the analysis of policy interventions, the concept of utility maximization introduced in Section 2 can be key. The use of a farmland market regulation instrument can improve the situation for some parties, but it might also make it worse for others. Therefore, identifying subjective interests and the utility weighting of arguments is essential. Using the first concept we introduced above, i.e., numeric payoffs, the weightings of each argument in our example are set as 1 for the assumed benefits and -1 for the assumed costs. Zero suggests no utility effect for the case in question. The weightings were applied using the analytical framework presented in Table 1. The weighting of the arguments is not trivial and requires discussion. For example, in most cases, it is probably inadequate to give arguments 6 and 13 equal weightings, as 13 is probably different in every farmland transaction case. In addition, arguments 14, 15, and 16 can be put into perspective by considering that nonagricultural investors might also have an incentive to maintain the cultivated landscape. By renting the farmland to a residential farmer over the long term, a nonagricultural investor might have as positive an impact as a capital provider. Argument 9, based on which the capital commitment of the farmer leads to higher costs in the short term, directly refers to this. Argument 10 is similarly worthy of discussion because farmers can also generate profits from rented land. Nonetheless, all of those outcomes depend on the owner's behavior, as highlighted in argument 18 which is an interesting assumption to avoid misbehavior. It is also conceivable that a nonagricultural investor might only be interested in profit maximization and has no interest in promoting rural areas. Other assumptions might affect potential court or search costs, which vary in each case and are difficult to generalize. Finally, the list of arguments can be expanded with more individual arguments. This all highlights how different interests and priorities collide within the scope of the land transaction law. Based on the numeric weightings, we can calculate the utility balance with and without execution of the German land transaction law, by comparison with a hypothetical case in which no land transaction law exists.

Table 1. Analytical framework with suggested argument weightings relating to the land transaction law from the perspective of a politician working toward the public benefit.

	Argument	(A) Utility of the Land Transaction Law, When Presales Right Is Not Exercised	(B) Utility of the Land Transaction Law, When Presales Right Is Exercised	(C) Utility 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
Nonagricultural investor						
3	Yield from land purchase	1	0	1	0	–1
4	Waiting costs for approval to buy	–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
7	Workload, e.g., search costs for a local farmer who is willing and able to increase their land holding	0	–1	0	0	–1
Land society						
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						
15	Preservation of land for agricultural production	–1	1	–1	0	2
16	Revitalization of rural areas through agriculture	–1	1	–1	0	2
17	Maintenance of cultivated landscape and nature conservation	–1	1	–1	0	2
18	Prevention of evasion of the real estate transfer tax through the possibility of exercising the right of first refusal	1	1	–1	2	2
19	Providing young farmers with their own land	–1	1	–1	0	2
Aggregated Utility		–5	2	–4	–1	6

4. Results

Using the identified parties, their arguments, and weightings as gathered in the previous section, the example analytical framework for the German land transaction law, from the perspective of a politician oriented toward the public welfare, was created, as shown in Table 1. The parties are listed in bold letters on the left-hand side, with their respective arguments listed below. Within this framework, two relevant cases regarding the German land transaction law are compared: The case of a passive intervention, where the presale right is not executed (A), and the case of an active intervention, where the respective presale right is executed (B). The hypothetical case in which the German land transaction law does not exist (C) is presented for comparison.

The arguments were individually weighted for the different situations. The weightings were chosen based on the assumed perspective of a politician working toward the public benefit. Benefit-generating arguments are denoted as positive numbers, and cost-generating arguments are denoted as negative numbers. The aggregated utility is described in the last line of Table 1. The two columns on the right, which sum all the weightings from A, B, and C into two numbers, could then be used for further evaluation. As there is the possibility that the German land transaction law is or is not executed, the framework was modified so that column C was internalized, and the cases of execution and nonexecution of the law were compared. In the respective calculations, the weightings in column C are included as negative numbers, and those in columns A and B as positive numbers. For a better understanding, the balances A–C and B–C are included as auxiliary columns. First, it can be seen, not surprisingly, that the utility of the German land transaction law is negative if the presale right is not executed and positive if it is executed. Therefore, to evaluate the German land transaction law as a whole, we have to consider the probability of executing and not executing the presale right, by adding the weightings for each case and applying Equation (1). Further implications for the German land transaction law, which include the probabilities of presale right execution, are included later in this section.

As a result, the analytical framework demonstrates the complexity of the arguments in a structured form. It should be borne in mind that the weightings used in Table 1 are only initial assumptions by the authors, and different welfare-oriented policymakers could apply different weightings, as could any party involved in the land transaction law. Furthermore, in addition to the weightings, the arguments themselves could be changed or even extended. However, the model is flexible and allows the German land transaction law to be evaluated from different perspectives. The list of arguments is long, although it is clearly marked as incomplete. Furthermore, the framework includes a considerable number of parties, owing to the involvement of two institutions: the agricultural office, which is governmental, and the land societies, which are established by the government but not necessarily governmental. In policy analysis, government institutions and their incentives to work correctly are often crucial for the utility a law can generate because of the possibility of institutional failure. Hence, it is important to consider their interests.

