

The Corruption Risk in the Local Government of Cities with County Rights and that of Budapest from 1999 to 2023

CRCB Statistical Flash Report 2024:1

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1. Results

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1. In this analysis, we examine the corruption risk in local governments of Hungarian cities with county rights, districts of Budapest, and the local government of the Budapest capital (a total of 49 local governments)¹ based on 25 years of procurement data (years between 1999 and 2023). During the analysis, we calculated in two ways: including and excluding framework agreements. We measure the corruption risk by the share of non-competitive procurement contracts and the net contract value awarded without competition. We address (a) the influence of Fidesz on corruption risk: whether the corruption risk of local governments led by Fidesz significantly differs from those led by non-Fidesz parties during the 25 years; and (b) we analyze the relationship between the results of the 2019 municipal elections and corruption risk focusing on two questions. Firstly, (b1), was there a detectable relationship between the level of corruption risk of local governments before the elections and the leadership change (from Fidesz to opposition) during the 2019 municipal elections, and secondly (b2) after the 2019 municipal elections, is there a significant difference in corruption risk between the two groups of local governments: those where the opposition replaced Fidesz and those where Fidesz remained in power. The presented results are considered preliminary findings. Further analysis of the relationships examined is necessary. We provide the analyzed database in a separate file in CSV format (See: https://www.crcb.eu/?p=3562).

2. The analyzed local governments awarded 31,778 procurement contracts (or lots) with framework agreements included and 23,515 procurement contracts (or lots) without framework agreements from 1999 to 2023. (See Tables 1a-b.) In this period, the analyzed local governments executed 5-15 percent of all procurement contracts. The number of their procurement contracts significantly increased after 2007. (See Figs. 1a-b.) The net value of contracts awarded by the analyzed local governments between 1999 and 2023 is also estimated to be around 5-15% of the total net value of all procurement contracts. (See Figs. 2a-b.)

3. The presence of political cycles is also observable. Generally, in the year preceding elections and during election years, the share of net contract value of the tenders in the analyzed local governments increases in the net contract value of all tenders.

4. The level of corruption risk at the analyzed local governments is significantly lower in most years compared to all procurement contracts in Hungary. (See Figs. 3a-b.)

5. The share of contract value with high corruption risk for the analyzed local governments does not differ from that observed in all procurement contracts in Hungary. (See Figs. 4a-b.)

¹ The Table 4. contains the list of local governments of cities and Budapest districts analyzed.



6. From 1999 to 2006, the share of local government led by Fidesz was in the minority (18-42 percent), but after 2010, this share rose to over 80 percent. From 2010 to 2014, 43-44 local governments out of 49 were led by Fidesz. As a result of the 2019 elections, the share of local governments led by Fidesz decreased to 41 percent (20 out of 49). (See Fig. 5.) These trends are also reflected the comparison of the net value of contracts concluded by local governments led by Fidesz and those led by non-Fidesz parties. (See Figs. 6a-b.)

7. From 2006 to 2017, the mean net contract value was similar between local governments led by Fidesz and those led by non-Fidesz parties. After this period, however, mean value of contracts in local governments led by Fidesz exceeded those led by non-Fidesz parties. (See Figs. 7a-b.)

8. Framework agreements play a decisive role in high-risk corruption transactions in local governments led by Fidesz. If we consider framework agreements, the corruption risk of procurement contracts in local governments led by Fidesz significantly exceeds from that of non-Fidesz-led ones in 2009, 2010, 2011, 2012, 2019, and 2022. If we exclude framework agreements, then the corruption risk of the two groups does not differ significantly between 1999 and 2023. (See. Figs. 8a-b.)

9. An important phenomenon is that local governments led by Fidesz already exhibited significantly different corruption risks than non-Fidesz-led ones as early as 2009. This phenomenon also played a role in the outcome of the 2010 elections. High-risk corruption transactions may have played a part in financing Fidesz's 2010 election campaign and in Fidesz's victory. Later, under the Orbán regime, in 2011, 2012, and during election years (2019 and 2022), the corruption risk of local governments led by Fidesz significantly exceeded that of non-Fidesz-led ones. (See Fig. 8a.)

10. The analysis of the share of net contract value with high corruption risk underlines the potential role of this type of procurement in financing political campaigns during the elections. (See Figs. 9a-b.) This share is significantly higher in the preceding elections and during election years for local governments led by Fidesz compared to non-Fidesz-led ones. The higher corruption risk of local governments led by Fidesz was already observable in 2009. These findings highlight the need for further investigation, making this research highly relevant and essential for governance and corruption in Hungarian local governments.

11. Local Governments led by Fidesz have a significantly higher volume of contracts concluded with high corruption risk compared to non-Fidesz-led ones. This trend is especially true for the period after 2010. The corruption risk indicator calculated based on the proportion of contracts awarded without competition masks this fact. Local governments led by Fidesz were able to rely much more heavily on potential corruption rents derived from transactions with high corruption risk than non-Fidesz-led ones. (See Figs. 10a-b.)



12. We compared the corruption risk of local governments led by Fidesz and those led by non-Fidesz parties annually, filtering out the effects due to the type of procedure (open or non-open), the source of funding (EU or domestic), the size of the contract, and the sector of the purchased product. (See Fig. 11. and Tables 2ab.) In the 25 years between 1999 and 2023, it never occurred that the corruption risk in local governments led by Fidesz was significantly lower than that in non-Fidesz-led ones. The corruption risk of procurement contracts was significantly higher in local governments led by Fidesz (in 12 out of the 25 years) or did not significantly differ between the two groups of local governments. Under the Orbán regime, the corruption risk of local governments led by Fidesz exceeded that of non-Fidesz-led ones in most years (in 8 out of the 13 years). (See Fig. 11.)

13. After 2015, the corruption risk of local governments led by Fidesz exceeded that of opposition-led local governments only in election years, and only if framework agreements are taken into account in the calculations. (See Figs. 12a-b.)

14. The 2019 elections brought political change to 19 of the local governments analyzed: opposition leadership replaced the Fidesz leadership. Ten local governments remained opposition-led, and twenty local governments remained Fidesz-led. We examined whether there is any correlation between the magnitude of corruption risk in local government public procurement before 2019 and the results of 2019 elections. We did not find such a correlation: there was no political change (from Fidesz leadership to opposition leadership) following the 2019 municipal elections in local governments where procurement's corruption risk had been higher. (See. Figs. 13a-b.)

15. It is observable, however, that after 2019, there was an increase in the dispersion of corruption risk across all three groups of local governments (those led by Fidesz both before and after 2019, those led by opposition parties both before and after 2019, and those where opposition replaced Fidesz leadership in 2019). There were local governments within both Fidesz and opposition-led groups that significantly reduced the corruption risk of public procurements, while others experienced an increase in corruption risk. (See Fig. 14.)

