DOES THE PROSPERITY OF YOUR REGION DEPEND ON YOUR ELECTED REPRESENTATIVE

by

Vialykh Kateryna

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Approved by _____
Head of the KSE Defense Committee, Professor Wolfram Schrettl

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Date _____

Kyiv School of Economics

Abstract

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The main aim of this research is to analyze how regional representation, measured as the number of parliamentary deputies associated with a certain region of Ukraine, affects the development of this region, measured by real gross regional product per capita and grants to regions from the Ukrainian State Budget per capita. Using data for 25 Ukrainian regions (oblasts) for the period 2002-2008, two estimation procedures were performed: fixed effect and Hausman-Taylor estimations. Empirical analysis suggests that the composition of region's delegates in the Verkhovna Rada has no implications on the variation in real gross regional product per capita, however, it has negative effect on the state budget allocation.

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Chapter 1

INTRODUCTION

In accordance with the Ukrainian Constitution, the Verkhovna Rada (Ukrainian Parliament) is the legislative body consisting of 450 deputies, which, among other functions, is responsible for adopting the State budget. Therefore, parliament members make the final decision about the allocation of financial resources across different regions. Since parliament members have their origin in different regions of Ukraine and some of them are elected in single-mandate districts, one can assume that, ceteris paribus, deputies do have an interest in lobbing the interests of a certain region when allocating the limited budget recourses. And the bigger is the number of such deputies, who favor a specific region, the stronger is their influence on the allocation decisions.

A great number of studies is devoted to the discussion whether the representation really matters and why politicians tend to lobby particular interests. As the existing literature suggests, there are three main hypotheses of distributive politics, which explain different kinds of motivation behind the distribution of public goods. The "swing voter" hypothesis claims that public officials allocate larger shares of public resources to the regions containing larger percentages of indifferent voters. The "electoral battleground" hypothesis argues that goods should be disproportionately allocated to regions, where the share of supporters of each major party is closer to 50%. The "partisan supporters" hypothesis stresses that politicians favor the regions containing a large share of their core supporters. The majority of the existing studies proved the abovementioned theories based on the evidence from different countries. It would be reasonable to assume that Ukrainian politicians as well have an incentive in lobbing regional interests. All things considered, the purpose of the current research is to establish

whether there is an effect of the deputy representation on the regional performance in Ukraine.

Another argument that motivates this research is that the electoral system in Ukraine has changed twice over the last dozen years. Specifically, the first change took place in 1998, when a majoritarian system was substituted with a mixed system. Under the mixed system half of the deputies were elected according to the majoritarian system in single-mandate districts, whereas the other half was elected via the party lists. The second change was in 2006, when the mixed system was replaced with a pure proportional system. All the aforementioned changes have caused variations in the representation of different regions in the Ukrainian parliament. A key difference between these two systems is that in the majoritarian system every election district is sure to be represented in the parliament, which is not the case under the current proportional nationwide list system. Taking into account the available data, current research focuses on the second change in the electoral system. The effect of the electoral transformation could be assessed and analyzed by comparing regional performance before and after the change.

Summing up, the main aim of this research is to analyze how regional representation, measured as the number of parliamentary deputies associated with a certain region of Ukraine, affects the development of this region. The main hypothesis is that the higher is the number of representatives from a certain region in the Ukrainian Parliament, the better is its performance.

The data used for the estimation is obtained from the statistical yearbooks "Ukrainian regions", the State Budget and KSE database on voting and parliament members for the period 2002-2008.

The work is divided into several parts. Chapter 1 introduces the research topic and discusses its importance. Chapter 2 reviews the existing literature that is the most relevant for the paper. Chapter 3 describes the methodology and econometric specifications. Chapter 4 describes data sources of the variables used in the model. Chapter 5 concerns the discussion of the empirical results and possible extension, whereas, Chapter 6 includes the concluding remarks.

