Hidden Earnings in an Authoritarian Parliament:
Evidence from Russia

David Szakonyi
George Washington University
& Higher School of Economics [*]

February 27, 2022

Abstract

Do corrupt officials perform differently in elected office? Although a growing body of work has calculated the returns to public office worldwide, we know comparatively little about how the drive towards financial self-enrichment affects that way politicians carry out their official responsibilities. This paper develops a simple theoretical framework and analyzes new data on corrupt gains among high-level legislators to estimate the governing costs of corruption. Using a unique measure of hidden earnings based on the income and asset disclosures of all Russian State Duma deputies, I find that corruption leads to less active and more obedient members of parliament. Even controlling for party affiliation, deputies that prioritize the personal profit motive while in office overall exert less effort on legislative activity, and when called to vote, align their behavior with the ruling regime's political agenda. Taken together, the results suggest rich variation in the motivations to serve in authoritarian institutions, as deputies diverge greatly in both their interest in governing as well as the payoffs they seek from political office.

1 Introduction

Thanks to intrepid investigative journalists worldwide, it is increasingly hard to deny that corruption abounds in many autocratic regimes. Explosive reports have uncovered nondemocratic leaders owning lavish private jets, enormous foreign bank accounts, and palaces in many of the world's most luxurious destinations.[1] Academic work exploiting micro-level data has helped fill out the picture, tracing how political elites build illicit fortunes, such as by taking bribes (McMillan and Zoido, 2004), helping connected companies evade regulation (Rijkers, Baghdadi, and Raballand, 2017), and profiting off of manipulated state contracts (Mironov and Zhuravskaya, 2015). Although these investigations can trigger protests and even regime resignations, scholars still puzzle over why some voters look past evidence of corruption and continue to support implicated leaders (De Vries and Solaz, 2017). Even when corruption is a salient concern, some voters refrain from punishing corrupt leaders who deliver side benefits (Fernández-Vázquez, Barberá, and Rivero, 2016) or strong economic performance (Klašnja and Tucker, 2013). Yet we know little about how opportunities to engage in corruption affects the ability and interest of elected officials in carrying out their official responsibilities. In other words, do corrupt leaders govern differently?

This paper develops a simple theoretical framework and exploits new micro-level evidence from a prominent electoral autocracy – Russia – to shed help light on this question. The focus here is on legislators, who not only have relatively well-defined, measurable official responsibilities, but through their position also regularly express political preferences, including potential opposition to the regime. First, I argue that the desire to abuse public office for private gain leads elected officials to shirk their responsibilities, devoting more time to making money from their positions rather than showing up for votes and sponsoring bills. Although the normal course of legislating opens up opportunities for corruption, those who prioritize self-enrichment overall become less active, engaged lawmakers. Next, deputies focused on self-enrichment often generate a stockpile of compromising information (or 'kompromat') that regimes can use against them lest they fall fall out line politically. As such, corrupt legislators tend to exhibit more overt loyalty. Voting more often with regime priorities helps provide cover for even ostensibly opposition deputies to abuse their office for financial gain.

---

[1] ICIJ. "Offshore Havens and Hidden riches of World Leaders and Billionaires Exposed in Unprecedented Leak." October 3, 2021

To test these arguments, I analyze data on all 1,509 parliamentary deputies working in Russia's main legislative institution, the State Duma, over the period of 2010-2020. To measure individual deputies' past corruption, I collect information from annual financial disclosures, which provide surprising detail into the income, real estate, and transportation of these elected officials. Building on both innovative investigative journalism and work on forensic economics (Braguinsky, Mityakov, and Liscovich, 2014), I derive a new measure of corruption based on the ratio of the value of all cars declared by a deputy to their household income for a given year. The logic behind this 'hidden earnings' ratio is that deputies would not otherwise be able to afford their often luxury vehicles if not for illicit income earned through corruption. Future versions of this paper will both extend and validate this measure.

The main analysis show that this corruption measure both predicts greater shirking among deputies as well as greater regime loyalty, as measured through voting behavior. Corrupt deputies are more likely to miss roll call votes and chamber sessions, while also initiating fewer bills and asking fewer questions during parliamentary debates. In addition, corrupt deputies vote for regime-sponsored bills at much higher rates, even controlling for their party membership. Additional ideal point analysis suggests that even deputies from opposition parties adopt political positions while in office much closer to the leadership of the ruling party if they are actively engaged in self-enrichment on the side.

This research makes several contributions to our understanding of how corruption operates in nondemocracies. First, it is among the first to calculate the governance costs of allowing corruption to thrive. Previous work has shown the rich payoffs political elites can reap from joining authoritarian institutions, as well as some of corruption's aggregate economics consequences (Ferraz, Finan, and Moreira, 2012; Olken, 2007). This paper goes further by providing micro-level evidence of how allowing corruption can help autocratic leaders maintain elite loyalty within key political institutions (Hollyer and Wantchekon, 2015; De Mesquita et al., 2005). Legislators exchange regime loyalty for the opportunity to grow their personal wealth, all the while delegating actual policymaking to a core set of political elites. This suggests that attempts to weed out corruption could threaten a leader's support base (Wang and Dickson, 2019) as well as breathe new life into compliant, manageable political institutions.

Second, this study extends the now extensive literature examining financial disclosures of

2

public officials to create better validated measures of personal self-enrichment. One of the most common anti-corruption reforms in place worldwide, financial disclosures are still mostly self-reported, rather than audited or verified (Djankov et al., 2010). Yet the vast majority of academic studies using these raw data (see Appendix Table A1) takes this disclosed information at face value, rather than attempting to validate whether elected officials are telling the truth in their disclosures.[2] This practice may both underestimate the true level of corruption and misidentify those most responsible. By applying methods for uncovering hidden earnings as well as validating disclosures against external dataset, this paper contributes to the array of forensic economics tools that are critical to identifying and explaining the incidence of corruption in hard-to-study political settings (Sequeira, 2012; Zitzewitz, 2012). The results presented here not only suggest a high degree of corruption, but illustrate the diversity of elite behavior within a key nondemocratic institution.

2   Corruption in Authoritarian Institutions

Nondemocracies offer ample opportunities for elected officials to profit financially from their time in office. A lack of independent media paired with uneven rule of law reduce scrutiny into elites' corruption actions. The absence of free and fair elections prevents voters from holding leaders who accumulate wealth in power from being held properly accountable (Ferraz and Finan, 2011). Cross-nationally, the evidence is quite clear: countries with weak political institutions score worse on a number of commonly used corruption rankings (Treisman, 2007; Bhattacharyya and Hodler, 2015).