16. The trends in corruption risk following the 2019 elections are influenced by political changes (from Fidesz to other parties' leadership) and other essential factors not addressed in this analysis. To demonstrate this, we selected ten local governments, including A. those with opposition leadership both before and after the 2019 elections, B. those with Fidesz leadership before and after the elections, and C. local governments where Fidesz was ousted and another party replaced the Fidesz leadership. (See Figs. 15a-b.) Figs. 15a-b. illustrate significant differences within each group. For example, there is a local government in a city traditionally associated with Fidesz, led by Fidesz since 1999, yet characterized by low corruption risk in its public procurements after 2019 (B1). Conversely, we can find a Fidesz-led local government where the corruption risk in public procurements was



extremely high even before 2019 (B2), and this trend remained after the elections. Differences are also observable among non-Fidesz-led local governments (A1 and A2), and notably, the corruption risk increased for them immediately after the 2019 elections. In cases where the outcome of the 2019 elections was a political change, replacing Fidesz leadership with opposition leadership, the picture is also guite diverse. There is a local government in Budapest where, under opposition leadership, not only did the corruption risk not decrease, but it increased (C4). Here, the mayor was supported by an opposition coalition. In this case, the local government often used framework contracts after 2019 and the mayor "inherited" the Fidesz-close contractors who had previously serviced the Fidesz leadership while making no improvements to the procurement system, taking no steps to reduce corruption risk. In another local government led by the opposition (C1), despite conceptual debates among the opposition parties supporting the mayor, the corruption risk significantly increased in 2021. This trend resulted from the time it took to establish a substantial depth of institutional change in the local government and the influence of the multi-year framework agreements initiated by the former Fidesz leadership before 2019. Only after their expiration and the establishment of suitable institutional conditions was it feasible to achieve a noteworthy reduction in corruption risk by 2023. Meanwhile, in other local governments where the opposition took control after 2019, significant efforts were made to improve the cleanliness and transparency of public procurements. As a result of these policies, the corruption risk level was significantly reduced, well below the level of Fidesz's leadership in 2019 (C2 and C5). Elsewhere, even before the 2019 elections, public procurements in local governments led by Fidesz were characterized by medium level corruption risk, and this level was maintained after 2019 as well (C3). These results underscore the crucial role of institutional change and multi-year framework contracts in mitigating corruption risk, one of the critical implications of our research.

17. Figure 16a illustrates the level of corruption risk at observed local governments before and after the 2019 municipal elections. We marked local governments with political transitions (Fidesz => Opposition) in green, those under Fidesz leadership where there was no change (Fidesz => Fidesz) in orange, and those that remained under opposition leadership both before and after the 2019 elections in blue. On the x-axis, we can see the corruption risk (the natural logarithm of CR) between 2015 and 2017, while on the y-axis, the same is represented for the period between 2021 and 2023. The red lines indicate median values. The size of the circles illustrates the volume of high corruption risk contracts conducted by local governments from 2015 to 2017. Larger circles represent local governments with a higher volume of high-corruption-risk contracts.

The figure draws attention to five phenomena:

1. There is no statistical relationship between the corruption risk levels of the observed local governments' procurement between 2015-2017 and 2021-2023 (r=0.08).



- 2. Local governments led by Fidesz are represented by larger circles, indicating a higher volume of contracts paid out under high corruption risk.
- 3. Where there was a change in leadership (from Fidesz to opposition), the volume of contracts was larger in several local governments, suggesting significant losses for Fidesz due to the loss of influence over these local governments.
- 4. In cases of leadership change, we see local governments where the corruption risk level significantly decreased: four local governments marked with green circles in the upper-left quadrant. We also see four local governments marked with green circles where the corruption risk changed in the opposite direction: after the political transition, the risk level shifted from below the median to above the median (lower-right quadrant).
- 5. The circles representing local governments are mainly located on the left side of the graph, clustering there. This also indicates that for the majority of them, the corruption risk level decreased after the 2019 transition. This phenomenon is also applicable to Fidesz-led local governments: presumably, the experience of the municipal elections (Fidesz could lose them) prompted them to spend public funds more cautiously, prudently, and with lower corruption risk.

18. There is an inverse correlation between the level of corruption risk before 2019 and its change after 2019: the higher the corruption risk is before 2019, the more significant the decrease is after 2019. (The correlation between the magnitude of the change in corruption risk and the natural logarithm of the corruption risk level before 2019 is -0.4951). Figure 16b illustrates this relationship. The horizontal axis shows the natural logarithm of the corruption risk level before 2019 (InCRPO) and the vertical axis shows the difference in corruption risk after 2019 and before 2019 (DCR). The vertical red line represents the median value of the corruption risk level, while the horizontal line represents the constancy of corruption risk.

20. In Fidesz-led local governments where there were no political transitions, the volume of contracts tended to increase after the 2019 elections, while in local governments where opposition took over, the volume of contracts tended to decrease. Due to the discriminative local policies of the Fidesz government (Fidesz-led local governments typically have access to more central funds than opposition-led ones), Fidesz-led local governments may have had more funds available for various development projects than opposition-led ones. This is demonstrated in Figure 17. Fidesz-led local governments are positioned more towards the right side of the graph (with a positive value of DLNNCV). In contrast, opposition-led local governments are position-led local governments are position-l



To sum up, the fist consequence of the 2019 political transition was that local governments remaining under Fidesz's control conducted procurement in larger volumes than those with a leadership change. (See Fig. 18a.) The second consequence was that the volume of contracts conducted under high corruption was higher in local governments remaining under Fidesz's control compared to those where the opposition succeeded in replacing Fidesz. (See Fig. 18b.) Thirdly, as we saw earlier, there are no significant differences in the level of corruption risk after the 2019 elections between the Fidesz-led and opposition-led local governments. In the local governments, where opposition took over from Fidesz, the average corruption risk level was 0.225, while it was 0.235 where Fidesz remained in control. Figure 18c shows that the corruption risk remained high in a significant number of local governments taken over by the opposition. In contrast, many have taken steps to reduce the risks of corruption to relatively low levels.

Of the above, one significant consequence illustrates the nature of the Orban system: the differences in procurement volume. Local governments remaining under Fidesz control could spend more on procurement between 2021 and 2023 than those under opposition control after the 2019 elections.

21. Finally, we dealt with the role of political (business) cycles² among the analyzed local governments, specifically those led by Fidesz and those led by the opposition. To measure the strength of political business cycles, we used an indicator (PBCI) that compares the annual average volume of public procurement expenditures in the year before elections and election years to the annual average volume in other years. We examined whether a more significant amount was spent on public procurement in the preceding elections and election years compared to other years. Figure 19 shows our findings. The figure presents three key observations.

Firstly, it demonstrates that political business cycles are not exclusive to either opposition-led or Fidesz-led local governments. The analysis reveals that, on average, both types of local governments tend to spend more on public procurement in the years preceding elections and election years than in other years.

Secondly, this effect is much more robust in Fidesz-led local governments than in opposition-led ones. In the former, the average spending on public procurement in the year before the elections and the election year is nearly twice as much as in other years, while in the latter, an increase of 40-60 percent in spending can be observed.

² On political business cycles, see Drazen, A. 2000. *The Political Business Cycle After 25 Years.* NBER Macroeconomics Annual, 75–138.

https://www.nber.org/system/files/chapters/c11055/c11055.pdf; Martinez, L. 2009. A theory of political cycles. *Journal of Economic Theory*. 144(3), 1166-1186. https://doi.org/10.1016/j.jet.2008.10.006



Thirdly, there is an inverse relationship between the strength of the political cycle and whether the same party is leading the local government as the one in government. In opposition-led local governments, the effect of the political cycle is more substantial under Fidesz governments, while in Fidesz-led local governments, this effect is more robust under opposition-led governments.