Chapter 2

LITERATURE REVIEW

The literature review section is divided into two main parts, where the first one discusses the theoretical background of the issue and analyzes two main groups of distributive models, while the second part considers various empirical results based on evidence from different countries.

There are two broad groups of distributive models: partisan models that focus on the incentives of political parties in the distributive policy, and nonpartisan models that analyze the incentives of individual legislators. Both of these groups are analyzed in detail by Shepsle and Weingast (1994). The first group of models claims that ruling party uses distributive policies to maximize its objectives, for example, to maximize the number of seats or to keep the majority of seats in a legislative body. According to these models, individual party members are more likely to be re-elected as their party has a greater control over the resources. Partisan models have been an active subject of research of numerous economists, such as Rohde (1991), Cox and McCubbins (1993), Coker and Crain (1994), during the last two decades. Moreover, based on evidence from 19 OECD countries, Brauninger (2005) finds evidence for partisan hypothesis that party affiliation matters while allocating budget sources.

While the partisan models illustrate the party's motivation in the distributive policy, the nonpartisan models describe the incentives of individual legislators. As the models suggest, politicians try to maximize their chances of being re-elected by maximizing the benefits directed to their electorate. Since legislators hold diverse seniority ranks, they also have different levels of influence over national policies. Levitt and Poterba (1999) test two kinds of nonpartisan distributive politics models. According to the first one, more senior legislators should be able

to direct greater economic gains to their electorate. On the other hand, the second assumes that influential committee members, and not senior members per se (seniority hypothesis allows senior members to achieve favorable policy outcomes even if they do not serve in the committee) should capture benefits for their constituencies. The authors provide solid support for both versions of the model.

As it was mentioned above, the allocation of the resources may differ depending on the party's or legislator's objectives. For instance, a party may allocate disproportionately larger amounts of budget resources to the regions with larger amount of indifferent voters, or perhaps, some legislators may favor the regions that contain a large share of their core supporters. These types of behavior are described by three main hypotheses of distributive politics. The first is the "swing voter" hypothesis that states that public officials favor regions with large percentages of indifferent voters. Wallis (1996), Fleck (1999), Fishback et al. (2003) are among advocates of the hypothesis, in contrast to Stromberg (2004) or Larcinese et al. (2006) who find no support for the "swing voter" hypothesis.

The second "electoral battleground" hypothesis stresses that deputies favor the regions where the share of supporters of each major party is closer to 50%. Nagler and Leighley (1990), Persson and Tabellini (2004), Lizzeri and Persico (2001) are among those who find evidence for this hypothesis, in disparity with Larcinese et al. (2006), who reject the hypothesis.

The alternative "partisan supporters" hypothesis stresses that politicians target spending toward loyal constituencies. Dixit and Londregan (1996) and Sim (2002) find the positive relationship between spending and number of core supporters as a realization of the "partisan supporters" hypothesis.

This research is aimed to test nonpartisan distributive politics model based on evidence from Ukraine, specifically, to analyze the effect of deputy representation

on the regional performance. Similar studies were done in other countries as well. For instance, Kawaura (2004) examines the impact of legislative representation on budget allocation in Thailand. As a result, the author concludes that legislative representation does have an impact on budget allocation. First of all, regions with more ruling party members in the legislature tend to receive greater benefits through capital budget. Moreover, the author provides convincing evidence that if legislative representation among regions is highly proportional to their population, the representation does not affect the budget allocation.

Levitt and Poterba (1999) examine the effect of representation in the US Senate on both state per capita income growth (economic factor) and government spending (political factor). The authors assume that, besides the direct distribution of government spending, legislators may affect regional prosperity in many ways, for instance, by encouraging special tax policies. As a result, the authors find much weaker spending-seniority relationship than growth-seniority relationship. This result is quite unexpected and the source of growth-seniority relationship should be analyzed in more detail.