Legislatures are often a prime destination for elites trying to make money from public office. Winning elections paves a path to agenda setting power (Yadav, 2011) and access to privileged information, key ministers, and government contracts (Blaydes, 2011). Deputy status also grants individuals special powers, including the ability to order bureaucrats to investigate and pressure economic interests (Szakonyi, 2020). Analyses of stock market data and balance sheets reveal that many of these tools prove quite profitable for firms linked to sitting politicians (Truex, 2014;

---

[2]The only exception is Mahzab (2020) who uses tax returns to verify whether local politicians in Bangladesh correctly reported income data in their disclosures. By quirk of national law, these returns were released nearly simultaneously alongside the disclosures, allowing for comparison.

Szakonyi, 2016).

Perhaps the most compelling evidence of politicians benefitting financially from their time in office comes from the financial disclosures that many countries require elected officials to submit annually (Rossi, Pop, and Berger, 2017). As Table A1 shows, a wealth of studies have documented significant improvements in politicians' self-reported income and assets over their time in office, both in advanced democracies such as the United States (Fahey, 2018) and transitioning economies, such as India (Fisman, Schulz, and Vig, 2012). Relying exclusively on self-reported financial disclosures, as most work on the returns to office in the 21st century does, creates a number of empirical challenges.[3] Because the forms are self-reported, there are many reasons to doubt their accuracy. Officials go to great lengths to hide their dealings, especially since the punishments for violating disclosure requirements usually pale in comparison to those for embezzlement or committing other acts of corruption. Although law enforcement officials can and do mount prosecutions of officials with discrepancies in their forms (Szakonyi, 2021; Scherf, 2021), verifying disclosures requires access to comprehensive financial systems and asset registries, which in most countries, especially decentralized ones, may not be fully developed. If corrupt officials calculate that they can get away without being fully honest in their paperwork, then empirical work based on these data will be biased.

More importantly, scholarly attention has also been much more focused on explaining which politicians are corrupt, rather than exploring how incentives to engage in corrupt behavior affect political outcomes. What do corrupt politicians actually do after arriving in power? What are the economic and political costs from elected officials devoting substantial parts of their time in office to accumulating personal wealth? These questions become all the more important since voters have been shown to be quite forgiving of politicians' corruption in office, often weighing their overall policymaking performance more heavily than any illicit gains accrued for themselves (De Vries and Solaz, 2017). Corrupt politicians performing better in office than non-corrupt ones would complicate our understanding of the costs of corruption (Dreher and Herzfeld, 2005), as well as would help explain why electoral punishment of corrupt politicians is not automatic.

---

[3]Outside of several Scandanavian countries (Berg, 2020), micro-level data on individual wealth is generally not available for researchers to link to databases of public officeholders. Therefore, researchers can only analyze income and asset disclosures that officials submit to their governments.

2.1 Theoretical Expectations

The theoretical framework developed here predicts how corrupt legislators perform in office. I focus on elites in elected legislative institutions for several reasons. First, the range of responsibilities for legislators is more defined than bureaucrats, with the latter assuming more expansive, evolving duties depending on the exact nature of their position. Second, legislators have to win voter approval to keep their jobs rather than approval from superiors in the bureaucracy. Electoral accountability offers a different kind of political autonomy, enabling the expression of potentially a wider range of political views and behavior, including opposition to the incumbent government. In the conclusion, I discuss the implications of this framework for those working in the executive branch, where issues of shirking may loom larger than regime loyalty.

Legislators have ample opportunities to self-enrich on the back of their normal duties in power, such as sponsoring bills, passing budget amendments, serving on committees, approving political nominations, and voting in the chamber. Three sources underwrite any illicit financial gains. First, deputies can sell political favors to interest groups and wealthy individuals (Weschle, 2022). For example, deputies might sponsor legislation that aids a specific trade industry from whom they receive side payments. Here the money comes from outside government but ends up in the bank accounts of elected politicians. Secondly, legislators may exploit their political independence to extract spoils from the incumbent government (Reuter and Robertson, 2015; Reuter and Szakonyi, 2019). Co-opting the opposition is a hallmark of many competitive authoritarian regimes, with the incumbent government organizing lucrative payouts for legislators outside the ruling party in return for their support for regime initiatives. Finally, some legislators may take advantage of their rulemaking powers and access to bureaucrats to pad their own pocketbooks without making agreements with third-parties: passing rules to help connected companies, securing employment for family members, or even exploiting insider political information to achieve better returns on private markets.

Although many of these opportunities for self-enrichment can be exploited without issue during a normal business day, I argue that the concerted pursuit of personal financial interests distracts many politicians from their official duties and results in shirking. Catering to interest groups can require extensive negotiating and bargaining outside of the physical legislative institutions in

order not to arouse suspicions. Legislators pushing their own businesses' interests may also still have one foot firmly in the private sector and allocate a smaller percentage of their already scarce time and resources to their political responsibilities. These expectations build on work on the EU finding that moonlighting politicians, e.g. those that work outside jobs in addition to their political roles, exert less office on their official duties (Arnold, Kauder, and Potrafke, 2014; Staat and Kuehnhanss, 2017; Hurka, Daniel, and Obholzer, 2018). I argue the returns to corruption are considerably higher than those offered by formal secondary positions, further pulling legislators from their normal political roles. Corrupt legislators understand that the marginal return to their earning power depends on less on showing up to work than on building the right networks and connections. This results in greater absenteeism as well as less time given to sponsoring legislation or participating in parliamentary debates and discussions.