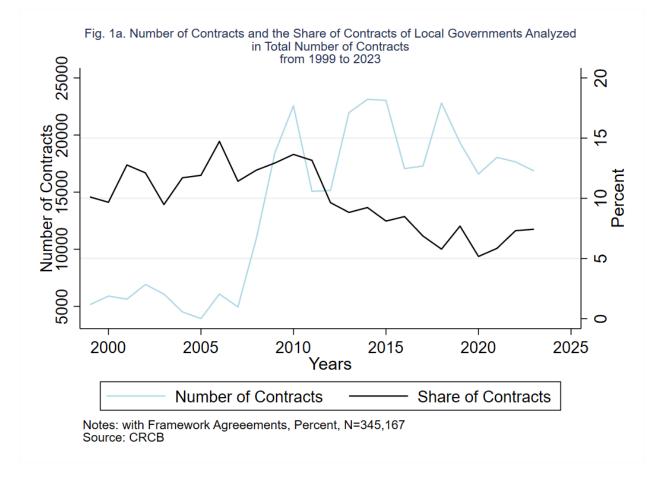
The results underscore the significant impact of political business cycles on a local government's public procurement. They also emphasize the stark disparity in the strength of these cycles. Notably, Fidesz-led local governments demonstrate a much stronger inclination to use public procurement to influence election outcomes compared to opposition-led ones. This disparity in the strength of political business cycles, as observed in the last 25 years, is a finding of utmost importance. It suggests that these cycles are not just a temporary phenomenon but a long-standing pattern, particularly evident in local governments led by Fidesz.



2. Tables and Figures



Fig. 1a-1b.





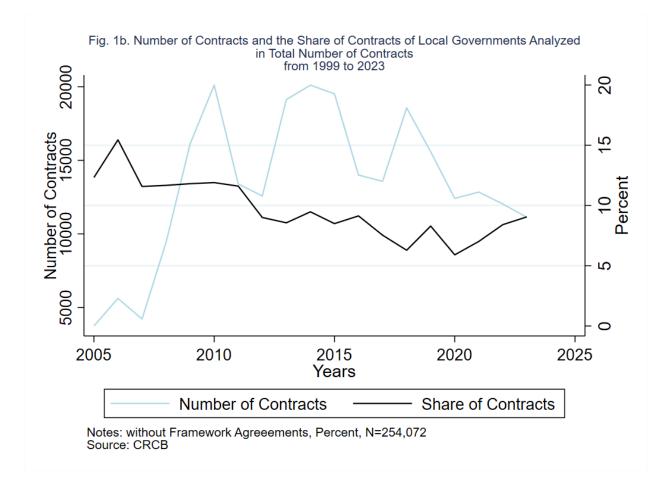
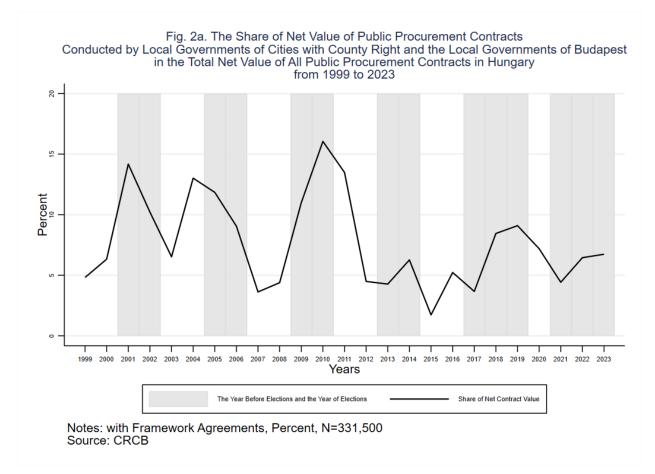
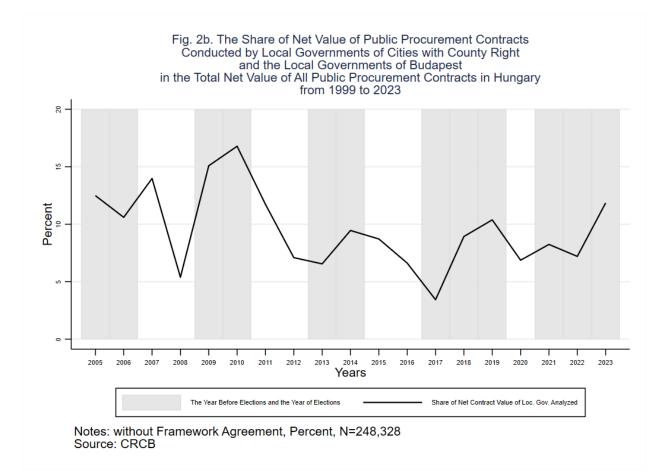




Fig. 2a-b.