Moreover, several researchers examine whether different political bodies affect budget allocation in Ukraine. For instance, Chernyak (2000) finds that several political parties in the Ukrainian parliament affect the distribution of grants among regions. Fedzhora (2000) argues that the net transfers to regions are affected by the results of Presidential elections. Both of the aforementioned studies use net government transfers to regions as a dependent variable.

The abovementioned results provide the trustworthy evidence that Ukrainian political bodies are biased in their allocation decisions. Despite the fact that there are studies on the party or president level, there is no study undertaken on deputy representation in the Parliament based on the Ukrainian evidence. This paper is

aimed at making an additional contribution to the development of this topic in Ukraine.

Chapter 3

METHODOLOGY

According to the Ukrainian Law about intergovernmental transfers, transfers from central budget to region budgets are formula-based. As the distribution formula suggests, region's population, tax contribution, income and region's fixed effects should explain a great deal of the variation in the government transfers across different regions in Ukraine. Besides, variation over time may be explained by year-specific shocks to the government's available resources for regional distribution, and therefore, common to all districts. According to Khemant (2003), the empirical specification of the model with formula-driven transfers should be the following:

$$Y_{it} = a_1 + a_2 * X_{it} + a_3 * W_{it} + \delta_i + \tau_t + \varepsilon_{it} \quad (1)$$

where i stands for region and t indexes years, Y_{it} is a measure of region's performance in region i at year t, X_{it} is a vector of variables measuring legislator representation, W_{it} is a vector of region's economic characteristics that are dictated by the distribution formula, δ_i *is* a vector of region fixed effects and τ_t is a vector of year fixed effects, included to control for different shocks to the fiscal funds in any given period. The presence of year fixed effects and region effects means that the parameters are identified by variation within each region through time. Any constant fixed features will be picked up by the fixed effect, and, consequently, will not affect our estimates.

Next, I discuss parameters of this rather general model in detail, starting from the dependent variable. As the existing literature suggests, there are two basic concepts of measuring regional performance Y_{it} in distributive models. While some researchers prefer to focus on pure economic factors, others use public finance indicators as a measure of distributive policy outcome. The first group of studies concentrates on the use of economic variables as a measure of region

performance. Among many other representatives of this group, Dias and Silvan (2004) analyze the impact of the government transfers to municipalities on economic performance of the Portuguese regions. As the dependent variables, the authors use three different measures of the regional economic development: regional GDP per capita, employment rate and regional GVA (gross value added) per worker. As a result, the authors find that government transfers per capita have a positive impact on regional economic development, except for employment rate. Levitt and Poterba (1999) use the growth rate in per capita personal income in each state as a dependent variable. The authors find positive correlation between the state economic growth and congressional representation, measured by seniority or membership. Their result is consistent with nonpartisan distributive politics models.

The second wider group of studies uses public finance indicators to measure regional performance. Since the budget resources are under direct control of the elected officials, public finance indicators show the explicit influence of representation on region's economic performance. For example, Kawaura (2004) uses central government expenditures allocation relative to its revenue contribution as a measure of budget allocation in Thailand. In contrast, Kraemer (1997) uses per capita transfers from the federal to the provincial governments as a measure of region's performance in Argentina, Brazil and Mexico.

Just as there are several ways to measure region's performance, there are different ways of measuring the representation of officials in the Parliament (X_{it} in our model). The number of representatives per capita is the most commonly used measure (Larcinese et all, 2007). However, Kawaura (2004) uses slightly modified measure – a province's representation share in the legislature in comparison to its total population share – as a main explanatory variable, which can be represented as follows:

$$RRI_{it} = (REP_{it} / REP_{jt}) / (POP_{it} / POP_{jt}) \quad (2)$$

where REP_{it} is the number of delegates from province i in the House of Representatives (and the Senate) in the year t, REP_{jt} is the total number of legislators in the year t, POP_{it} represents the province population in the year t, POP_{jt} is the total nation's population in the year t.