Hypothesis 1. *Corrupt legislators will miss more votes, propose fewer bills, and participate less actively in parliamentary discussions.*

Autocratic regimes regularly punish dissent among elites, especially those populating top political institutions. Challengers are repressed and officials that dare criticize the regime often meet at best early exits from office and at worst criminal charges. Several recent anti-corruption reforms are suspected of providing cover for regime efforts to enforce strict loyalty among elites. For example, in China, the so-called 'Tiger and Flies' anti-corruption campaign have allowed the Communist to weaponize corruption charges and purge certain factions (Lorentzen and Lu, 2018). Similarly in the wake of the 2011-2012 anti-regime protests in Russia, opposition-oriented Duma deputies came under incredible political pressure from the Kremlin. In the most striking case, the father of one opposition leader Gennady Gudkov lost his legislative seat in 2012 on accusations of continuing to work in the private sector while in office, something technically illegal but widely ignored when members of the ruling party are found running their own businesses on the side.[4]

Politicians determined to exploit their positions for persona gain then face a trade-off: the more corrupt they become, the more risky it becomes to oppose the regime. Working outside the regime's red lines opens up deputies to criminal prosecution, which otherwise might be overlooked if they professed sufficient loyalty. This trade-off lies at the heart of the *kompromat* strategy

---

[4]The Economist "Why Gennady Gudkov was expelled from the Duma" September 17, 2012.

for managing elite defections (Darden, 2008). Regimes acknowledge, monitor, and even sanction corrupt acts committed by elites, but retain the capacity to use compromising information to punish those that step out of line politically. We then should expect that more corrupt legislators will more be supportive of the regime's political positions, regardless of their formal party membership. In fact, members of opposition parties interested in politics solely for personal financial gain may ideologically resemble their ruling party counterparts for the very purpose of securing protection for their illicit activities.

Hypothesis 2. *Corrupt legislators ceteris paribus will be more likely to vote with regime priorities.*

Taken together, I argue that the pursuit of self-enrichment results in more absent and docile behavior among elites, who prefer to keep their head down politically as not to jeopardize their ability to profit from public office. These individuals are happy to reduce their visibility and autonomy in exchange for the flexibility of making money from politics. Their clear incentives to mask any illegal activity, however, creates significant challenges for outsiders trying to identify the degree to which legislators are prioritizing their own financial interests over their official duties.

3 Data and Methods

To test whether corrupt legislators perform differently in office, I collect data on all 1,035 unique person that served as deputy during the past three convocations in the Russian State Duma (2007-2020). With 450 members elected to roughly five year terms, the Duma is the primary legislative body in the Russian Federation. Although significantly weakened during the Putin era, the Duma still serves as an "elite battleground" for special interests to bargain, negotiate, and compete for policymaking influence (Noble and Schulmann, 2018). Deputies are formally banned from earning outside income, particularly through the private sector, yet a host of corruption scandals suggests a deputy seat can prove very lucrative.[5] To build the dataset, I first collected demographic, elected and partisan data on deputies from official biographies as well as the Central Election Commission. During this period, only four parties achieved representation in the Duma: the ruling party United Russia (UR) with a majority of seats, following by the Communist Party of the Russian

---

[5]Interfax. "State Duma deputy Vadim Belousov was detained for a bribe of three billion rubles" March 15, 2019. Earle, Jonathan "Ethics Chief Asks for Timeout After 'Exposure'" *Moscow Times*, February 14, 2013.

Federation (KPRF), the Liberal-Democratic Party of Russia (LDPR), and Just Russia (SR).

3.1 Detecting Corruption using Financial Disclosures

As part of a nationwide anti-corruption campaign begun in 2008, the Russian government began requiring top-level officials file financial disclosures each spring. Both elected and appointed officials must declare all income, expenditures, bank accounts, company shares, real properties, liabilities and transportation assets for themselves and their immediate family members (spouse, dependent children, etc.). As Appendix Table A2 shows, most of this information is classified based on privacy grounds, available only to law enforcement authorities working to combat corruption. But a series of amendments shortly following the first disclosure law ensured that a small but meaningful part of every official's disclosure would be released to the general public online. As of writing, the law has been extended to cover over 2 million officials. A range of sanctions exists for officials who do not fully comply with the disclosure rules, for example by failing to submit, or for those caught hiding their wealth: from removal from office all the way up to criminal prosecution. Each year tens of thousands of violations are uncovered (General, 2018).

In cooperation with Transparency International-Russia's Declarator project,[6] I first extracted and cleaned all available disclosures for Duma deputies. An example disclosure can be found in Appendix Table A1. For each deputy, I tabulated reported income, the number and total square meterage of real estate assets, as well as the make and models of any transportation assets for both the deputy individual and across all family members listed. The majority of State Duma deputies only began filing public disclosures in 2010, which I use as the starting year for the sample. This leaves 1,034 unique individuals serving at any point from 2010-2020.[7] Deputies are generally compliant with the disclosure rules. Of the 5,079 deputy-years in the dataset (deputies enter the dataset each year they were present for at least one vote), disclosures were filed in 4,413 (87%) of them. The main exception were lame duck deputies failing to file in election years. Presumably these individuals did not fear any consequences from the anti-corruption commissions since they

---

[6]The Declarator Project was founded in 2011 to collect the income and asset disclosures from the websites of thousands of federal, regional, and municipal institutions into a centralized, searchable database http://www.declaratory.org.

[7]The number of unique deputies serving during any given year fluctuates, because of retirements, deaths and appointments to higher office.

were already departing office.[8]

There are many ways to track personal enrichment using financial disclosures. Per the discussion above, many journalistic investigations take the contents at face value and create red-flags based on this self-reported information.[9] For example, a significant increase in a deputy's or (his or her spouse's) income over a single term in office could be suggestive of corruption. There are legitimate reasons for such wealth accumulation and it can be hard to separate the signal from the noise to nail down illicit versus legal activity.

To better capture deputies abusing their public office for private gain, I instead treat corruption as a type of hidden income. This approach draws on a unique set of validated forensic tools that are commonly used to measure the size of the informal economy in Russia (Braguinsky, Mityakov, and Liscovich, 2014; Braguinsky and Mityakov, 2015). This method creates a measure of wage misreporting using the ratio of an individual's reported earnings to the types of cars he or she drives. People who earn modest incomes yet drive expensive cars may not by reporting their full earnings to the government.[10]

Anti-corruption activists have applied a similar logic in their case-by-case investigations of corruption in the Russian government. In 2018, Alexey Navalny's Anti-Corruption Foundation published a report on State Duma Deputy Leonid Slutsky that compared the market value of his family's car collection (two Bentleys and a Mercedes-Benz) and his official annual income (roughly $30,000).[11] The set of explanations for how a person could legitimately afford a car beyond their earnings is easier to explicate (family wealth, inheritances, savings) than for example the assumptions needed to justify the use of measures solely based on self-reported income.

This critical assumption behind this approach is that driving an unregistered car is nearly impossible in Russia. Duma deputies may believe that they can hide income from authorities (whether it be through offshore accounts or shell companies), but law enforcement authorities can much more easily discover the cars they drive. Cars need to be registered with transportation

---

[8]Failing to file a disclosure form also predicts shirking and loyalty to the regime.