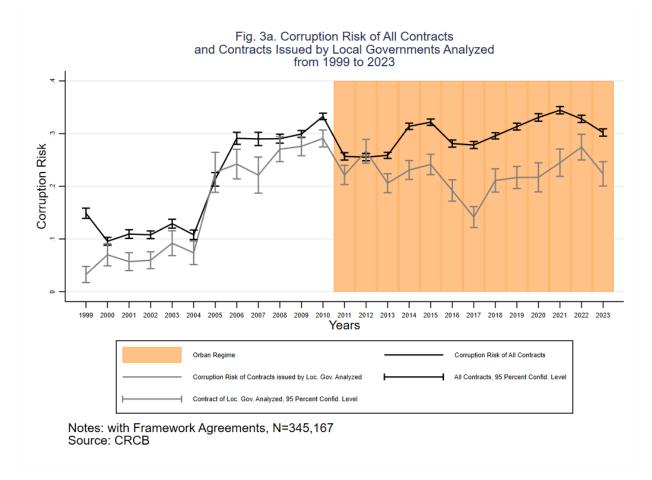




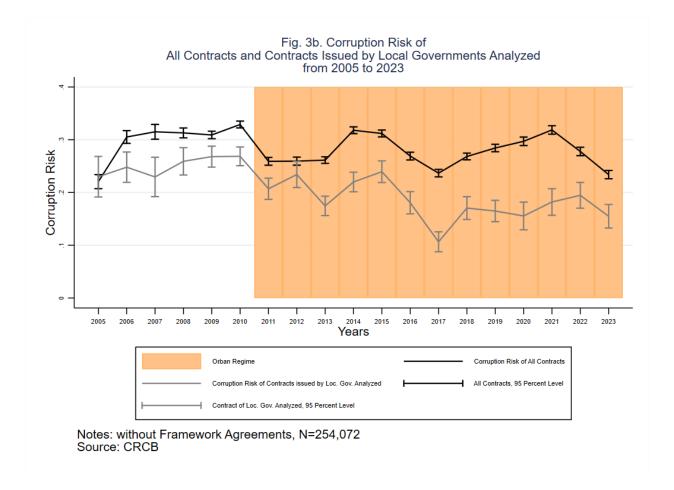






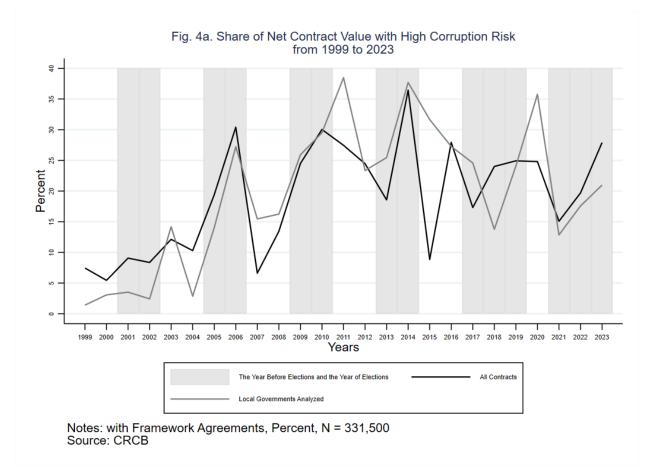




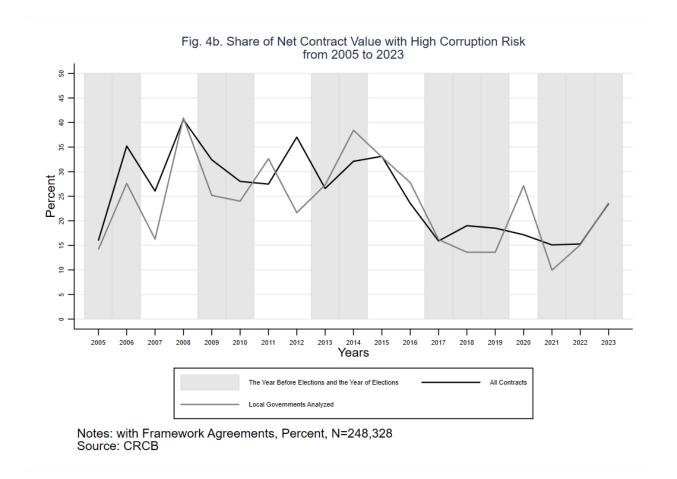






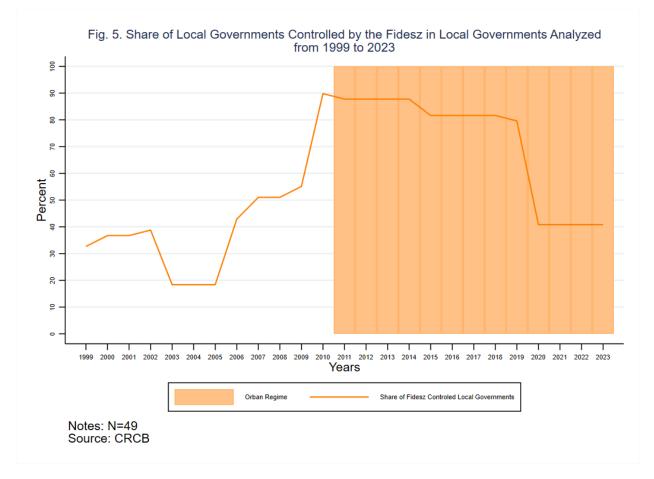






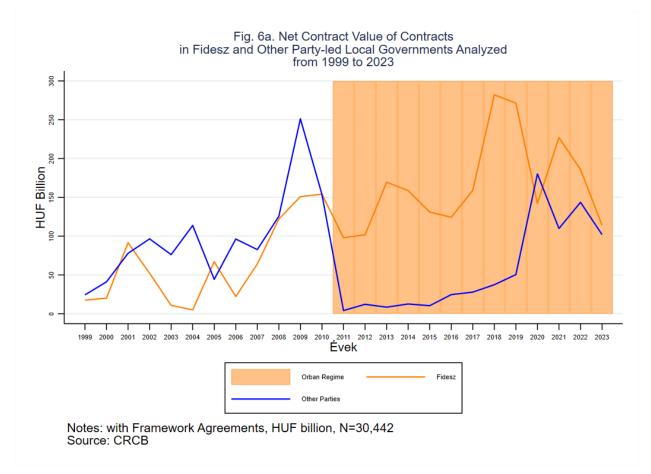




