

## **Clientelism and Land Market Outcomes in Ukraine**

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# Clientelism and Land Market Outcomes in Ukraine

This paper investigates the relationship between political corruption and land market outcomes. Three rounds of parliamentary elections in Ukraine are analysed from 2002 to 2010. Evidence of rental rates for land being higher in districts that exhibit greater electoral support for parties that form the parliamentary opposition after the elections is found. On the other hand, average rental rates are lower in pro-majority districts that give evidence of clientelistic relations being formed in certain regions of Ukraine as well as state capture in the land market.

Keywords: land, elections, Ukraine, rental rates, state capture, clientelism, oligarchs

Subject classification codes: D72, D73, P16, P26, Q15

## Introduction

In Ukraine activities of political parties have a very strong impact on almost every aspect of the economic and social life of the population. Very often political powers distribute resources between different groups of society unevenly. Some regions and districts tend to get more in terms of financing and state subsidies if compared to other districts of the country, especially if they exhibit greater support to parties forming the majority in the Parliament and the coalition government. Cases of abusive political control and corruption are not uncommon in Ukraine and they are often manifested through political favors, clientelism, and violations of human rights.

This paper investigates the relationship between political clientelism and the development of the land<sup>1</sup> market in Ukraine in the period of 2002-2010<sup>2</sup>. Incidentally,

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<sup>1</sup> In this paper, *land* refers exclusively to agricultural land.

<sup>2</sup> The selection of the time period this paper investigates is connected with the data availability issue – land market data is available only for 2002-2010. It was assembled as part of the project “Development of the Land Market in Ukraine” in cooperation with Katedra Foundation, Kyiv Economic Institute and Central Statistical Office of Ukraine. The data is still collected by the Central Statistical Office, however, it is not public.

this time frame coincides with the period when the state has had the strongest influence on regions and regional development that has allowed for many corruption and clientelistic schemes. Although a lot has changed in Ukraine since 2014, the importance of understanding the risks associated with unlimited state power remains and is becoming more and more important nowadays, especially in light of the single-party majority being formed in the Parliament in 2019. The results of this paper, although based on past data, bring to light the impact of state capture on the development of the land market and regions.

As indicated by Keefer (2007), younger democracies are more prone to clientelism, political violence, and targeted transfers to narrow groups of voters. In Ukraine, some politicians used to buy votes of the electorate by exchanging favors for the votes. Such favors could take the form of lower rental rates for agricultural land for companies that encouraged their employees to vote for a specific party during elections. Due to the lack of bargaining power and low security of property rights for land, landowners rarely (re)negotiate their land leasing contracts. Conditions of the latter are usually decided by the agricultural companies (i.e. the tenants) and the ruling elites in a village or district (Mamonova 2018). Around the elections times, the elites could grant discounts for rental rates to those companies that promised to encourage their workers to vote for a specific political party. Companies, in turn, could use employment as the power to control the political behavior of their employees by encouraging them to vote for a particular party. As shown by Baland and Robinson (2008), because employers concede rents to workers whose effort is imperfectly observed, they have the power to politically control their employees threatening them with the withdrawal of those rents. Hence, companies can supply the votes of their employees in exchange for different kinds of favors and material discounts. Such market imperfections tend to occur

especially under the malfunctioning political institutions and predominantly in the agrarian economies (Baland and Robinson 2008; Malefakis 1970).

Rural areas of Ukraine that are mostly agricultural have a perfect environment for such political manipulations and corruption. The majority of people in villages are employed in agriculture, have low levels of income and have limited access to financial markets. According to Robinson and Verdier (2003), these are exactly the conditions under which clientelism<sup>3</sup>, political corruption and abusive political control tend to emerge and develop. Moreover, the security of property rights for agricultural land is very low in Ukraine; and even though landowners have formal property rights for their land plots, they cannot fully exercise them as there is a moratorium<sup>4</sup> on land sales that prevents landowners from selling their plots and using them as a mortgage. The only transaction they can legally perform is to rent the land. However, the bargaining power of individual landowners in renting relationships is very weak as on average they have 4 ha of land compared to 2000 ha that an average agricultural company rents. Often, the head of a village council or another official responsible for land resources in the village/district stands as an intermediary between a company and individual landowners and has enough power to manipulate the voting behavior of both by promising them favors in exchange for their political support (the Ukrainian Parliament Commissioner for Human Rights 2004, 2008, 2010). Moreover, around the elections time, village/district officials were often forced by the ruling elites to carry on propaganda and campaign for a pro-majority candidate/party. This propaganda had to ensure a specific satisfactory number of votes if the official in question wanted to keep his/her post after the elections (the Ukrainian Parliament Commissioner for Human Rights

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<sup>3</sup> Clientelism denotes a transaction between a politician or a political party and a member of the electorate where material favors are exchanged for the vote during the elections (Wantchekon 2003).

<sup>4</sup> The moratorium will be lifted on July 01, 2021, but many restrictions will still be in place.

2004, 2008). Therefore, some officials created clientelistic relations with agricultural companies by supporting them when signing land leasing agreements. Officials usually had the power to “persuade” landowners that the rent they got was fair<sup>5</sup> and they would not get more for their land plots from anyone else. Landowners signed the lease agreements with the company and the latter in this way got preferential rental rates for land that they would not have gotten in a case without clientelistic relationship in place. The company then would encourage their employees to support a party suggested by the officials. In this way, companies got lower rental rates, while the officials got electoral support.

This paper aims at finding evidence of political parties allocating more assets and resources to the communities that would give them the strongest electoral support. This is done by using a unique agricultural database that once matched with elections outcome data allows for the verification of the existence of clientelistic relationships in the land market framework. The main hypothesis of the paper is that rental rates are lower in districts that show greater electoral support to parties that form the parliamentary majority.

The results of this paper suggest that agricultural companies, located in districts that supported more the parties that formed the parliamentary majority after the elections, used to pay lower rental rates for land after the elections. Moreover, there is strong evidence of state capture in some of the regions.