[9]Romanovsky, Roman and Aleksandr Vavilov "Veterany umirajut v ocheredi za zhil'em, a chinovniki poluchajut ot gosudarstva milliony rublej na pokupku tret'ih, pjatyh, shestyh kvartir" *iStories*, November 8, 2021.

[10]In the early 2000s, both the Moscow auto registration database and the universe of incomes reported to the Russian Pension Fund leaked online. By combining the two datasets, the researchers are able to calculate a ratio between officially reported earnings and the market values of the cars registered to the same individuals.

[11]Navalny, Alexei "8 marta. V znak solidarnosti vygonjaem iz Gosdumy domogajushhegosja deputata. Psihopata. Korrupcionera" *https://navalny.com*, March 8, 2018.

authorities, and drivers list the cars they own and operate when applying for automobile insurance. This lends validity to at least one piece of information of their income and asset disclosure: deputies cannot easily falsify their transportation assets given the low cost for anti-corruption commissions as well as investigative journalists to discover their deception.[12]

To calculate the ratio between income and car values, I first assigned make and models to every car owned by a deputy, his or her spouse, or dependent children. To estimate the value of each car, I then scraped the for-sale listings on the website of Russia's largest automobile marketplace (http://www.auto.ru) several times from May to August 2021. During this period, over 700,000 unique vehicles were listed for sale, with roughly 44 cars from each make-model-year combinations (for example, there were 92 unique 2012 Honda Civics for sale that summer).

The listing prices for these cars, however, reflect 2021 used car prices. I then use the new car premium and depreciation table calculated by Braguinsky, Mityakov, and Liscovich (2014) to back out the value of each car at the time it appeared in a deputy's declaration.[13] The biggest drawback with using this methodology is that for most of the disclosed cars, I do not know the manufacture year. For the sake of consistency, where this year is missing, I assume that the manufacture year was three years prior to the first year the car appeared on a disclosure. In other words, deputies on average enter into office with cars that are three years old, and any cars they acquire during their time in office are three years old.[14] To give a more concrete example, the mean price of a 2012 Honda Civic for sale in 2021 was 827,500 rubles (roughly $12,000). For a deputy who owned that car in 2015, its value would be set at 1,507,803 rubles, or roughly $21,500.

Table 1 lists the 15 most common car makes (manufacturers) owned by deputies in the disclosure datasets, as well as the average imputed value in rubles and dollars at the time they appeared on a disclosure form. Duma deputies have nice taste in cars, which may be unsurprising given that over one quarter of the body reports household income of over $150,000 (a substantial sum in Russia). Beyond the car makes shown here, deputies declared 21 Bentleys, 14 Jaguars, 5 May-

---

[12]Below I discuss how future versions of this paper will relax this assumption using data currently being collected.

[13]Using data from the early 2000s, Braguinsky, Mityakov, and Liscovich (2014) employ a fixed depreciation rate of 12% irrespective of car brand. The website auto.ru gives depreciation rates using more recent sales data, but not for every make and model combination. On average, auto.ru calculates a 10.1% depreciation rate, with a standard deviation of 3.74. Future versions of this paper will show results with brand-specific depreciation rates as a robustness check.

[14]This is a very conservative assumption for dealing with the missing data problem (it forces downward the total value of cars owned), and future versions of the paper will show robustness checks that allow deputies to own new cars.

TABLE 1: TOP 15 MOST COMMON CAR MAKES OWNED BY DUMA DEPUTIES

Make	Num. Cars	Mean Price (Rub)	Mean Price (USD)
Mercedes-Benz	575	4,057,636	62,425
Toyota	393	3,796,972	58,415
Lexus	231	4,450,795	68,474
BMW	207	3,156,670	48,564
Volkswagen	127	2,236,389	34,406
Audi	124	2,666,091	41,017
VAZ	117	448,376.4	6,898
Nissan	109	1,735,717	26,703
GAZ	100	1,998,405	30,745
Land Rover	96	4,129,587	63,532
Mitsubishi	77	2,317,842	35,659
Porsche	76	4,560,835	70,167
Hyundai	75	1,698,028	26,124
Volvo	59	2,645,007	40,692
Chevrolet	54	1,939,286	29,835

Note: This table shows the 15 most common car makes (manufacturers) owned by deputies from 2010-2020. Mean price is calculated using the methodology described in (Braguinsky, Mityakov, and Liscovich, 2014), with prices shown in rubles and dollars (at an exchange rate of 65 rubles per dollar).

bachs, and 2 Ferraris. That said, the median deputy reports a much more modest six million rubles ($85,000) in household income a year. Given the ubiquity of luxury cars in the disclosures, an approach comparing reported cars to reported incomes could be a powerful indicator of undeclared earnings.

The main corruption indicator used in this paper is the 'hidden earnings ratio': the sum of the imputed market value of all the cars disclosed per deputy household each year divided by the sum of all income earned that year by the same members of the family. Although cars are obviously not purchased every year, a significant gap between the market prices of cars and annual income can shed light on which deputies are perhaps living beyond their declared means.[15] Figure 1 plots the average hidden earnings ratio for all deputies who reported automobiles in disclosures filed while in office. The median value is 0.52, indicating that the total market value of cars driven by a deputy's household equals roughly half of the income reported for that year. But there are significant outliers, including a deputy owning eight cars in a given year (including a Toyoya Land Cruiser and an Infiniti QX), yet only having earned $50,000 per year while in office. Leonid Slutsky, who was mentioned in a Navalny expose for reporting luxury cars that didn't match his

---

[15]Because Russian officials commonly register valuable assets in the names of their spouses and children, we aggregate all income and assets data to the household level.

income scored a 3.63 on this scale.