The comparative advantage of this RRI index over the representatives per capita is that it is more informative and easier to interpret. For instance, if RRI index is clustered around unity and has a small variance, it is suggested that the legislative representation closely reproduces the demographic composition.

The remaining explanatory variables of the model, which should be discussed, are a vector of region's economic characteristics, W_{it}. The region's economic characteristics, which are commonly used in the distributive models, are divided into economic, demographic, and geographical. The economic factors include region's budget deficit/revenue per capita, industrial and agricultural outputs used as a proxy for the region's income, capital investment used as an indicator of real region's performance, inflation rate. The demographic factors are unemployment rate used a proxy for labor force participation, pension and social benefits arrears used as a proxy for social tension, poverty level, percentage of individuals receiving pension, share of individuals over 65. The geographical factors include geographical share, regional dummies (north, east), size of largest city and others. Based on availability of the data, region's economic characteristics W_{it} in our model include share of agricultural output as proxy for the level of regional development, capital investment as an indicator of real region's performance, direct foreign investments to the region and average wages as a proxy for social inequalities.

The anticipated drawback of the model (1) is the possible endogeneity problem. The first source of distress concerns endogeneity between the deputy representation and the regional performance as better region's position may

influence voter perceptions and lead to a higher number of representatives in the Parliament. I address this by scrutinizing the next feature of electoral system in Ukraine: elections are commonly organized at the beginning of a fiscal year. The resulting number of deputies elected in year *t* is applicable to fiscal year *t* in region *i*, over which the performance of the region is measured. Therefore, regional performance may be regarded as pre-determined with respect to the deputy representation (no endogeneity). The possible endogeneity between regional performance and control variables is mitigated by using lag values of control variables.

Chapter 4

DATA DESCRIPTION

The data is taken from the Ukrainian Statistics Committee' official web site (www.ukrstat.gov.ua) as well as from the statistical yearbook "Ukrainian regions" and State Budgets (http://zakon1.rada.gov.ua). The balanced data is collected for 25 Ukrainian regions (oblasts) for the period 2002-2008 years. The choice of this sample is dictated by the availability of the deputy representation data (only from 1998). Moreover, gross regional product per capita has missing year data in 2001 and foreign direct investments in 2000.

The oblast level data on real gross regional product per capita (*GRP)* and grants to regions from the Ukrainian State Budget per capita (*Subsidy)* are used as dependent variables.

Table 1. Summary statistics of the dependent variables

Variable		***Mean***	***Std. Dev.***	***Min***	***Max***	***Observations***
GRP	overall	7198.43	4095.94	2302.57	24853.70	N=175
	between		2188.74	4571.67	12151.68	n=25
	within		3485.87	36.94	19900.45	T=7
Subsidy	overall	61.58	49.31	-22.78	213.68	N=175
	between		27.96	-12.75	95.86	n=25
	within		40.94	-13.80	179.41	T=7

Table 1 shows great variation both in *GRP* and *Subsidy* across different regions as well as over time. Note that some regions get negative amount of *Subsidy*, e.g. do not receive subsidies from the state budget, but transfer funds to the national budget. On average, *Subsidy* represents only about 0.8% of *GRP*.

The set of control variables includes direct foreign investments in US dollars per capita (*DFI*), real average wage (*Wages*), share of agriculture output in gross

regional product (*Agricult*) and real capital investments per capita (*Invest*). The summary statistics is presented in Table 2 below:

Table 2. Summary statistics of the control variables

Variable		***Mean***	***Std. Dev.***	***Min***	***Max***	***Observations***
DFI	overall	133.64	128.11	13.90	858.20	N=175
	between		93.96	29.97	380.62	n=25
	within		88.82	164.54	611.21	T=7
Wages	overall	700.92	342.11	240.85	1625.00	N=175
	between		96.09	563.77	927.38	n=25
	within		328.82	227.80	1398.53	T=7
Agricul	overall	36.43	28.82	4.38	99.23	N=175
	between		15.87	9.82	58.71	n=25
	within		16.327	6.88	78.80	T=7
Invest	overall	1639.81	1144.88	266.41	7966.66	N=175
	between		567.39	907.81	3380.27	n=25
	within		999.96	874.52	6226.19	T=7

Scrutinizing between variations in variables from Table 2, one can conclude that regions differ in many aspects. Non-zero within variation in variables suggests that regional characteristics also change across time.