The paper is organized in the following way. The next sections give an overview of the literature and political system in Ukraine and describe the main parties in Parliament. Then the model specification and estimation strategy are discussed in the

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<sup>5</sup> Landowners with 4 ha of land may be socially pressured to sign the land leasing contract if all of their peers agree to the terms of the contract. If they do not sign it, then they are left with zero income, because no other agricultural company will rent 4 ha of their land that may be located in the middle of a field already rented by another company.

section following the description of the data used in the research. Finally, results are analyzed and conclusions are made.

## **Literature Review**

This paper relates to several strands of literature. Firstly, it relates to a growing body of research about the connection between land reforms, economic development, and policy-making choices. In her papers, Melissa Dell (2010, 2012) finds evidence of the high degree of correlation between land reforms undertaken in the past and the economic development present today in Latin American countries. In Mexico and Peru, the agrarian reform that placed some major restrictions on markets led to the formation of clientelistic relationships. Large landowners had huge power over the policy-makers and lobbied the provision of the public goods in regions where their landholdings were situated. Moreover, historical evidence suggests that there are many instances when the revolutionary regimes use land reforms to gain the political support of the landowners/landless classes (Tuma 1965; Warriner 1969; and King 1977). Hellman and Schankerman (2000) using the firm-level dataset have shown that powerful firms often have a lot of influence on policy-making in some transition economies while state officials deliberately create cumbersome bureaucratic procedures to induce bribery. However, as Hellman et al. (2000) illustrate state capture or clientelistic relations with the country officials may not be always profitable for the firms and are often characterized by poor protection of property rights and firm performance.

This paper differs from the abovementioned studies as it aims at detecting instances of clientelism between the state officials and agricultural companies and looks into the potential link between the rental rates and election results.

Secondly, the paper explores such issues as clientelism, political corruption, and vote-buying. There are many pieces of evidence of political corruption and vote-buying behavior in developing countries (Fujiwara and Wantchekon 2013; Anderson, Francois, and Kotwal 2015; Frey 2019) that tend to be more profound in an environment with high inequality and low productivity (Robinson and Verdier 2003). Baland and Robinson (2012, 2008) investigated the impact of vote-buying and political control on factor markets. They showed that the introduction of a secret ballot in Chile led not only to a change in voting behavior but also to a decrease in the price of land. Also, Bujko et al. (2016) have shown that corrupt officials oftentimes engage in clientelistic relationships with big agricultural companies trying to buy or lease land from the rural population. They have found that this is especially true for societies with low quality of institutions.

This paper contributes to the existing literature by investigating not only economic implications of vote-buying and political control in the absence of secure property rights and land market inefficiencies but also explores a very specific mechanism that allows for the existence of such market failures.

Finally, the paper explores issues connected with the unequal distribution of resources due to political reasons and politically motivated transfers. The main theories behind these topics consider transfers from politicians to either core (for example, Cox and McCubbins 1986) or swing voters (Lindbeck and Weibull 1987). Evidence of politically motivated transfers are found in many countries (Berry, Burden, and Howell 2010; Arulampalam et al. 2009; Asher and Novosad 2017; Gonschorek, Schulze, and Sjahrir 2018). Most of these papers, however, use data for federal states and find pieces of evidence of politically motivated transfers from the central Government to regional Governments. The present research, on the other hand, considers, first of all, a unitarian

state and, second of all, studies politically motivated benefits to certain economic classes of the society (i. e. agricultural companies) rather than direct transfers.

### **An overview of political parties and the elections system in Ukraine**

This paper analyses three rounds of parliamentary elections in Ukraine where the 2002 elections were held in the presidential-parliamentary republic, while 2006 and 2007 (extraordinary) elections were held in the parliamentary-presidential republic. Hence, the delegates elected to the Parliament in 2006 and 2007 gained even more power than their predecessors. This generated stronger incentives for political parties to get into the Parliament as they had much more to gain if they won in 2006 and 2007.

Table 1 shows the distribution of mandates in the Parliament after 2002, 2006, and 2007 elections and if a party was part of a parliamentary majority. The majority of parties in the Ukrainian Parliament are left-central or left. There is only one party that declares to have right/right-central views. The Parliament is elected for 4 years.

[Table 1 near here]

After the elections parties that have got to the Parliament started to carry on negotiations about the composition of the parliamentary majority. It is formed to pass different laws, as the law is considered to be passed only if at least 226 delegates (50%+1 of mandates) vote for its adoption. As seen in Table 1, there was no such case when the party would get 50% of mandates to the Parliament based on the election results. Hence, parties have had to unite and form a political coalition to make the parliamentary machine working properly.

During 2002-2006 the majority was formed with only two parties: Za Yedynu Ukrainu and Social-Democratic Party of Ukraine (united). Both of them represented big business and ruling elites. The de-facto leader of Za Yedynu Ukrainu was Leonid Kuchma, the President of Ukraine at the time, that gave the party unlimited access to



administrative resources of the country. In the Ukrainian context, administrative resources signify an (illegal) utilization of official resources in favor of a certain political camp. According to Dmytrycheva, Rakhmanin, and Mostova (2002), Za Yedynu Ukrainu having in its electoral list representatives of regional political powers and big business started to use administrative resources of the former and financial resources of the latter to ensure its victory in the elections. Authors provided shreds of evidence that many regional leaders were intimidated and given instructions to ensure Za Yedynu Ukrainu won in each of the regions; otherwise, that would have given grounds for immediate resignations of the regional governors and heads of district administrations. They were obliged to carry on propaganda for the party among different strata of the society and especially among the heads of collective farms and, hence, the rural population engaged in agricultural activity. Moreover, a part of Za Yedynu Ukrainu was formed with the Agrarian Party of Ukraine that had wide interests in agriculture.

As for the Social-Democratic Party of Ukraine (united), it has also had close relationships with former President Leonid Kuchma. The leader of the party, Viktor Medvedchuk, was the head of Kuchma's presidential administration and, as rumored, was responsible for manipulating the media's coverage of political events in favor of pro-Kuchma's powers. Involvement of SDPUo leadership in the falsification of the 2004 presidential elections and also a falsification of local elections in Mukacheve<sup>6</sup> was widely discussed in the press.