FIGURE 1: HISTOGRAM OF HIDDEN EARNINGS RATIOS
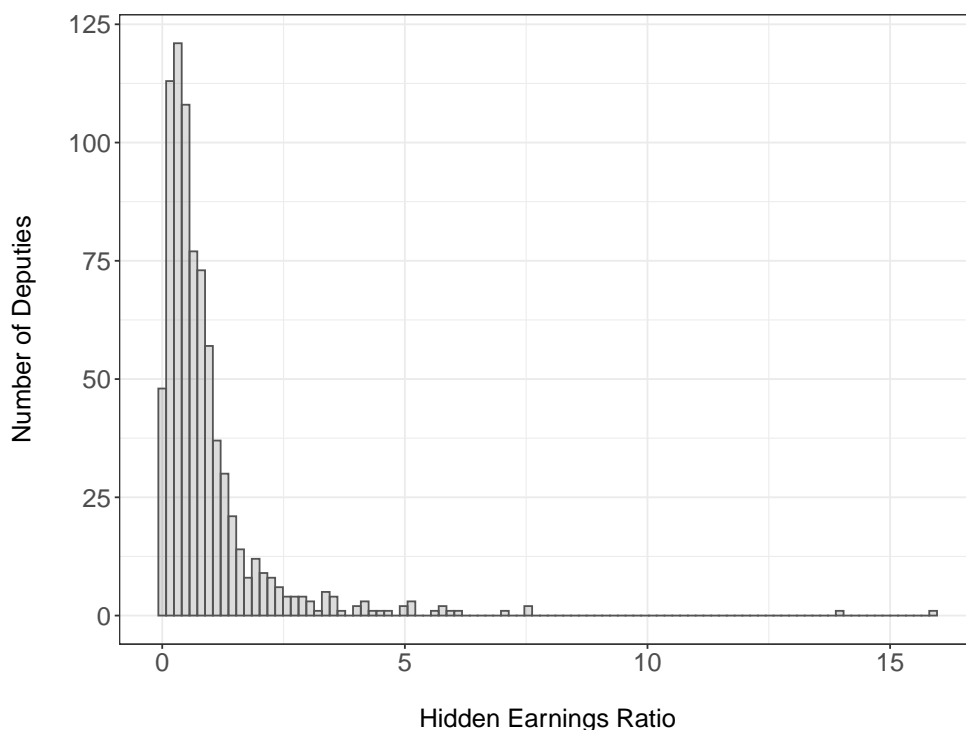
Note: This figure plots the hidden earnings ratio for all deputies that reported at least car during their time in office.

Table 2 provides more detail, breaking down the mean, median, and maximum hidden earning ratios for different subsets of Duma deputies. The Liberal-Democratic Party of Russia (LDPR) scores highest on this metric, with the Communist Party scoring lowest. There does also seem to be some decrease in the ratio in more recent convocations, which aligns with work showing greater discipline being imposed by United Russia leadership in the Duma. Finally, deputies who have been caught plagiarizing dissertations (for more detail see Abalkina and Libman (2020)) have a higher median hidden earnings ratio. This suggests that the indicator is capturing some dimension of dishonesty and builds confidence in its validity.

Appendix Table A3 examines these relationships more systematically, regressing the hidden earnings ratio on same demographic characteristics. We see that first women are less likely to report expensive cars that their incomes might not afford, in line with other recent work finding that female legislators score better on individual corruption measures (Dollar, Fisman, and Gatti,

[2001](). Next, some occupation characteristics seem to affect the propensity to engage in corruption, in particular prior work in civil society and health care. Deputies with these professional backgrounds may compensate for their lower earning power by using their political office to earn additional income. However, age, education, residency in Moscow, and committee leadership do not predict this type of hidden earnings.

TABLE 2: HIDDEN EARNINGS: DESCRIPTIVE STATISTICS

	Median	Mean	Max
Car Values / Earnings Ratio			
(1) All Deputies	0.567	0.901	15.887
By Party			
(2) United Russia	0.561	0.847	7.555
(3) Communists	0.478	0.686	4.600
(4) LDPR	0.813	1.379	15.887
(5) Just Russia	0.558	1.012	14.035
By Convocation			
(6) 5th (2007-2011)	0.647	1.096	18.547
(7) 6th (2011-2016)	0.303	0.499	10.089
(8) 7th (2016-2021)	0.184	0.293	5.287
Dissernet			
(9) Plagiarized	0.618	0.764	4.600
(10) No Plagiarism Found	0.441	0.636	4.135
Average Annual Income (mil. rubles)			
(11) Deputy	4.763	20.598	4705.935
(12) Total Family Income	5.410	27.970	4705.935

Note: This table calculates statistics based on the hidden earnings ratio for different subsets of the Russian State Duma. The Dissernet subsetting uses a binary indicator for whether a deputy plagiarized his or her dissertation based on analysis from the Dissernet project https://www.dissernet.org/.

3.2 Measuring Legislative Behavior

For outcome measures, I collect data on voting, session attendance, and other legislative activity from the official Duma API,[16] which makes parliamentary data publicly available in near real-time. I first measure shirking by collecting data on the roll call votes for 10,985 bills from 2010-2020; since bills must pass multiple readings to be sent to the President's desk, this amounts to

---

[16] api.duma.gov.ru

31,256 unique voting events with 15,002,510 votes cast.[17] Deputies' vote choice falls into one of four categories: for, against, abstain and absent. The Russian Duma has historically experienced significant problems concerning deputy attendance, with even state-owned media outlets covering the empty chambers and proxy voting being used. Of the potential 15 million votes cast, deputies were not present 35% of time.[18] For each deputy, I then calculate the percentage of roll call votes in each year he or she served in the Duma. My primary measure of shirking concerns only third reading votes, when bills considered for a final time and absenteeism is at its lowest (roughly 12%).[19]I also calculate the number of individual sessions that a deputy attended each each year as a percentage of those that were held.

Next, I create a series of measures capturing how active deputies are during the sessions that they do attend. One of deputies' primary responsibilities in any parliamentary body is to write and introduce legislation. Yet in the Russian Duma, only a small number of deputies take the initiative to sponsor legislation and then act as entrepreneurs to shepherd their bills through the committee process (Chaisty, 2013). Although some deputies do so only at the behest of the government (Noble, 2020), sponsoring legislation is one of the strongest signals that deputies are taking their elected responsibilities seriously and actually initiate legislation. For each year of their term, I create a count of the number of bills they acted as the sole sponsor. Deputies can also co-sponsor legislation; to capture that activity, I create a weighted number of total bills sponsored by summing the fraction of co-sponsorships. For example, if in 2017, one deputy sponsored one bill with three colleagues (1/4) and another bill with two other colleagues (1/2), she would have a score of 0.75 (1/4 + 1/2). I transform each of these measures using the inverse hyperbolic sine (IHS) transformation, which allows the outcome to retain zeros.[20]

Legislators also can communicate their own political preferences as well as those of their constituents by speaking directly on the Duma floor during legislative debates. I collect data on all 125,486 of these speeches, and follow the Duma's official coding guidelines whereby 80,229 (64%)

---

[17]For consistency across different types of votes, I exclude all resolutions and other legislative activities not concerning bills being passed into law.