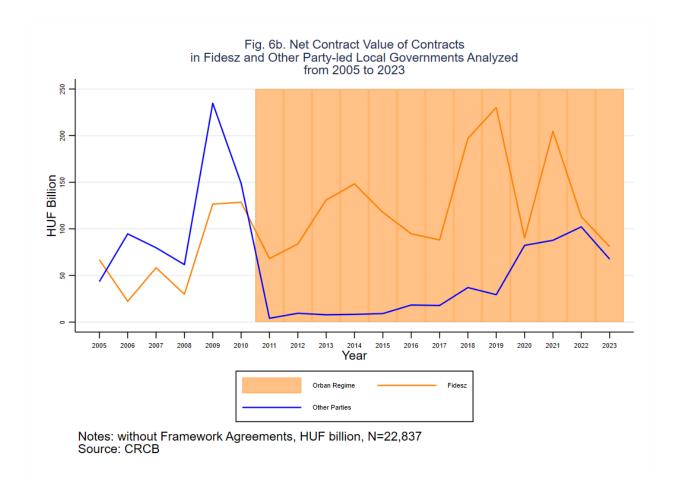






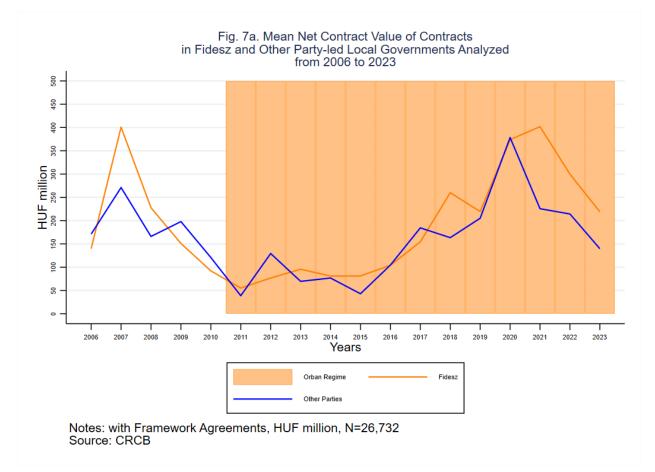




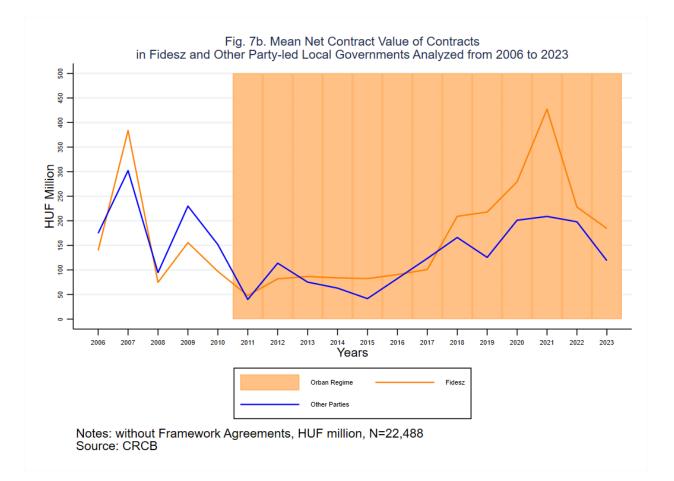






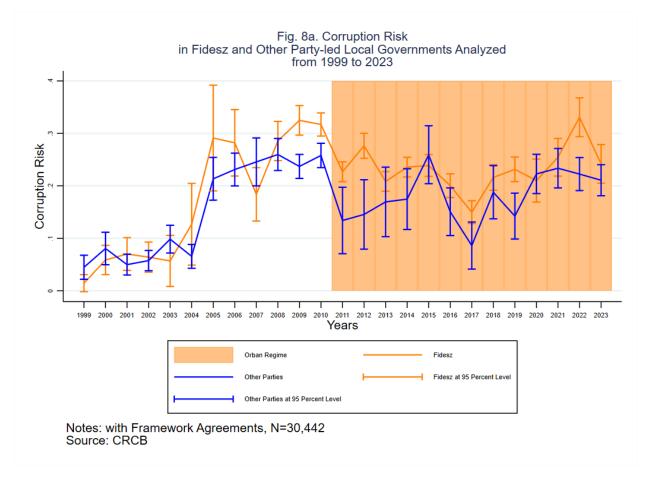




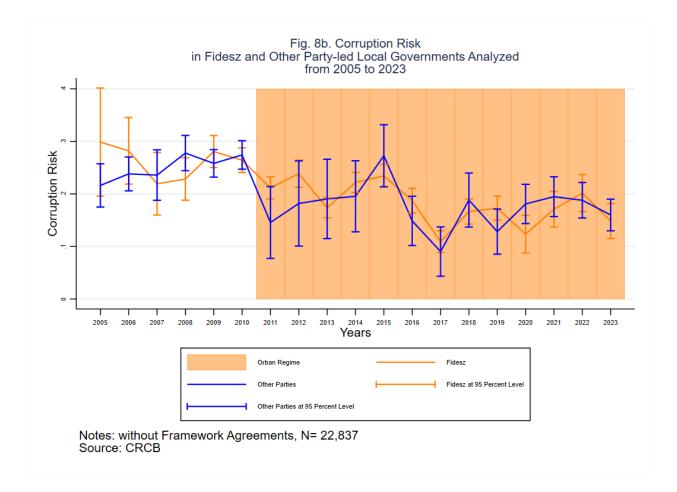






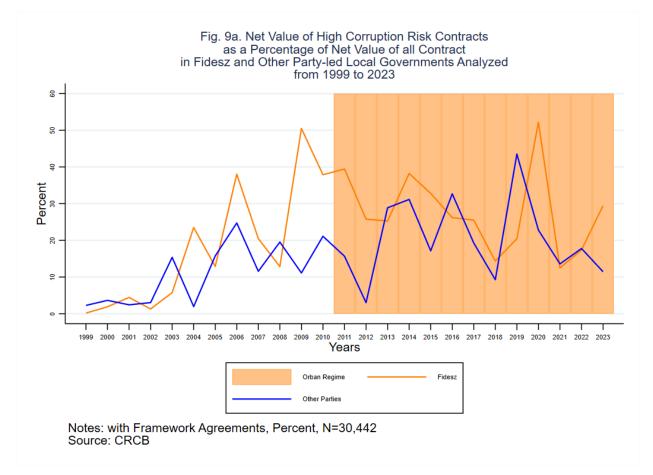




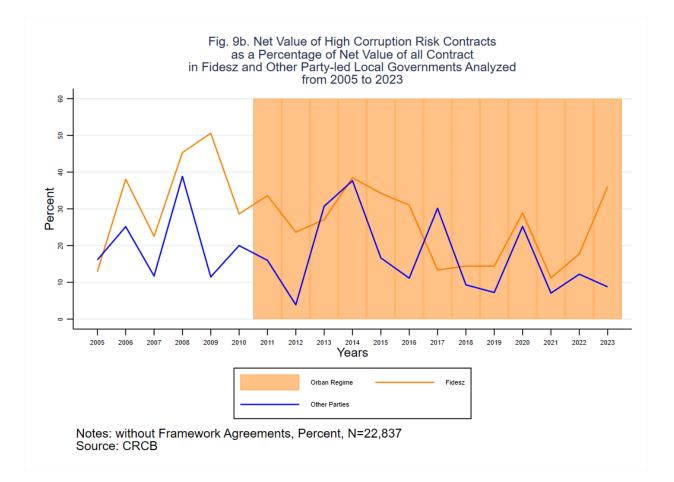