After the 2006 elections, the parliamentary majority was formed with the Bloc of Yuliya Tymoshenko, Nasha Ukraina, and the Socialist Party of Ukraine. However,

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<sup>6</sup> Mukacheve is a city in Western Ukraine. Massive falsifications were recorded during the mayor elections in spring 2004. According to falsified results, the next mayor of the city should have been a member of SDPUo. However, the election results were declared null and void by the Court that has also sentenced several officials involved in falsifications.

this coalition was not around for a long time, as it fell apart after just a month of being formed. Disagreements between the leaders of the blocs destroyed it. Viktor Yushchenko, the leader of NU and the President of Ukraine at that time, and Yuliya Tymoshenko, the leader of BYUT, could not find the way to work their political differences through. This led to the creation of a new coalition in July 2006 between the Party of Regions, the Communist Party of Ukraine, and the Socialist Party of Ukraine. The leader of the Party of Regions, Viktor Yanukovich, became the Prime-Minister of Ukraine as a result.

The Party of Regions took part in the 2002 elections as a part of Za Yedynu Ukrainu. In 2004 the leader of the party, Viktor Yanukovich, was a candidate in the presidential elections of 2004. The party had close connections to Kuchma and his administration and represented big business predominantly from eastern regions of Ukraine. Yanukovich and his camp were accused of falsifications of the 2004 presidential elections that started the Orange Revolution in Ukraine. Pieces of evidence of massive political abuse and control were documented by the media and independent experts. The same vote-buying scheme used for 2002 parliamentary elections was also used for the 2004 presidential elections.

After the 2007 extraordinary elections, the parliamentary coalition was formed by the Bloc of Yuliya Tymoshenko, Nasha Ukraina, and the Bloc of Lytvyn. The latter joined only at the end of 2008. The coalition existed until the beginning of 2010 - up until after the 2010 presidential elections when Viktor Yanukovich became the new President. The new parliamentary coalition formed in March 2010 consisted of pro-Yanukovich Party of Regions, the Communist Party of Ukraine, and the Bloc of Lytvyn.

In Ukraine elections to the regional and district councils are held based on the proportional system and this leads to regional and district councils being formed with the same parties that have got to the Parliament. Hence, elections outcomes of the national Parliament are almost the exact match for the outcomes of the elections of the regional and district councils.

## **Data**

There are two main datasets used in the research: land market and elections outcomes datasets. The land market and farming variables are taken from the original 10 years panel dataset called “50-sg” provided by the State Statistics Service of Ukraine (SSSU) for the project "Development of the Land Market in Ukraine". The dataset itself is not available publicly, however, and that is why the analysis encompasses only 2002-2010 for which the data is available. The dataset contains information on production, financials, land usage, and tenure of Ukrainian agricultural enterprises and farms that submit their annual reports to the SSSU on a mandatory basis each year. On average there are 9 000 agricultural companies (out of approximately 16 000 active in Ukraine) in the dataset for each year starting from 2001 and ending with 2010. The dataset is an unbalanced panel as companies tend to start and end their businesses at different points in time. The dataset excludes most of the small farms that have different rules of reporting their economic and financial statistics to SSSU. So “50-sg” includes companies that on average have 1 000 ha of land and 50 employees. This dataset is suitable for the research as only medium or big companies should have enough market and bargaining power to be able to establish clientelistic relationships with officials, as well as be able to impact the voting behavior of their employees.

Table 2 contains a detailed summary statistics of the explanatory and dependent variables used in the research.

[Table 2 near here]

According to Table 2, the mean rent paid by companies in a district was around 100 UAH/ha up until 2007 and then more than doubled in 2008-2010. Also, many companies in the dataset received state support in the form of subsidies that on average were around 500 thousand UAH with almost 200 thousand UAH median value. At the same time, the standard deviation is very high for this variable that suggests that some of the companies have received way more state support than others.

Elections outcomes data is provided by the Central Elections Committee of Ukraine and can be freely accessed on their web-page<sup>7</sup>. The data contains the number of votes received by each party that takes part in the parliamentary elections in electoral districts. During 2001-2010 (the years for which land data is available) there were three rounds of parliamentary elections in Ukraine: 2002, 2006, and 2007 extraordinary elections. This paper uses only data on the voting outcomes of the parties that have got into the Parliament by surpassing the passing point of 4% of total votes in 2002 and 3% in 2006 and 2007. That is because it is assumed that only parties in power can reward their voters in case of clientelistic relationships between them. Voting outcomes data is available for electoral districts that can consist of several territorial districts<sup>8</sup>. Because the land data is a territorial district-level data, the data on elections is matched with the data on territorial districts. So in cases where several territorial districts are a part of one electoral district, those territorial districts have the same voting information. Also, 2002 elections were held based on the mixed voting system where 50% of delegates were elected based on the plurality rule and the other 50% - based on the proportional representation system. Since the plurality rule allowed for unaffiliated candidates to

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<sup>7</sup> [https://www.cvk.gov.ua/vibory\\_category/vibori-narodnih-deputativ-ukraini.html](https://www.cvk.gov.ua/vibory_category/vibori-narodnih-deputativ-ukraini.html)

<sup>8</sup> The territory of Ukraine is divided into 24 regions and Autonomous Republic of Crimea (ARC), and each region (including ARC) is, in turn, divided into districts. The smallest unit of analysis in this paper is a territorial district.

become delegates and most of the people elected based on this rule were unaffiliated, only voting outcomes of the proportional representation system were considered. In any case, it is assumed that voting outcomes of the proportional representation system are a good proxy for the voting outcomes of the plurality rule: on average, the percentage of delegates elected based on the plurality rule that after being elected to the Parliament have joined a specific party coincides with the percentage of votes this party has got based on proportional representation system.