The data on representation in the Ukrainian Parliament, which is the variable of our prime interest, is constructed on the basis of the KSE dataset on voting and parliament members. It includes statistics on the number of deputies in each oblast during III (1998-2002), IV (2002-2006) and V (2006-2007) convocations. Deputies are assigned to regions in such a way that for majoritarian deputies it is a region, in which they are elected, whereas for deputies elected under proportional nationwide list system it is a place of their birth.

The data set includes 1447 deputies during III – V convocations, however only 1141 of them are used in this paper. The following categories of deputies are excluded from the analysis: deputies of cities Kyiv and Sevastopol; deputies who

originate from other country than Ukraine; deputies whose nationality or citizenship cannot be determined.

Table 3. Number of deputies in the Verkhovna Rada

	III convocation	***IV convocation***	***V convocation***
Autonomous Republic of Krym	14	12	8
Vinnyts'ka Oblast'	12	21	18
Volyns'ka Oblast'	7	11	9
Dnipropetrovs'ka Oblast'	34	28	18
Donets'ka Oblast'	50	42	69
Zhytomyrs'ka Oblast'	9	11	12
Zakarpats'ka Oblast'	7	12	4
Zaporiz'ka Oblast'	17	18	15
Ivano-Frankivs'ka Oblast'	11	14	10
Kyʔvs'ka Oblast'	16	18	17
Kirovohrads'ka Oblast'	17	16	9
Luhans'ka Oblast'	21	17	13
L'vivs'ka Oblast'	27	30	17
Mykolaʔvs'ka Oblast'	12	10	6
Odes'ka Oblast'	18	21	8
Poltavs'ka Oblast'	17	16	15
Rivnens'ka Oblast'	6	10	7
Sums'ka Oblast'	12	11	8
Ternopil's'ka Oblast'	8	14	10
Kharkivs'ka Oblast'	26	25	14
Khersons'ka Oblast'	10	6	4
Khmel'nyts'ka Oblast'	15	11	10
Cherkas'ka Oblast	10	12	9
Chernivets'ka Oblast'	10	5	3
Chernihivs'ka Oblast'	13	21	17
Total by regions	**399**	**412**	**330**
Kyiv City	28	23	16
Sevastopol' City	1	2	1
Other countries	15	15	38
Origin cannot be determined	29	52	86
Total	**472**	**504**	**471**

In Table 3 the total number of deputies is higher than 450 because some of representatives did not work as parliamentarians during whole term (e.g. some of them were replaced when they were appointed to work in the government).

Table 4. Summary statistics of the representation

Variable		*Mean*	*Std. Dev.*	*Min*	*Max*	*Observations*
Deputy	overall	15	10.40	3	69	N=175
	between		9.76	4.85	54.71	n=25
	within		4.00	2.28	29.28	T=7

Deputy represents how many deputies represented a certain region in the Parliament. One can conclude that representation across regions varies from 3 to 69 members. This may be considered as an evidence of disproportional regional representation in Ukraine.

The variables I use are reported with different frequency. While our dependent and control variables are annual, our right-hand side variable *Deputy* is repeating during four years. I account for this familiar grouped variables problem by adjusting the standard deviations through clustering on voting cycle-electoral region cells.