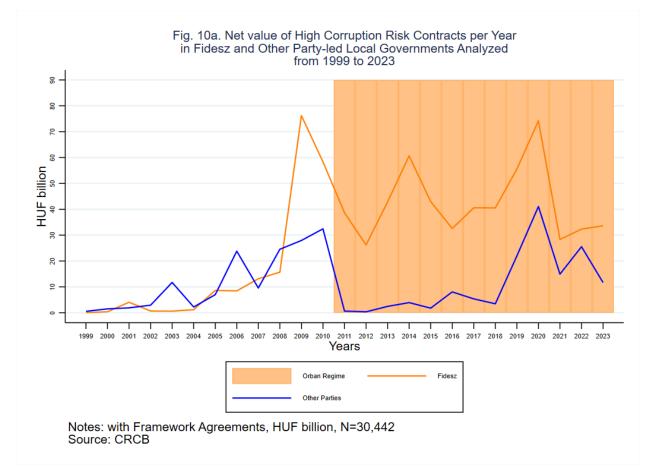




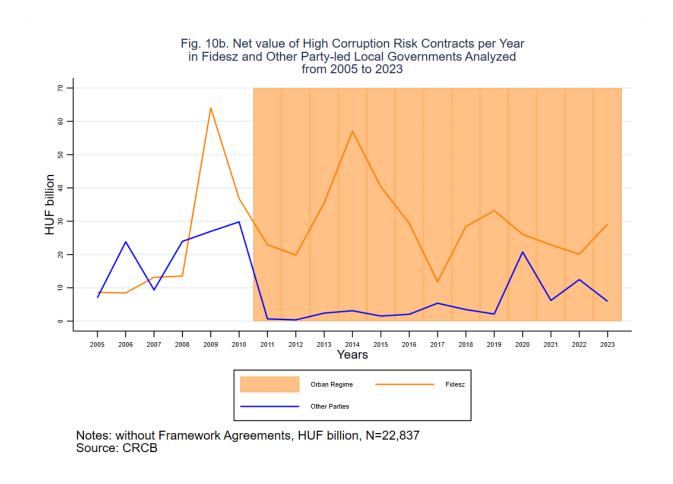






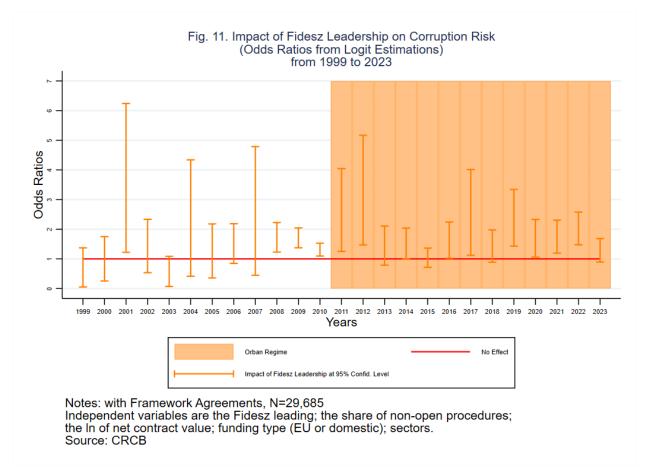






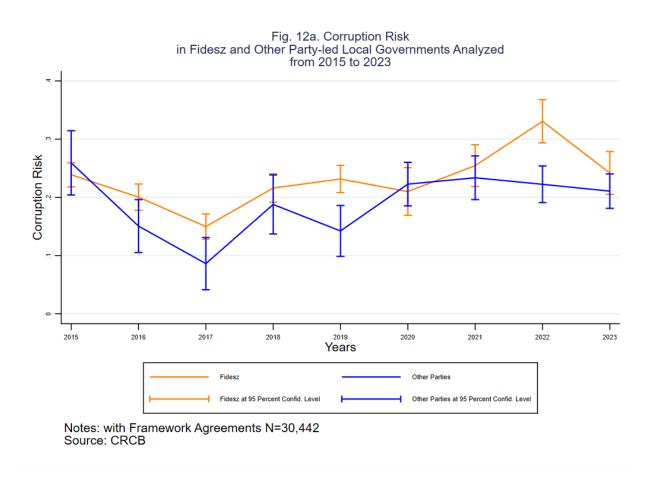




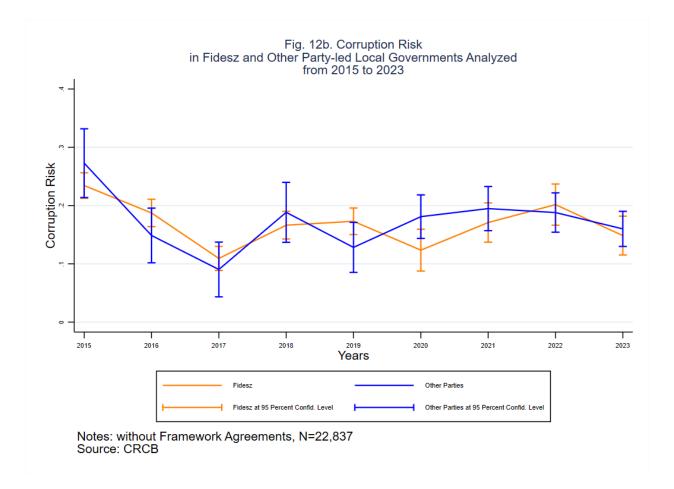






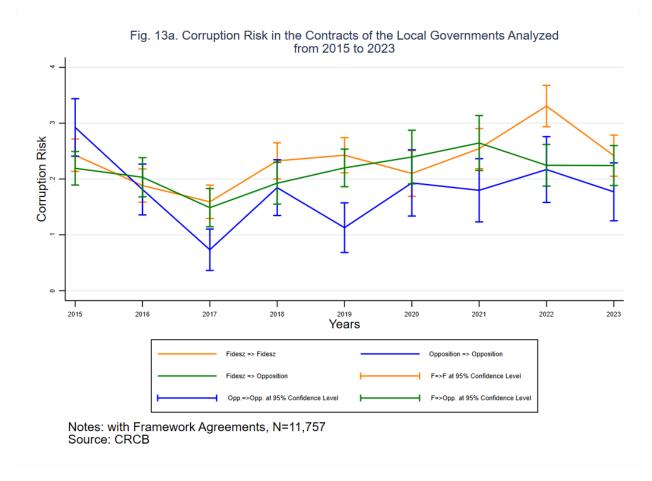