## Methodology

To test for the presence of a clientelistic relationship between the political parties and agricultural companies, the following model is estimated:

$$Rent_{td} = \alpha + \beta V_{pTd} + \gamma C_{td} + \vartheta_r + \sigma_t + \varepsilon_{at} \quad (1)$$

$t=2001, \dots, 2010$

$T=2002, 2006, 2007$

$d=1, \dots, D; r=1, \dots, R;$

$Rent_{td}$  is mean rent for leased land in district  $d$  at time  $t$ .  $V_{pTd}$  is voting outcomes for a party  $p$  at elections time  $T$  in district  $d$ .  $C_{td}$  is a vector of controls at time  $t$  in district  $d$ .  $C_{td}$  includes the following variables<sup>9</sup>: the mean of the natural logarithm of the number of employees at the district level, mean state support (i.e. subsidies and donations from the Government that are given based on the last-period earnings of an enterprise) on the district level, and political loyalty variables.  $\vartheta_r$  are regional fixed effects,  $\sigma_t$  are time fixed effects.

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<sup>9</sup> Models with crop yields, production, sales revenue, and revenue per hectare of leased land as controls were also estimated, but these variables were insignificant and the main results did not change. R-squared was also unaffected.

Several least-squares dummy variables (LSDV) models with robust standard errors are estimated based on the equation (1):

$$\left\{ \begin{array}{l} \text{Rent}_{td} = \alpha + \beta V_{pd2002} + \gamma C_{td} + \vartheta_r + \sigma_t + \varepsilon_{dt}, \quad t=2002, \dots, 2005 \\ \text{Rent}_{td} = \alpha + \beta V_{pd2006} + \gamma C_{td} + \vartheta_r + \sigma_t + \varepsilon_{dt}, \quad t=2006, \dots, 2007 \\ \text{Rent}_{td} = \alpha + \beta V_{pd2007} + \gamma C_{td} + \vartheta_r + \sigma_t + \varepsilon_{dt}, \quad t=2008, \dots, 2010 \end{array} \right. \quad (2)$$

Mean rent payments paid by the companies in districts during 2002-2005 are regressed on the percentage of votes received by each party elected to the Parliament in 2002 in those districts. The parties that got the power in 2002 stayed in the Parliament until the next elections in March 2006. The same logic applies to 2006 and 2007 elections held in March 2006 and the end of September 2007, respectively.

$V_{pd2002}$  is the percentage of votes received by a party  $p$  in district  $d$  during the 2002 parliamentary elections. It contains voting outcomes of the following parties: Nasha Ukraina (NU), the Communist Party of Ukraine (CPU), Za Yedynu Ukrainu (ZaYedU), the Bloc of Yuliya Tymoshenko (BYUT), the Socialist Party of Ukraine (SPU), and the Social-Democratic Party of Ukraine (united) (SDPUo).  $V_{pd2006}$  is the percentage of votes received by a party  $p$  in district  $d$  during the 2006 parliamentary elections. It contains voting outcomes of the following parties: Nasha Ukraina – People’s Self-Defense (NUNS), the Communist Party of Ukraine (CPU), the Party of Regions (PR), the Bloc of Yuliya Tymoshenko (BYUT), and the Socialist Party of Ukraine (SPU). Finally,  $V_{pd2007}$  is the percentage of votes received by a party  $p$  in district  $d$  during the 2007 parliamentary elections. It contains voting outcomes of the following parties: Nasha Ukraina – People’s Self-Defense (NUNS), the Communist Party of Ukraine (CPU), the Party of Regions (PR), the Bloc of Yuliya Tymoshenko (BYUT), and the Bloc of Lytvyn (BL) (refer to table 1 for more details about the parties).  $V_{pd2002}$ ,  $V_{pd2006}$ , and  $V_{pd2007}$  are time-invariant but vary across districts and

parties. They are matched with land market data on the district level, hence, there are repeated values of election variables for the same district in different years after the elections.

Variables natural logarithm of the *Number of Employees*, *State Support*, and *Political Loyalty* are used to control for company-specific trends and regional/political trends. The natural logarithm of the *Number of Employees* (mean values for districts) is widely used in the corporate finance literature as a proxy for the firm size and bargaining power of a company (Claessens and Laeven 2006). Mean *State Support* at a district level is the mean amount of state subsidies received by the companies in a given year in a district. The vector of *Political Loyalty* variables contains *ZaYedU-loyal*, *BYUT-loyal*, *PR-loyal*, *NU-loyal*, and *NUNS-loyal* variables. Each of them is a dummy taking a value of 1 if an oligarch that supports a certain political party/power has assets located in a given district, and 0 otherwise. For example, if Rinat Akhmetov who actively supports the Party of Regions has assets located in Donetsk, then the value of the *PR-loyal* variable for Donetsk is 1. These variables are all time and location variant. *ZaYedU-loyal* and *PR-loyal* account for assets of oligarchs loyal to Za Yedynu Ukrainu and the Party of Regions, namely Rinat Akhmetov, Viktor Pinchuk, and Serhiy Tihipko. *ZaYedU-loyal* is used for 2002-elections only and *PR-loyal* is used for 2006 and 2007 elections. *ZaYedU-loyal* and *PR-loyal* accounted for assets of the same oligarchs, because oligarchs that supported ZaYedU in 2002, were also supporting PR during 2006-2010. *NU-loyal* and *NUNS-loyal* account for assets of Poroshenko and Serhiy Taruta loyal to Nasha Ukraina/People's Self-Defense and its leader Viktor Yushchenko. *NU-loyal* was used for 2002 elections only, while *NUNS-loyal* was used for the 2006 and 2007 elections. *BYUT-loyal* accounts for assets of Zhevago, Verevs'kyy, and Haiduk that have been supporting Tymoshenko and her Bloc of Yuliya Tymoshenko

since 2002. Only oligarchs that openly express (i.e. in media) their support for a certain political power are used to construct the *Political Loyalty* variables. Data on oligarchs and the location of their assets were taken from the Forbes Ukraine database and from the websites of the corresponding oligarchs. *Political Loyalty* variables are proxies for the closeness of a certain party to certain regions/districts. So that if an oligarch who supports a certain party has financial interests in a particular region, then one can assume that party would also be interested in investing in that region.

Model (1) is robust to endogeneity because of the different time periods in which rent and elections data are collected. For example, the last estimation is for 2008-2010 which means that the rent data is actually collected in 2008-2010, but the election outcomes data is collected in 2007. Consequently, future values of rental rates are not expected to affect past values of the results of the elections.