Chapter 5

RESULTS

In order to investigate how representation affects region's GRP (Gross Regional Product), two estimation procedures were performed: fixed effect and Hausman-Taylor estimations. Fixed effect procedure accounts for and eliminates from the model all time-invariant unobserved regional characteristics. Hausman-Taylor estimation fits panel-data random-effects models, in which some of the covariates are correlated with the unobserved individual-level random effect. The Hausman-Taylor estimation is performed in order to deal with possible endogeneity problem discussed earlier. The regression results from both procedures could be found in Table A1 and Table A2 of the Appendix.

Two different model specifications were estimated. The first model specification assumes that representation influences GRP immediately in the current period. Since the State Budget is approved one year in advance (elected parliament members will vote for the next period budget), the insignificant coefficients near the variable of our primary interest for this specification are expected. Results in Table A1 confirm our expectations.

In the second specification (columns two and four in Table A1), in addition to the current value of the representation, we include also the lagged value of *Deputy* in the Parliament. If regional representation in the parliament is an important determinant of the economic performance of the regions the lagged *Deputy* should enter with positive coefficient.

According to the results, representation does not seem to influence GRP directly even with a one-year lag. Among the possible explanations that we can suggest is

that regional representation may influence economic performance indirectly, via, for example, higher investments funded from the state budget.

The signs of the coefficients on the control variables are in line with the existing economic theory and empirical evidence from other countries. Standard economic theory predicts positive relationship between investment and output. This is confirmed for two types of investment included in the model: the positive effect of both real capital investment and foreign direct investment is robust across specifications and estimation procedures. Regions with higher share of agriculture seem to be poorer while the effect of wages is not robust across estimation procedures.

As outlined in the Methodology section, the second approach to test the effect of the regional representation is to use budget transfers as dependent variables. Table A2 presents regression results when *Subsidy* is used as a dependent variable. Regions represented by a higher number of parliament members are expected to receive more transfers.

In contrast to our expectations, the results demonstrate strong negative effect of the deputy representation on the amount of budget funds allocated to a specific region. This puzzling result could possibly be explained by the following factors. First, as there are many deputies in the Verkhovna Rada from one particular region, marginal efforts of each additional deputy to get larger grant for the region are declining. Second, the formula-based allocation of transfers from the state budget does not leave a lot of room for parliament members to use budget transfers to benefit their regions. Lastly, our variable of interest may imperfectly measure regional representation, especially in case of deputies elected under proportional system.

The effect of the control variables except for agricultural share is not robust across specifications estimated with fixed effects and Hausman-Taylor technique.

For, example, while coefficient on foreign direct investments is positive and significant under fixed effects, it looses significance under Hausman-Taylor. Among the control variables, only *Agricul i*s significant at 1 and 5% level of confidence, respectively. As the estimates suggest, regions with higher share of agriculture output in GRP get fewer transfers from the State budget implying that more industrialized regions are subsidized from the budget, instead. Moreover, quite low goodness of fit (low R^2) suggests that our model cannot explain well the differences in budget transfers across different regions.

Chapter 6

CONCLUSION

Different political economy theories look at the incentives of the representatives to benefit specific groups of voters (regional, social, etc.). They postulate that politicians are biased in making their decisions towards resource allocation based upon the optimization of their electoral objectives. The implications of these models are tested and seem to find support in the numerous empirical studies.

This paper is aimed to fill the gap in studying this issue for the case of Ukraine. In particular, this paper investigates how regional performance may be affected by the legislative representation of regions in the Parliament. While regional representation may affect economic performance indirectly, it may directly affect allocation of budget resources via subsidies and grants and thus benefit specific regions. Therefore, by examining economic performance as well as budget resources allocation in the context of political representation gives better understanding of motives of politicians, when allocating the limited budget resources in Ukraine.

To analyze this issue empirically we use regional information dataset for 2002-2008 as well as information on the parliament composition and deputies regional relations. We employ two estimation strategies for our panel: fixed effects and Hausman-Taylor.