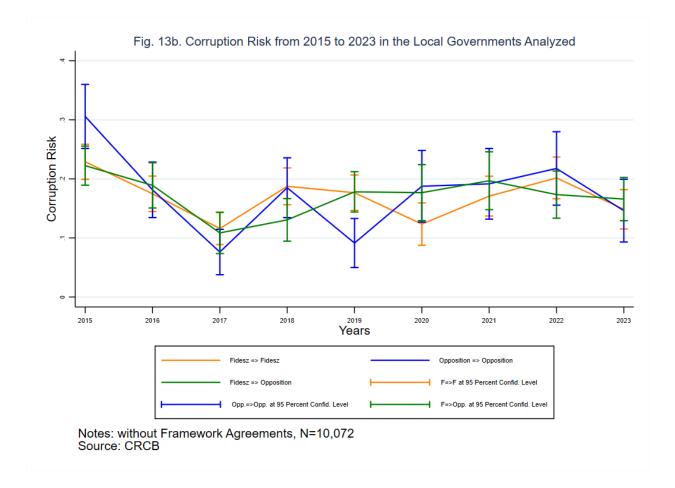






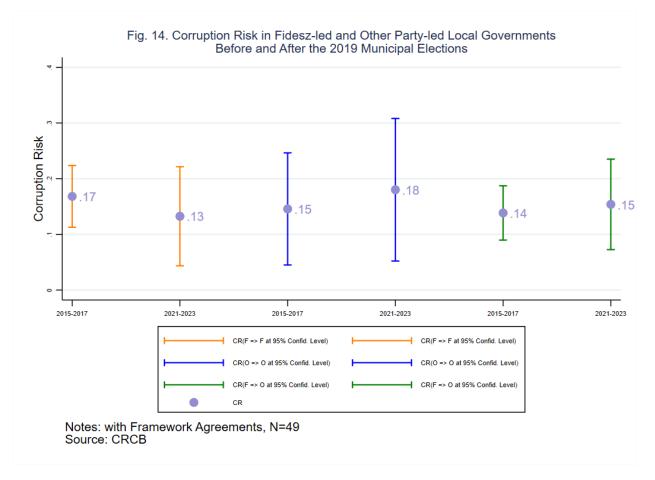






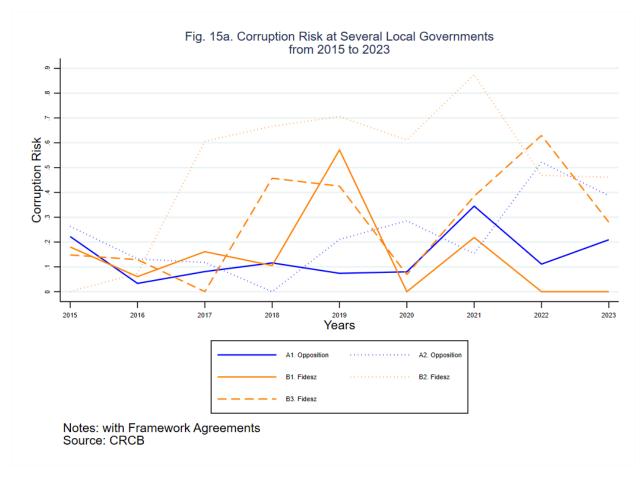














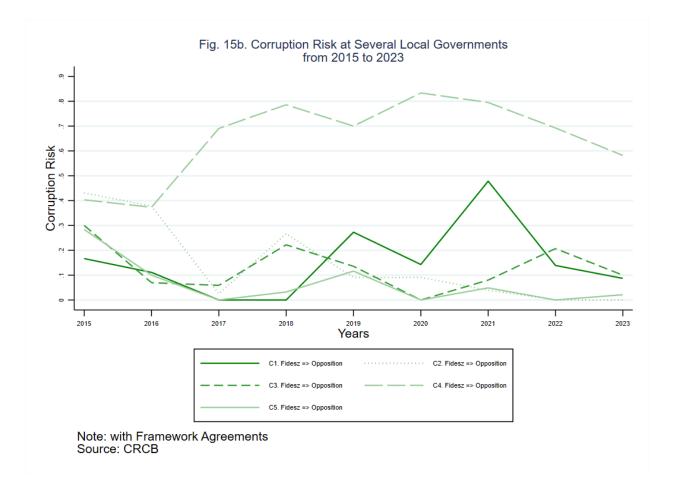
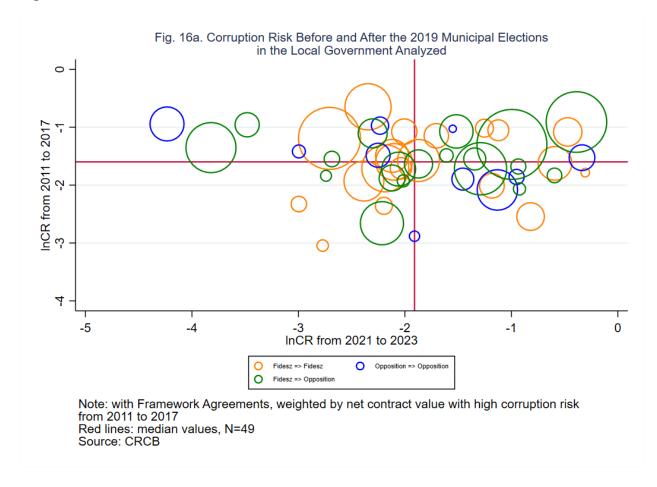
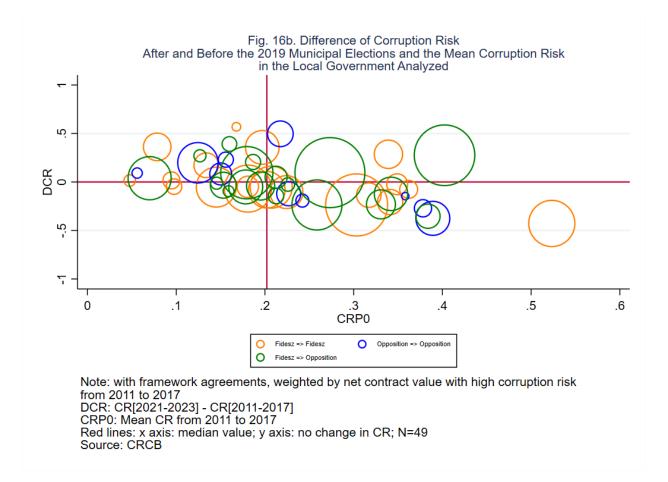




Fig. 16a-b.