[18]Because deputies have historically gotten their colleagues to vote on their behalf (illegally) when they miss sessions, this absenteeism measure underestimates the total extent of votes missed. Rather it just captures deputies made no effort to have a vote recorded in their name (Shirikov, 2021), Bolotova, O. (2010). Neokhotnyi Ryad. Gazeta.ru.

[19]As a robustness check in the Appendix, I show the main results hold when just the first and second readings are considered separately, as well as each deputy's score across all readings.

[20]In the Appendix, I show results dividing the number of solo sponsorships by the total number of laws introduced in the chamber that year.

are designated as questions (for example to bill sponsors or invited experts) rather than individual speeches. Here again I apply an IHS transformation to the count of total speeches and total questions asked by each deputy in each year they servedin the Duma.

To measure regime loyalty, I draw on the same roll call voting data, but instead focus on the actual votes entered by each deputy. First, following (Shirikov, 2021), I identify all bills that were initiated by the federal government (ministries, agencies, etc.), noting that these pieces of legislation best reflect the regime's policymaking goals. Voting against a bill directly sponsored by the Ministry of Defense signals a much more significant level of challenge to the regime than for example opposing a bill sponsored by a low-ranked United Russia deputy. Here again I am careful to distinguish between different bill readings, creating outcomes reflect the percentage of times a deputy voted for a federal government bill (rather than voting against or abstaining)[21] in its 1st, 2nd and 3rd readings.

In addition, I apply roll call scaling methods developed in the US context to calculate deputy ideal points along a pro or anti-regime dimension (Poole and Rosenthal, 1985). This procedure fits spatial models to uncover patterns in preferences and ideological voting that might otherwise be missed by simply comparing raw votes (Poole et al., 2008; McCarty, Poole, and Rosenthal, 2016). To align with the disclosure and voting data, I calculate ideal points based on all legislation that a deputy voted on in each year they served in office. I set as the reference point the leader of the ruling party United Russia faction at the time (Boris Gryzlov, Sergey Naryshkin, and Vyacheslav Volodin) and following the best practices from the R package *wnominate* to trim the sample of only any 'insignificant' votes, i.e. those with unanimous consent from all factions within the chamber. Figure 2 plots these deputy-year ideal points, which range from [-1,1], according the party membership of each deputy. Parties vary in their discipline, with the Communists (the leftmost bar) generally enforcing the most anti-regime (pro-UR) stance of the four parties and seemingly ensuring party members vote together. The two other nonsystemic opposition, LDPR and Just Russia, adopt a wider range of political positions, with their members vacilitating between voting for and against legislation supported by the UR leadership. Interestingly, United Russia does see some variation in discipline within its voting ranks, with some members at times defecting. The analysis below examines whether hidden earnings help predict where each deputy falls on this

---

[21]For this exercise, I remove all deputies that were absent from the calculations
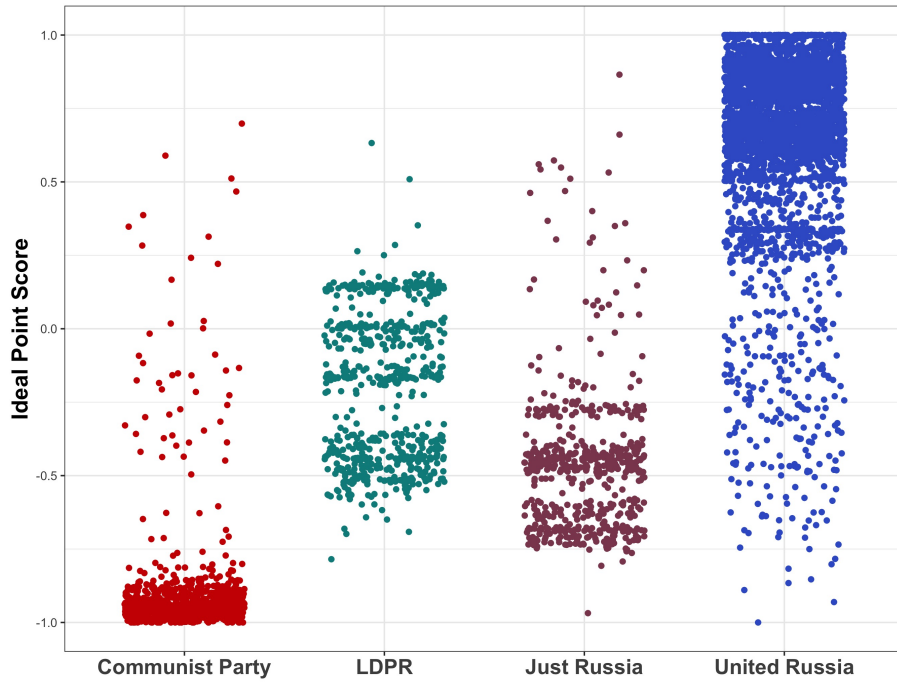
dimension, controlling for their party membership.

3.3   Empirical Strategy

I bring together all of the above data points into a deputy-year level dataset consisting of 5,079 observations. Although partisanship, demographics and other leadership positions do not change over time, deputies submit financial disclosures every year they are in office. A hidden earnings ratio can vary over time for a given deputy, but a year is the most fine-grained unit of time we can observe income and assets. Therefore, I collapse all of the outcome data regarding shirking and loyalty (e.g. voting records, legislating activity and ideal points) to the deputy-year level.

My main empirical models use OLS, includes year fixed effects, and clusters standard errors at the deputy level. Note the hypotheses focus on differences 'between' rather than 'within' deputies: how do more corrupt legislators differ from their less corrupt counterparts? In the next section,

I also discuss robustness checks shown in the Appendix which include deputy fixed effects and investigate changes over time. But because the theoretical focus is on even initial levels of corruption affecting legislative behavior, these results carry less weight in testing my main arguments. All models also include a number of covariates for each deputy that have been founded to predict party cohesion and other measures of behavior in the State Duma. Using each deputy electoral affidavit, I create measures for age (logged), gender, whether they had higher education, whether they resided primarily in Moscow, and their primary occupation.[22] I also create a binary indicator if a deputy served as a chair of any committee during his or her term, and create a categorical variable for which of the four party factions they were a member of.