### **Estimation results**

Estimation of the impact of parliamentary elections on the rental rates for agricultural land is performed on a sample of agricultural companies located throughout Ukraine. Estimation is done with the least-squares dummy variable regressions with region-specific and time fixed effects. Region-specific fixed effects absorb effects particular to each region, while time fixed effects are added to control for unexpected variation or special events that could affect the rental rates.

Table 3 presents the regression results for the first equation of the model (2).  $NU_{2002}$ ,  $CPU_{2002}$ ,  $ZaYedU_{2002}$ ,  $BYUT_{2002}$ ,  $SPU_{2002}$ ,  $SDPU_{2002}$  are 2002 elections results for each particular party. Panels IV-IX present the regression results for each party, while panel I contains results of the model where all the elections results for all the parties are explanatory variables simultaneously in the same regression. Panel II presents results of the estimation where the main independent variables are those for the



parties that have formed the majority in the Parliament after the 2002 elections<sup>10</sup>.

Finally, panel III contains results of the estimation where the main independent variables are elections outcomes for those parties that have been in opposition after the elections. Different specifications of the model displayed in panels I-IX are presented to test whether indeed rents differ in districts that show support to the parties forming the majority and opposition after the elections.

[Table 3 near here]

According to Panel I of Table 3, mean rents paid in districts with higher support for parties forming the opposition after the elections (Nasha Ukraina, the Bloc of Yuliya Tymoshenko, the Socialist Party of Ukraine) tend to be significantly higher. Once we separate elections variables for the parties forming the majority and the opposition in Panel II and III, results do not change, except for the coefficient on SDPU<sub>0</sub> variable that becomes significant. At the same time, rental rates are significantly lower in districts where assets of ZaYedU-loyal oligarchs are located. According to Panels II and III, post-elections mean rents are significantly lower in districts that express higher support for the parties forming the parliamentary majority; while mean rents in districts that support parties from the opposition tend to be significantly higher.

According to results shown in Panels IV-IX, rental rates paid for the land by companies located in districts with higher electoral support for CPU<sub>2002</sub> and SDPU<sub>02002</sub> tend to be significantly lower. So for every 1% of votes in a district, companies pay on average 122-135 UAH<sup>11</sup> less in rent for each hectare of land that they rent. During 2002-2005 an average company in our sample leased 1700 ha of land. Hence, a discount of 122 (135) UAH on each hectare per year generates a total saving of 207.4 (229.5)

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<sup>10</sup> As a robustness check, elections outcomes for majority and opposition parties were summed and these variables were used in two separate estimations. Their results confirm the outcomes presented in tables 3-5.

<sup>11</sup> 1 UAH ~ 0.037 USD as of April 13, 2020.

thousands UAH per year. Usually, land leasing agreements in Ukraine are concluded for 5-10 years. This means that in total, an average company could have saved from 1.037 to 2.295 million UAH. However, if one considers not an average company, but a big agricultural holding that rents 50 thousand ha of land and more, than savings amount to 6.1 million UAH per year and 30.5 million UAH over 5 years. It is reasonable to assume that as the number of landholdings a company cultivates increases, it has more financial incentives to engage in clientelistic relations with political parties.

Coefficients on  $CPU_{2002}$ ,  $ZaYedU_{2002}$  and  $SDPU_{2002}$  are negative (panels IV-IX). Incidentally, *Za Yedynu Ukrainu* and the Social-Democratic Party of Ukraine (united) formed the parliamentary majority after the 2002 elections. They were often supported by the Communist Party when there were important laws to vote for that required more votes from other parties. Hence, results presented in Table 3 are consistent with prior expectations to find systematically lower average rental rates in districts that support parties forming the parliamentary majority after the elections. As discussed above, parties that form the majority can also affect the composition of the Cabinet of Ministers (ministerial seats are usually given to delegates from the parties forming the majority) and have a larger spectrum of power than opposition parties.

The positive coefficient on  $SPU_{2002}$ ,  $NU_{2002}$ , and  $BYUT_{2002}$  variables in panels IV-IX suggest that companies tend to pay higher average rental rates for land in districts that have shown higher electoral support to these parties during 2002 elections. The positive coefficient on  $SPU_{2002}$ ,  $NU_{2002}$ , and  $BYUT_{2002}$  can be a reflection of pro-landowner policies and actions implemented by the parties in districts that exhibit higher electoral support. Incidentally, these were the parties that were in the opposition during 2002-2005.

The coefficient on the *State Support* variable is negative, highly significant and almost constant throughout panels I-VI. However, its effect is very small. The coefficient of *Ln\_Employees*, on the other hand, is positive and significant throughout the panels, and this result means that when the political aspect is taken out, larger companies with more market power tend to pay higher rental rates for land. This is because they have more financial resources to offer landowners for the best pieces of land.

Results for the 2006 parliamentary elections are presented in Table 4. 2006 elections took place in March 2006 and the next elections were held at the end of September 2007 with the new Parliament taking over in December 2007. Hence, parties elected in 2006 continued to have an impact on the political and economic aspects of the life of Ukrainians until the end of 2007.

[Table 4 near here]

Table 4 shows that mean rental rates are significantly higher in districts that exhibit higher electoral support for the Bloc of Yuliya Tymoshenko and the Socialist Party of Ukraine which is consistent with the results shown in Table 3. In panel II and VIII negative coefficient on  $CPU_{2006}$  becomes significant which is also consistent with the results presented for 2002-2005. According to panels IV-VIII, agricultural companies paid significantly lower mean rental rates for land in districts that showed higher support for the Party of Regions and the Communist Party. Incidentally, these parties were part of the majority coalition in the Parliament starting from the mid-summer 2006. By engaging in clientelistic relations with the Party of Regions, a company that cultivated 1 700 ha of land could have saved up to 132.6 thousand UAH per year on average for each additional 1% of votes during the elections; for the

Communist Party supporters, this number could have increased up to 510 thousand UAH per year.

Results of Table 4 are consistent with the results for 2002-2005 and confirm that companies from districts with higher electoral support for majority parties have paid lower rental rates for land.