As the German land transaction law offers the possibility of execution and nonexecution, further analysis is useful for a precise determination of its utility. Taking into account differing interests, the expectations that parties project onto the law might differ to a high degree. This implies different weightings of the arguments and hence different utility balance results. One way of comparing the different expectations is to calculate an individual linear utility curve for each framework user. An assumed deterrent effect of the law is also included (unsuitable buyers do not consider purchasing land because they assume the law will prevent them):

$$U_I = p_a U_a + p_p U_p + p_d U_d \rightarrow \text{with} \rightarrow p_a = 1 - p_p - p_d \quad (2)$$

where U_I is the cumulated utility, U_d is the utility of the assumed deterrent effect of the law, U_a is the utility balance with the execution of the presale right (active intervention) so that the land goes to the residential farmer, and U_p is the utility balance without execution of

the presale right (passive intervention) so that the land goes to the nonagricultural investor (6 for U_a and 1 for U_p in our example in Table 1). The respective shares are represented by p_a , p_p and p_d .

Given p_d with a change in p_a and p_p , respectively, we can generate the utility function for this example, as shown in Figure 3. Setting Equation (2) to zero, we obtain the level of executions, in this case with the presale right exercised, which causes the utility of the land transaction law to change to zero. In Figure 3, p_d is set to 10%. The intersection with the x -axis represents the minimum share of presale right execution that could be necessary to generate a positive outcome for society. Under the weighting in our example, 12% of all farmland transactions would have to include the execution of the presale rights. If the percentage is smaller, the costs of the law in terms of administrative work and established institutions are higher than its value. In the case of a higher percentage, the utility of the law becomes positive. The actual percentage of presale right execution p_a , related to the total number of transactions, was 0.66% in 2018 [44], which appears low compared with the administrative workload required to implement the law.



Figure 3. Example utility curve for the German land transaction law, based on Table 1 with $p_d = 10\%$.

Nonetheless, the outcome of the framework is based on the weighting of the arguments, and this can vary according to the framework user, who can change the weighting of each argument. Users might place a higher or lower value on some arguments. Equally, the assumption of positive or negative utility might need to be changed, and subjectively relevant arguments could be added.

5. Discussion and Conclusions

In this paper, we presented an analytical framework that can be used to evaluate farmland market regulation instruments. The framework has three components: the involved parties, their arguments, and the utility weightings of those arguments from the perspective of a politician working toward public benefit. The benefits and costs for each party can be assessed using the weightings. As a result, the framework enables a clear, structured, and holistic evaluation of the utility of farmland market regulation instruments.

An example application of the analytical framework was created for the German land transaction law. We found that, from the point of view of a politician working toward the public benefit, a minimum percentage of presale right execution might be necessary to generate positive aggregated utility for the German land transaction law. This is especially relevant when considering the current discussion relating to nonagricultural investors, who have regarded farmland as an attractive investment to add to their portfolio [45,46]. This analytical framework provides a valuable complement to research concerning the farmland market and how it is affected by policies. For further applications, it might be

interesting for policymakers to populate the framework using the weightings based on different perspectives.

Several points concerning this study require further discussion. One relates to the underlying assumptions, which have been arrived at from the perspective of a politician working toward the public benefit. According to this perspective, farmers are expected to generate benefits from owning farmland. They are assumed to have the necessary expertise to use farmland in a way that society considers desirable. This not only means the cultivation of agricultural products but also the valuable contribution of farmers to the creation of rural areas that are pleasant to live in, local job markets, and proper soil management. Hence, from this perspective, ownership by farmers might generate a higher utility compared with ownership of the land by a nonagricultural investor. For the German land transaction law, this potentially means an increased percentage of presale right execution. The assumption that farmers generate higher benefits from farmland ownership is strong and plausible in most cases but potentially is not always true. A nonagricultural owner can also be a driver for business continuity, innovation, and economic growth, particularly when a residential farmer cannot afford land on his or her own. This is especially relevant in the so-called “sale-and-lease-back” contracts, under which farmers sell farmland to nonagricultural investors to balance the losses from bad years and share the risk and capital intensity associated with agricultural production. Permission for nonagricultural investors to buy land might also be important to secure a certain price level—otherwise, the buyer’s concurrence might be too small. For other political interventions in farmland markets, other underlying assumptions might hold. The framework has the potential to be further developed for other political interventions in the farmland market.

A further point that requires discussion is the number of cases analyzed. The example analytical framework in this paper considers only two cases relating to the German land transaction law. Another interesting case would be to allow land societies to buy farmland without having identified a suitable residential farmer. This could extend the time interval for a farm investment decision and allow smaller companies to prepare an investment case. Such hypothetical cases can also be modeled using this analytical framework. In addition, other policy instruments could be evaluated. Finally, the authors do not claim that the list of arguments is complete; therefore, these can be further considered and perhaps expanded to include hypothetical arguments, for example, whether land use or land rental contract transparency should be implemented. For further research, it might be interesting to apply this analytical framework to other farmland market regulation policies. Several potential targets are mentioned in the Introduction section. Using a similar framework would potentially enable the comparison of instruments from different nations.

To conclude, this analytical framework can be used by politicians and other parties to evaluate the arguments and individual perceptions related to farmland market instruments. It can help to shape discussions, which are highly influenced by subjective opinions. Applying the framework to the example of the German land transaction law demonstrated its advantages and potential for development.

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