The results of the empirical analysis suggests that the composition of region's delegates in the Verkhovna Rada has no implications on the variation in regional GRP, however, it has negative effect on the state budget allocation. The later finding seems to contradict the fact that subsidies to the regions are formula-driven and, therefore, resource allocation should not depend on representation.

Moreover, empirical estimation suggests that regions with higher share of agriculture output in GRP get smaller transfers from the state budget.

Future study on this issue would be valuable for a better understanding of political incentives behind budget allocation in Ukraine. In constructing our variable of interest we implicitly have assumed homogeneous effect of parliament members on the budget allocation. However, if influence differs across deputies because of seniority and/or position on the various committees it should be taken into account. Moreover, given the formula-based approach in assigning budget transfers, the parliament members may direct funds to benefit particular regions using off-budgetary funds or other state programs.

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APPENDIX

Table A1. Regression results from the model with *GRP* as a dependent variable

	Fixed effect estimation		***Hausman-Taylor estimation***	
	(1)	(2)	(1)	(2)
	GRP_t	**GRP_t**	**GRP_t**	**GRP_t**
Variable of interest				
$Deputy_t$	0.001	0.001	0.0002	0.001
	(0.001)	(0.001)	(0.001)	(0.002)
$Deputy_{t-1}$	_	0.0004	_	-0.0002
		(0.002)		(0.002)
Control variables				
DFI_{t-1}	0.088***	0.088***	0.076***	0.078***
	(0.027)	(0.027)	(0.027)	(0.027)
$Wages_{t-1}$	0.132	0.130	0.213***	0.221***
	(0.083)	(0.083)	(0.070)	(0.070)
$Agricult_{t-1}$	-0.529***	-0.529***	-0.441***	-0.438***
	(0.087)	(0.086)	(0.054)	(0.054)
$Invest_{t-1}$	0.237***	0.238***	0.241***	0.237***
	(0.057)	(0.057)	(0.047)	(0.047)
Const	7.772***	7.778***	6.889***	6.832***
	(0.787)	(0.782)	(0.514)	(0.514)
R-squared				
within	0.9738	0.9738	-	-
between	0.7847	0.7854	-	-
overall	0.8588	0.8582	-	-
Number of observation	150	150	150	150

Notes: Robust standard errors in parentheses;

***Statistically significant at the 1% level. * Statistically significant at the 5% level.

*Statistically significant at the 10% level.

Table A2. Regression results from the model with *Subsidy* as a dependent variable

	Fixed effect estimation		***Hausman-Taylor estimation***	
	(1)	(2)	(1)	(2)
	$Subsidy_t$	**$Subsidy_t$**	**$Subsidy_t$**	**$Subsidy_t$**
Variable of interest				
$Deputy_t$	-0.047***	-0.034*	-0.064***	-0.041***
	(0.013)	(0.018)	(0.011)	(0.012)
$Deputy_{t-1}$	_	-0.022	_	-0.024**
		(0.023)		(0.009)
Control variables				
DFI_{t-1}	0.233*	0.256*	0.112	0.143
	(0.122)	(0.139)	(0.138)	(0.135)
$Wages_{t-1}$	-0.118	-0.081	0.362	0.475
	(0.384)	(0.376)	(0.364)	(0.353)
$Agricult_{t-1}$	-1.063***	-1.033***	-0.546**	-0.519**
	(0.324)	(0.340)	(0.278)	(0.271)
$Invest_{t-1}$	0.152	0.144	0.146	0.073
	(0.148)	(0.138)	(0.230)	(0.226)
Const	7.131**	7.100**	3.006	2.560
	(3.079)	(3.255)	(2.722)	(2.640)
R-squared				
within	0.7728	0.7825	-	-
between	0.0188	0.0001	-	-
overall	0.1745	0.2217	-	-
Number of observation	138	138	138	138

Notes: Robust standard errors in parentheses;

***Statistically significant at the 1% level. * Statistically significant at the 5% level.

*Statistically significant at the 10% level.