Table 5 presents the results for the final round of elections under consideration. In 2007 five parties got to the Parliament, and four of them were there also after the 2006 elections. Only the Socialist Party of Ukraine could not get enough votes to stay in the Parliament so that the Bloc of Lytvyn took its place instead. 2007 elections results were matched with land variables over 2008-2010, because 2007 elections took place in late September 2007 and the Parliament of the new convocation took over the seats only at the end of 2007.

[Table 5 near here]

The results of Table 5 are consistent with previous findings presented in Tables 3 and 4. Agricultural companies from districts that exhibited higher electoral support for the Party of Regions, the Communist Party of Ukraine and the Bloc of Lytvyn paid lower rental rates if compared to companies from districts that supported the the Bloc of Yuliya Tymoshenko and Nasha Ukraina. Incidentally, Nasha Ukraina and the Bloc of Yuliya Tymoshenko were in the same political camp after the 2007 elections, while the Party of Regions, the Communist Party and occasionally the Bloc of Lytvyn were on the other side of political barricades. The Bloc of Lytvyn was a particular case, however, because this party had a very unstable political behavior during 2007-2010 and formed alliances with both BYUT/NUNS and PR/CPU at different points in time. Both sets of parties (BYUT/NUNS/BL and PR/CPU/BL) formed the majority in the Parliament during 2008-2010.

In general, the results of the 2008-2010 elections suggest the existence of clientelistic relationships in some districts, especially those that show support for the Party of Regions, the Communist Party of Ukraine, and the Bloc of Lytvyn. Moreover, results for individual parties tend to stay the same in different rounds of elections. In all the elections districts with higher support of the Bloc of Yuliya Tymoshenko and the Socialist Party of Ukraine tend to have significantly higher rental rates, while districts that support the Communist Party and the Party of Regions tend to have significantly lower rental rates. Finally, rental rates are significantly lower in districts that show higher electoral support for parties forming the majority in the Parliament after the elections.

## **Conclusions**

This paper investigates issues connected with clientelism and vote buying behavior in Ukraine during 2002-2010. Parliamentary elections used to be often accompanied by massive falsifications, political control, and manipulations. A land market channel through which this political control has been exercised is analyzed in this research. Around the elections times, district/village level officials could have been put pressure on to ensure a certain number of votes in their districts. To perform well with their task, they could have engaged in clientelistic relations with agricultural companies that have had enough market power to control the political behavior of their employees. In return, the companies could have gotten lower rental rates for agricultural land.

By matching land data with data on election results, three rounds of parliamentary elections are analyzed. Results suggest that companies located in districts with higher electoral support for parties that form the parliamentary majority in the period after the elections tend to get significantly lower rental rates for land than companies operating in pro-opposition districts. Average rental rates were lower in

districts supporting the Social-Democratic Party of Ukraine (united), the Communist Party of Ukraine, the Party of Regions, and the Bloc of Lytvyn that were included in the parliamentary majority at some point during the period of estimation. On the other hand, average rental rates were higher in districts supporting the Bloc of Yuliya Tymoshenko and the Socialist Party of Ukraine that were usually a part of the opposition camp. These results are consistent throughout different elections rounds and suggest that landowners in pro-majority districts have been receiving lower rents than in pro-opposition districts. This confirms a high degree of state capture in the land market that has been inactive for more than 29 years now. Not only landowners cannot fully exercise their rights by selling their land plots, but also the rents some of them receive are affected by the political situation.

The main policy-making implication of these results is that the state must ensure fair rental rates for land in all the districts. This can be achieved only if the land market is open as soon as possible with as little restrictions as necessary in order to earn trust in institutions of the landowners. In this way, the rules of the free market will ensure a fair price and rental rates for land.

The results of this paper contribute to the existing literature by showing evidence of the unfair distribution of rental rates for land based on the political preferences of the districts. They also show that clientelism may exist in many forms including indirect benefits to agricultural companies that support parties during the elections, and not only direct transfers from the Government as researched previously.

The main limitation of this study, however, is that the land market data is available only for 2002-2010. Unfortunately, the data is not public and cannot be accessed freely for the subsequent years. Also, the elections data is available on a district level and is time-invariant. This, however, should not bias the results presented

in this paper, but further research should explore other methodological techniques to account for this issue.

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#### Data availability statement

Elections data is available on the web-page of the Central Elections Committee of Ukraine: [https://www.cvk.gov.ua/vibory\\_category/vibori-narodnih-deputativ-ukraini.html](https://www.cvk.gov.ua/vibory_category/vibori-narodnih-deputativ-ukraini.html)

The land market data that support the findings of this study are available from the corresponding author, Olha Zadorozhna, upon reasonable request.

Table 1. Distribution of parliamentary mandates after the elections and parliamentary majority details.

Parties	Political wing	Parliamentary elections, % mandates		
		31.03.2002*	26.03.2006	30.09.2007
Nasha Ukraina (NU) – NUNS <sup>12***</sup>	Right-central	24.6	14.0	14.2
Communist Party of Ukraine (CPU)	Left	14.0	3.7	5.4
Za Yedynu Ukrainu (ZaYedU) <sup>***</sup>	Left-central	40.6	-	-
Bloc of Yuliya Tymoshenko (BYUT) <sup>***</sup>	Left-central	5.1	22.3	30.7
Socialist Party of Ukraine (SPU)	Left	4.6	5.7	-
SDPUo	Left-central	6.6	-	-
Party of Regions (PR)	Left-central	-	32.1	34.4
Bloc of Lytvyn (BL) <sup>***</sup>	Left-central	-	-	4.0
Unaffiliated <sup>**</sup>		4.5	-	-

  

	If a party was part of a parliamentary majority (PM) in		
	2002-2006	2006-2007	2007-2010
Nasha Ukraina (NU) – NUNS		Yes – PM1	Yes – PM1
Communist Party of Ukraine (CPU)		Yes – PM2	Yes – PM2
Za Yedynu Ukrainu (ZaYedU)	Yes		
Bloc of Yuliya Tymoshenko (BYUT)		Yes – PM1	Yes – PM1
Socialist Party of Ukraine (SPU)		Yes – PM1&2	
SDPUo	Yes		
Party of Regions (PR)		Yes – PM2	Yes – PM2
Bloc of Lytvyn (BL)			Yes – PM1&2

Source: Central Elections Committee of Ukraine.