4   Results

Table 3 presents models examining the relationship between corruption (as measured by the hidden earnings ratio) and legislative shirking. First, we see in Column 1 that the ratio between car values and total income is positively associated with absenteeism, as measured by the percentage of roll call votes a deputy missed in the same year. Similarly, deputies who may have greater hidden earnings are more likely to skip sessions. Both these results are large and statistically significant. A one standard deviation change in the hidden earnings ratio results in deputies missing approximately 4% more votes in a given year. Deputies focusing on making money for themselves show up less and less for work.

Not only do corrupt deputies miss important roll call votes, but they are much less involved in the drafting and sponsorship of legislation itself. Column 3 examines the number of bills each deputy acts as the solo initiator or sponsor of each year. Here again we see a negative effect of hidden earnings on legislative activity: deputies who have more hidden income take responsibility for a significantly smaller share of the overall legislative output of the chamber. As Appendix Table A6 shows, these results hold even when bill sponsorship is calculated differently, such as the total number of bill deputy act as solo sponsor or co-sponsor, or the percentage of bills initiated that deputies play some sort of sponsorship role on. Overall, deputies with more hidden earnings

---

[22]I code up previous occupation using a field candidates submit on their registration forms. This categorical variable can take one of seven values based on industry or profession: Blue Collar Worker, Businessperson, Civil Society, Education, Government, Health Care, or Pensioner / Unemployed.

deprioritize the actual legislating part of their duties.

Finally, the rightmost columnsexamine different forms of participation in parliamentary debates: the number of speeches given (Column 4) and the number of questions asked (Column 5). In both cases we see a negative relationship between hidden earnings and active participation. On average, deputies with one standard deviation greater hidden earnings give roughly three fewer speeches and ask two fewer questions each year. Taken together, this table provides strong evidence of shirking among those deputies suspected of using their office for private gain.

TABLE 3: HIDDEN EARNINGS PREDICT SHIRKING

	Absenteeism (%)	Sessions Attended (%)	Bills Initiated (Solo)	Speeches Given	Questions Asked
	(1)	(2)	(3)	(4)	(5)
Hidden Earnings	0.007***	−0.004***	−0.016**	−0.211***	−0.195***
	(0.002)	(0.001)	(0.007)	(0.061)	(0.055)
Total Family Earnings (log)	0.005**	−0.003**	−0.003	−0.253***	−0.237***
	(0.002)	(0.001)	(0.006)	(0.048)	(0.042)
Age (log)	0.027**	−0.024***	−0.079**	−0.608**	−0.551**
	(0.011)	(0.007)	(0.040)	(0.296)	(0.269)
Female	−0.011**	0.009***	−0.029	0.226	0.177
	(0.005)	(0.004)	(0.019)	(0.154)	(0.140)
College Education	0.0002	−0.008	0.076***	0.243	0.214
	(0.009)	(0.005)	(0.029)	(0.294)	(0.272)
Moscow Resident	0.007	−0.005	−0.021	0.277**	0.189*
	(0.004)	(0.003)	(0.015)	(0.128)	(0.115)
Committee Leadership	−0.010**	0.008***	0.047***	0.798***	0.697***
	(0.004)	(0.003)	(0.014)	(0.106)	(0.096)
Member: LDPR	0.027***	−0.005	0.199***	0.605**	0.562**
	(0.009)	(0.004)	(0.061)	(0.278)	(0.254)
Member: Just Russia	−0.014	−0.035***	0.056	0.500**	0.419*
	(0.010)	(0.006)	(0.039)	(0.254)	(0.234)
Member: United Russia	−0.231***	−0.017***	−0.054***	−0.358*	−0.400**
	(0.007)	(0.003)	(0.019)	(0.194)	(0.179)
Occupation, Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	4,284	4,284	4,284	4,284	4,284
R^2	0.633	0.280	0.092	0.183	0.187

Note: This table shows results using different measures of legislative shirking as the outcome variables. All models are estimated using OLS with standard errors clustered at the deputy level.

Next, Table 4 examines whether corrupt deputies are more likely to support regime policies. The first three columns use as outcomes the bills initiated by the federal government that each deputy voted in favor of, broken out by which the vote of each of the bill's three reading. In all three cases, we see a positive relationship between hidden earnings and regime loyalty. Deputies who engage in corruption or suspicious financial behavior are much more likely to vote with the regime, even controlling for party membership. That is, members of the systemic opposition that

use their legislative seats for personal gain wind up supporting the regime much more strongly than those that have more transparent disclosures. These findings also come through in Column 4, where the outcome is each deputy's ideal point, calculated on an annual basis with the chairman of the United Russia fraction used as a benchmark. Here again, we see that corrupt deputies, even those members of systemic opposition parties, exhibit more pro-regime voting behavior.

TABLE 4: HIDDEN EARNINGS PREDICT REGIME LOYALTY

	Pro-Kremlin Voting Behavior			
	1st Reading (%)	2nd Reading (%)	3rd Reading (%)	Ideal Point Score
	(1)	(2)	(3)	(4)
Hidden Earnings	0.004***	0.004***	0.004***	0.010***
	(0.001)	(0.001)	(0.001)	(0.004)
Total Family Earnings (log)	0.001***	0.001*	0.001**	−0.001
	(0.0004)	(0.0005)	(0.0005)	(0.002)
Age (log)	−0.001	−0.002	−0.002	−0.014
	(0.003)	(0.003)	(0.003)	(0.017)
Female	−0.0004	0.001	0.0002	0.014*
	(0.001)	(0.001)	(0.001)	(0.007)
College Education	0.001	0.004	0.004	0.018
	(0.003)	(0.003)	(0.003)	(0.016)
Moscow Resident	0.0002	0.0001	0.0003	−0.0004
	(0.001)	(0.001)	(0.001)	(0.006)
Committee Leadership	0.004***	0.004***	0.004***	0.004
	(0.001)	(0.001)	(0.001)	(0.006)
Member: LDPR	0.103***	0.114***	0.121***	0.748***
	(0.003)	(0.003)	(0.003)	(0.010)
Member: Just Russia	0.040***	0.048***	0.058***	0.390***
	(0.003)	(0.003)	(0.003)	(0.013)
Member: United Russia	0.129***	0.142***	0.156***	1.710***
	(0.002)	(0.003)	(0.003)	(0.006)
Occupation, Year Fixed Effects	Yes	Yes	Yes	Yes
Observations	4,283	4,283	4,283	3,780
R^2	0.796	0.760	0.776	0.963

Note: This table shows results using different measures of loyalty to the regime as the outcome variables. All models are estimated using OLS with standard errors clustered at the deputy level.