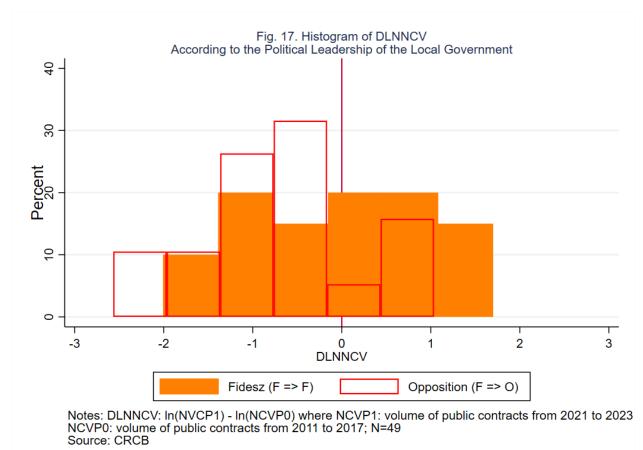






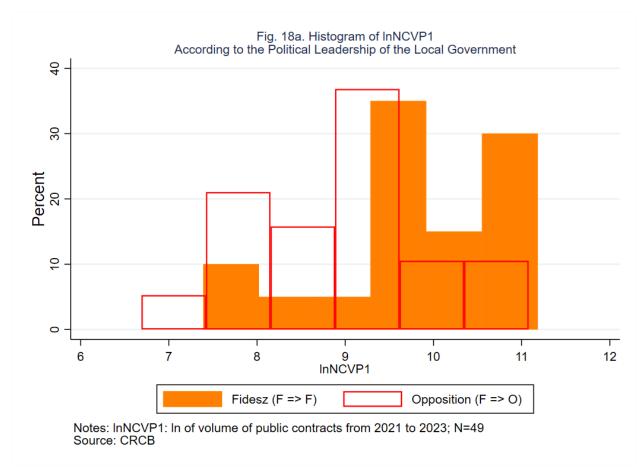




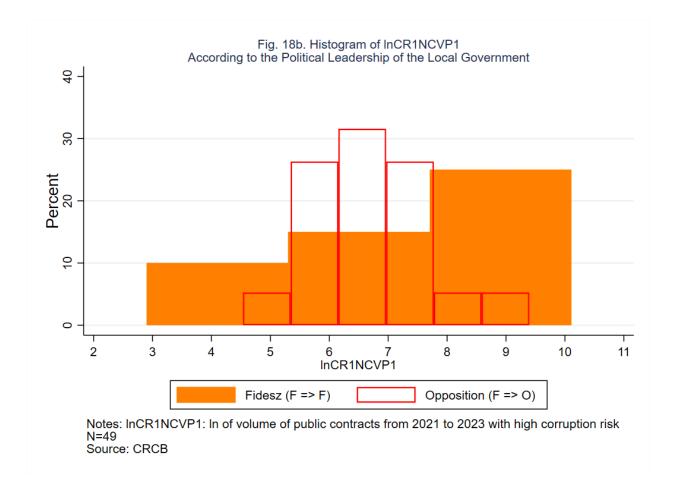




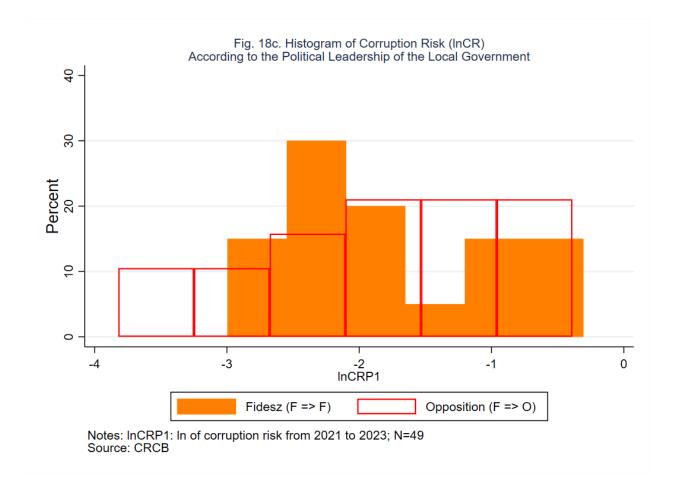
















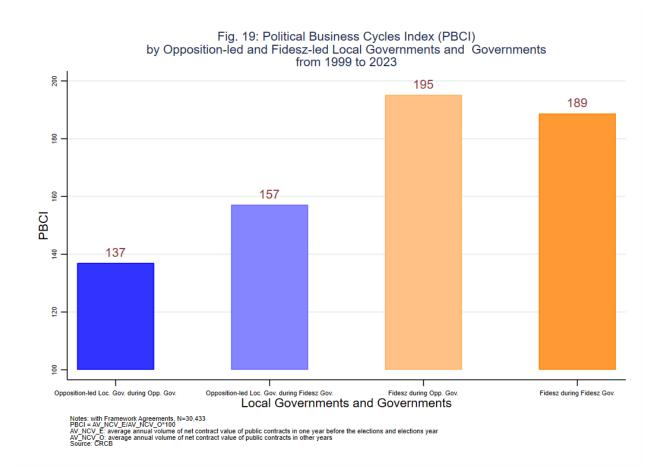




Table 1a-b.

Table 1a r	Number	of Dublic	Contracto	with	Eramowork	Agroomonto
	number		CUILLACLS	VVILII	TIAITIEWUIK	Agreements

Year	Non-Analyzed Public Contracts / Lots of Public Contracts	Public Contracts / Lots of Public Contracts of the Local Governments Analyzed	All Public Contracts /Lots of Public Contracts	
1999	4631	521	5152	
2000	5335	571	5906	
2001	4913	719	5632	
2002	6082	838	6920	
2003	5501	576	607	
2004	3991	529	4520	
2005	3462	468	3930	
2006	5188	896	6084	
2007	4384	565	4949	
2008	9639	1357	1099	
2009	16075	2388	18463	
2010	19478	3078	2255	
2011	13088	1982	1507	
2012	13689	1460	15149	
2013	20023	1938	2196	
2014	20994	2135	2312	
2015	21174	1868	23042	
2016	15615	1447	1706	
2017	16102	1186	1728	
2018	21490	1317	2280	
2019	17844	1486	1933	
2020	15734	857	1659	
2021	16989	1054	18043	
2022	16365	1290	1765	
2023	15603	1252	1685	
tal	313389	31778	34516	



Table 1b. Number of Public Contracts without Framework Agreemer

Year	Non-Analyized Public Contracts / Lots of Public Contracts	Public Contracts / Lots of Public Contracts of the Local Governments Analyzed	All Public Contracts /Lots of Public Contracts
2005	3280	461	3741
2006	4745	867	5612
2007	3727	488	4215
2008	8325	1100	9425
2009	14212	1903	16115
2010	17724	2394	20118
2011	11841	1555	13396
2012	11441	1132	12573
2013	17493	1638	19131
2014	18202	1905	20107
2015	17860	1658	19518
2016	12720	1279	13999
2017	12550	1023	13573
2018	17398	1167	18565
2019	14288	1292	15580
2020	11679	733	12412
2021	11941	901	12842
2022	11020	1012	12032
2023	10111	1007	11118
Total	230557	23515	254072



Table. 2a-b. The Impact of Fidesz on Corruption Risk: Results of Logit Estimation	۱s,
1999-2023	

CR	Logit estimations using contract level data							
	with Framework Agreements (odds ratios)							
	Possible duplic	ations were not	t corrected					
Time period	1999-2023	1999-2004	2005-2023	2005-2010	2011-2023			
Fidesz	1.388***	1.004	1.474***	1.399***	1.534***			
	(0.049)	(0.190)	(0.055)	(0.078)	(0.079)			
EU	Ν	Ν	Y	Y	Y			
LTI	Y	Y	Y	Y	Y			
Sector	Y	Y	Y	Y	Y			
Year	Y	Y	Y	Y	Y			
InNCV	Y	Y	Y	Y	Y			
constant	Y	Y	Y	Y	Y			
Ν	30,378	3,353	26,510	7,493	19,017			

Table 2a.

Notes: *: p<0.10; **: p<0.05; ***: p<0.01.

Table 2b.

CR	Logit estimations using contract level data							
	with Framework Agreements (odds ratios)							
	Possible duplications were corrected							
Time period	1999-2023	1999-2004	2005-2023	2005-2010	2011-2023			
Fidesz	1.496***	1.031	1.585***	1.588^{***}	1.545***			
	(0.060)	(0.211)	(0.068)	(0.104)	(0.087)			
EU	Ν	Ν	Y	Y	Y			
LTI	Y	Y	Y	Y	Y			
Sector	Y	Y	Y	Y	Y			
Year	Y	Y	Y	Y	Y			
InNCV	Y	Y	Y	Y	Y			
constant	Y	Y	Y	Y	Y			
Ν	23,683	1,725	21,555	5,530	16,025			

Notes: *: *p*<0.10; **: *p*<0.05; ***: *p*<0.01.

EU [0,1]: 0: domestic sources; 1: EU subsidies

LTI [0,1]: 0: open procedure; 1: non-open procedure

Sector: the economic branch of the product or service purchased

Year: the year the contract was awarded

InNCV: the natural logarithm of net contract value



Table 3. Political Cycles in Local Government Analyzed 1999-2023

Fidesz-led Loc. Gov.	Fidesz Government	A Year before Elections or Year of Elections	Total Net Contract Value (HUF Billion)	Number of contracts	Number of years	Average amount per year	Political Cycles Index
No	No	No	398.3068	1922	4	99.58	
No	No	Yes	545.5401	3404	4	136.39	137.0
No	Yes	No	296.9438	1702	7	42.42	
No	Yes	Yes	666.5735	3699	10	66.66	157.1
Yes	No	No	201.9689	840	4	50.49	
Yes	No	Yes	394.1934	2888	4	98.55	195.2
Yes	Yes	No	634.8889	6678	7	90.70	
Yes	Yes	Yes	1711.524	9300	10	171.15	188.7



Table 4. List of Local Governments Analyzed

#	Name of cities or districts in Budapest
# 1	Baja
2	Békéscsaba
3	Budapest
4	Budapest_01
5	Budapest_02
6	Budapest_03
7	Budapest_04
8	Budapest_05
9	Budapest_06
10	Budapest_07
11	Budapest_08
12	Budapest_09
-	Budapest_10
14	
15	
	Budapest_13
	Budapest_14
18	Budapest_15
19 20	
20	
21	
22	Budapest_19
24	Budapest_20
25	•
26	
27	
28	Dunaújváros
29	Eger
30	Érd
31	Esztergom
32	Győr
33	Hódmezővásárhely
34	Kaposvár
35	Kecskemét
36	Miskolc
37	Nagykanizsa
38	Nyíregyháza
39	Pécs Calaétarién
40	Salgótarján Saprop
-	Sopron
42	Szeged Székesfehérvár
43	Szekszárd
44	Szekszalu
40	JZUIIIUK



46	Szombathely
47	Tatabánya
48	Veszprém
49	Zalaegerszeg