Notes: \* 2002 elections were held based on the mixed voting system explained above; hence, the final number of mandates each party got consisted of mandates got in a nation-wide district (proportional system), mandates got in the single-seat district (plurality rule), and mandates got from interfactional switches<sup>13</sup>. \*\* Unaffiliated members of the Parliament are those that do not belong to any of the existing political factions in the Parliament and are elected based on the plurality rule. \*\*\* Political blocs formed with several parties to participate in elections. PM1 means that a party was part of the first parliamentary

<sup>12</sup> During the 2002 and 2006-2007 parliamentary elections the political bloc Nasha Ukraina (NU) was formed of a different number of parties. That is why it changed its name from NU to NUNS for the 2006-2007 elections. Although the name and the composition of the bloc changed slightly in 2006-07, the leadership and political vision remained the same.

<sup>13</sup> Parties that get seats in the Parliament form factions. Until December 2004 when interfactional switches were banned, it was a common practice for the delegates in Ukrainian Parliament to switch between the factions. Parties used to even pay members of other parties to switch to increase the number of seats they had. Usually, interfactional switches happened before some major voting in the Parliament or when the parliamentary majority was to be formed. Interfactional switches were again allowed in late 2010 after the Constitutional Court of Ukraine dismissed 2004 amendments to the Constitution.

majority that eventually was dissolved. PM2 means that a party was part of the second parliamentary majority. PM1&2 means that a party was part of the first and second parliamentary majorities.

Table 2. Description of variables.

Years	Variable	Obs	Mean	SD	Median	Min	Max	Unit of Measurement
2002-2005	rent_actual	2096	93	58	88	0	1023	UAH/ha
2006-2007	rent_actual	1087	112	65	109	0	843	UAH/ha
2008-2010	rent_actual	1687	204	112	195	0	1300	UAH/ha
2002-2010	ln_employees	4956	3.821	0.768	3.841	0	7.296	Ln(# of persons)
	state_support	3738	497	1349	198	0	27089	Ths. UAH
2002-2010	PR_loyal	4957	0.069	0.254	0	0	1	
	NU(NS)_loyal	4957	0.039	0.195	0	0	1	
	Tymoshenko_loyal	4957	0.037	0.189	0	0	1	
2002	NU	588	0.238	0.215	0.199	0.012	0.802	
	CPU	588	0.202	0.126	0.173	0.007	0.468	
	ZaYedU	588	0.120	0.091	0.093	0.010	0.517	% of votes received
	BYUT	588	0.071	0.054	0.064	0.005	0.285	
	SPU	588	0.092	0.089	0.063	0.003	0.418	
	SDPUo	588	0.060	0.040	0.051	0.006	0.234	
2006	NUNS	588	0.146	0.117	0.114	0.008	0.543	
	CPU	588	0.041	0.022	0.042	0.001	0.099	
	BYUT	588	0.230	0.134	0.241	0.015	0.494	% of votes received
	SPU	588	0.075	0.055	0.059	0.003	0.204	
	PR	588	0.287	0.243	0.182	0.006	0.821	
2007	NUNS	588	0.150	0.103	0.142	0.011	0.483	
	CPU	588	0.054	0.027	0.058	0.001	0.111	
	BYUT	588	0.320	0.182	0.366	0.024	0.636	% of votes received
	LP	588	0.044	0.023	0.043	0.006	0.149	
	PR	588	0.314	0.233	0.229	0.013	0.823	

Notes: The number of observations of the elections variables is the number of unique

observations, i.e. there are 588 electoral districts for which election results are available.

Then this data is matched with land market data and the created panel dataset contains repeated observations for a particular territorial district at a different point in time.

Rent\_actual, ln\_employees, and state\_support are means of the corresponding variables at a district level. The number of observations of PR-loyal, NU(NS)-loyal, and Tymoshenko-loyal variables is the same as the number of districts in the panel for 2002-2010.

Table 3. Estimation results for the years 2002-2005.

Rent 2002-2005	I	II	III	IV	V	VI	VII	VIII	IX
NU	127.592***		91.519***	80.188***					
t-stat	(2.36)		(-3.20)	(3.78)					
CPU	8.560		-15.780		-122.248***				
t-stat	(0.11)		(-0.28)		(-3.23)				
ZaYedU	43.120	-56.265				-31.824			
t-stat	(0.64)	(-1.30)				(-0.75)			
BYUT	144.197***		104.940**				90.389**		
t-stat	(2.36)		(2.34)				(2.05)		
SPU	114.529**		87.950***					72.896***	
t-stat	(2.21)		(2.50)					(2.71)	
SDPU <sub>o</sub>	129.789	-180.147**							-134.771*
t-stat	(1.15)	(-2.34)							(-1.68)
state_support	-0.001*	-0.001*	-0.002*	-0.001*	-0.001*	-0.001*	-0.001*	-0.001*	-0.001*
t-stat	(-1.80)	(-1.74)	(-1.74)	(-1.83)	(-1.73)	(-1.78)	(-1.64)	(-1.64)	(-1.65)
ln_employees	26.422***	27.825***	26.699***	28.115***	26.826***	27.620***	27.078***	26.807***	27.638***
t-stat	(5.85)	(6.17)	(5.85)	(6.19)	(5.89)	(6.09)	(5.91)	(5.86)	(6.08)
ZaYedU_loyal	-18.035	-22.493**	-20.229*	-20.924**	-22.359**	-21.483**	-20.579**	-18.781*	-20.102**
t-stat	(-1.40)	(-2.07)	(-1.87)	(-2.07)	(-2.17)	(-1.97)	(-2.04)	(-1.84)	(-2.00)
BYUT_loyal	-10.155	-15.311	-10.784	-16.007	-11.779	-15.572	-15.628	-10.256	-14.449
t-stat	(-0.90)	(-1.35)	(-0.92)	(-1.35)	(-0.95)	(-1.36)	(-1.33)	(-0.89)	(-1.24)
NU_loyal	21.165	19.629	20.739	19.545	18.288	19.145	18.271	21.494	19.848
t-stat	(1.00)	(0.98)	(1.00)	(0.99)	(0.91)	(0.96)	(0.92)	(1.08)	(1.01)
Const	-12.202	45.950	18.502	10.658	68.318**	23.594	22.350	24.247	37.600
t-stat	(-0.21)	(1.63)	(0.50)	(0.43)	(2.23)	(0.93)	(0.91)	(0.98)	(1.42)
Regional FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
R-squared	0.34	0.33	0.34	0.33	0.34	0.33	0.33	0.33	0.33
Obs.	1032	1032	1032	1032	1032	1032	1032	1032	1032

Notes: \*\*\* - significant at 1% level; \*\* - significant at 5% level; \* - significant at 10% level.

Dependent variable is  $Rent_{td}$ , where  $t=2002, \dots, 2005$ . FE stands for fixed effects.

Table 4. Estimation results for the years 2006-2007.

Rent 2006-2007	I	II	III	IV	V	VI	VII	VIII
PR	16.939	-8.128		-77.965***				
t-stat	(0.40)	(-0.30)		(-3.40)				
BYUT	102.786*		115.241***		115.690***			
t-stat	(1.67)		(3.37)		(3.36)			
NUNS	-64.086		-40.160			-42.061		
t-stat	(-1.08)		(-0.86)			(-0.89)		
SPU	249.988***	217.125***					221.360***	
t-stat	(3.67)	(3.78)					(4.57)	
CPU	-240.257	-311.261***						-300.080***
t-stat	(-1.60)	(-2.76)						(-2.77)
state_support	0.00004	-0.00016	-0.00021	-0.00020	-0.00020	-0.00046	-0.00011	-0.00053
t-stat	(0.01)	(-0.04)	(-0.05)	(-0.05)	(-0.05)	(-0.12)	(-0.03)	(-0.14)
ln_employees	26.102***	26.520***	27.054***	26.847***	27.120***	27.510***	26.609***	27.551***
t-stat	(5.03)	(5.22)	(5.21)	(5.26)	(5.25)	(5.36)	(5.24)	(5.41)
PR_loyal	-1.661	-2.109	-2.757	-2.567	-2.863	-2.067	-0.045	-4.086
t-stat	(-0.18)	(-0.23)	(-0.30)	(-0.28)	(-0.31)	(-0.23)	(-0.01)	(-0.44)
BYUT_loyal	14.166	15.650	12.924	15.885	13.298	13.737	16.091	13.567
t-stat	(1.43)	(1.55)	(1.29)	(1.57)	(1.33)	(1.35)	(1.61)	(1.33)
NUNS_loyal	0.384	-0.246	-3.943**	-2.677	-2.961	-2.274	0.380	-3.073
t-stat	(0.04)	(-0.02)	(-1.96)	(-0.27)	(-0.30)	(-0.23)	(0.04)	(-0.30)
Const	25.790	44.237*	22.285	72.530***	18.824	28.334	24.729	38.738*
t-stat	(0.63)	(1.66)	(1.02)	(2.81)	(0.91)	(1.27)	(1.18)	(1.79)
Regional FE	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES
R-squared	0.30	0.30	0.29	0.29	0.29	0.28	0.29	0.29
Obs.	1055	1055	1055	1055	1055	1055	1055	1055

Notes: \*\*\* - significant at 1% level; \*\* - significant at 5% level; \* - significant at 10% level.

Dependent variable is  $Rent_{it}$ , where  $t=2006, 2007$ . FE stands for fixed effects.

Table 5. Estimation results for the years 2008-2010.

Rent 2008-2010	I	II	III	IV	V	VI	VII	VIII
PR	-129.652***		-147.395***	-151.620***				
t-stat	(-3.48)		(-4.96)	(-5.76)				
BYUT	106.865***	170.490***			189.330***			
t-stat	(2.50)	(5.11)			(6.43)			
NUNS	-51.434	27.706				119.236**		
t-stat	(-0.72)	(0.41)				(2.01)		
CPU	188.416		-45.411				-419.531***	
t-stat	(0.97)		(-0.25)				(-2.70)	
BL	-506.066***	-399.928***						-508.206***
t-stat	(-3.05)	(-2.48)						(-3.12)
state_support	-0.0004	-0.0005	-0.0003	-0.0003	-0.0004	-0.0005	-0.0005	-0.0006
t-stat	(-0.28)	(-0.39)	(-0.23)	(-0.22)	(-0.32)	(-0.36)	(-0.38)	(-0.44)
ln_employees	36.186***	36.851***	36.307***	36.293***	36.630***	37.659***	37.511***	37.921***
t-stat	(4.97)	(5.03)	(4.92)	(4.91)	(4.99)	(5.08)	(5.05)	(5.16)
PR_loyal	-11.513	-10.783	-8.929	-8.952	-9.500	-8.274	-8.672	-10.744
t-stat	(-1.09)	(-1.02)	(-0.84)	(-0.84)	(-0.89)	(-0.78)	(-0.80)	(-1.01)
BYUT_loyal	14.753	14.582	18.268*	18.396*	16.145	18.761*	16.263	14.522
t-stat	(1.39)	(1.36)	(1.77)	(1.77)	(1.57)	(1.76)	(1.55)	(1.33)
NUNS_loyal	3.591	5.229	2.440	2.430	4.820	4.137	3.218	3.838
t-stat	(0.24)	(0.35)	(0.16)	(0.16)	(0.32)	(0.28)	(0.21)	(0.26)
Const	202.062***	119.994***	212.245***	211.407***	104.979***	104.862***	147.092***	135.063***
t-stat	(5.03)	(4.30)	(6.73)	(6.74)	(4.11)	(3.99)	(5.25)	(4.87)
Regional FE	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES
R-squared	0.40	0.40	0.40	0.40	0.40	0.39	0.399	0.39
Obs.	1614	1614	1614	1614	1614	1614	1614	1614

Notes: \*\*\* - significant at 1% level; \*\* - significant at 5% level; \* - significant at 10% level.

Dependent variable is  $Rent_{it}$ , where  $t=2008, \dots, 2010$ . FE stands for fixed effects.