Does that degree of loyalty depend on the type of bills the government pushes for in the Duma?

In Table 5, I code the main issues addressed in each bill initiated by the federal government, building off the Duma's own coding scheme presented in its online database. We see slight differences in the relationship between hidden earnings and pro-regime behavior: corrupt deputies appear to be slightly more supportive of regime policies when they touch upon budgets and economic policy as compared to social issues. Deputies may retain stronger partisan attachments when issues such as pension reform are raised, which systemic opposition parties such as the Communists have historically been more vocal about. These results suggest that not all corrupt deputies sacrifice their political autonomy, but may pick and choose which areas to display more overt loyalty to the regime.

TABLE 5: LEGISLATIVE HETEROGENEITY

	Pro-Kremlin Voting Behavior				
	Budgets	Economic Policy	Defense / Security	Constitutional Issues	Social Policy
	(1)	(2)	(3)	(4)	(5)
Hidden Earnings	0.007***	0.005***	0.004***	0.003***	0.003***
	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)
Total Family Earnings (log)	0.002**	0.002***	0.0002	0.001**	0.0003
	(0.001)	(0.001)	(0.0004)	(0.0004)	(0.0005)
Age (log)	−0.0004	−0.004	−0.003	−0.002	−0.004
	(0.007)	(0.003)	(0.003)	(0.002)	(0.003)
Female	0.0002	0.002	−0.001	0.001	−0.002*
	(0.003)	(0.001)	(0.001)	(0.001)	(0.001)
College Education	0.009	0.001	0.003	0.0002	0.006*
	(0.007)	(0.004)	(0.003)	(0.002)	(0.003)
Moscow Resident	−0.002	0.002	0.001	−0.0002	−0.0002
	(0.003)	(0.002)	(0.001)	(0.001)	(0.001)
Committee Leadership	0.010***	0.003*	0.003***	0.003***	0.002**
	(0.003)	(0.002)	(0.001)	(0.001)	(0.001)
Member: LDPR	0.238***	0.112***	0.056***	0.081***	0.105***
	(0.006)	(0.004)	(0.003)	(0.002)	(0.003)
Member: Just Russia	0.053***	0.068***	0.032***	0.062***	0.030***
	(0.008)	(0.004)	(0.003)	(0.002)	(0.003)
Member: United Russia	0.302***	0.143***	0.077***	0.098***	0.144***
	(0.005)	(0.003)	(0.002)	(0.002)	(0.002)
Occupation, Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	4,282	4,282	4,282	4,283	4,283
R^2	0.771	0.619	0.448	0.632	0.687

Note: This table looks at degree of deputy voting support for regime-sponsored bills, broken down by issue type. Bills involved treaty ratifications are omitted. All models are estimated using OLS with standard errors clustered at the deputy level.

To assess the robustness of these findings, Appendix Tables A4 and A5 include deputy fixed effects in the models. Interestingly, we see little change over time within deputies with regards to shirking. Deputies that accumulate greater hidden earnings over time are no more likely to miss roll call votes nor do they sponsor fewer bills. On the other hand, greater corruption over a single term is associated with more regime loyalty. These results suggest that deputies may grow concerned about the regime's scrutiny for their increasing illicit income and insure themselves against punishments by supporting the regime more fervently. However, there may be diminishing marginal returns to absenteeism with regards to earning unofficial income.

4.1 Improving the Corruption Methods Using Cross-Verification

The 'hidden income' approach described above still relies solely on the self-reported data contained in the disclosures to learn about officials' wealth. In doing so, it assumes that officials are at a minimum faithfully reporting the cars and motorcycles they own. There may be some justification for this. Officials may fear that anti-corruption commissions will have an easier time verifying their transportation assets against central car registries and be more honest in listing their assets on forms.

The second method for uncovering corruption relaxes that assumption and instead attempts to cross-verify the contents of the disclosures with external registries that record assets held by the same individual. Although car ownership is common among State Duma deputies, there are still many deputies who do not file any cars on their disclosures. In most countries, individuals must register their different forms of property with the government for taxation and licensing purposes. Real property deeds and transactions often are stored in cadasters or related registries, while government agencies, such as the Department of Motor Vehicles (DMV) in the US, require owners to register their vehicles. Comparing what is reported in disclosures with official registries mirrors other innovations in forensic economics that use cross-referencing to uncover anomalies and potential corruption. For example, Fisman and Wei (2004) measure tax evasion by comparing import records from China with export records from Hong Kong.

This approach mirrors that used by the control commissions created by the government to monitor the disclosures process and identify corrupt officials. Unsurprisingly, the resources and

access to data that these commissions have at their disposal vastly outnumbers what is available to journalists, civil society activists, and academics. Through their partnerships with law enforcement and tax agencies, control commissions and even subpoena records from officials suspected of corruption. In 2011, the head of the Saint Petersburg Anti-Corruption commission described the process as such: "We check the accuracy of officials' disclosures through registration organs: cars - through the GIBDD (*Note: the Russian equivalent of the DMV*), property - through the Federal Service for State Registration, Cadastre and Cartography; company ownership and board membership - through the Federal Tax Service."[23] Officials have referenced electronic warehouse and data lakes being set up to collate the data from these registries and help automate the validation.

Russia, however, presents an interesting case for non-governmental actors to access the same or similar registries, albeit through unofficial channels. Over the past two decades, anti-corruption investigators and researchers have put to exemplary use data on a wide range of tangible assets in order to uncover graft within the Russian government. The independent outfit Proekt identified real properties owned by the political elites by analyzing the cadaster entries for over 4,000 properties along the famed Rublevo-Uspenskoye Shosse that runs through Moscow's most elite suburbs. In the same investigation of Leonid Slutsky referenced above, Navalny's Anti-Corruption Fund uncovered a discrepancy in the size of real estate plot declared in his Duma disclosure versus that registered in the state cadaster. Other more famous investigations have mined the state cadaster to uncover properties supposedly held by former Prime Minister Dmitry Medvedev among others.

The databases used are often freely available on the internet, sometimes for a nominal fee. The next version of this paper will incorporate at least one of the automobile registries that is publicly accessible online. This registry includes data on all luxury cars owned by individuals in Russia over the past decade and can be used as a reference database for the information included in the disclosures. Government officials will be coded as more likely to have benefitted from corruption if they appear to own luxury vehicles that are not declared in their submitted disclosures. This measure will be validated against the indicators created using the 'internal' approaches described above as well as other proxies for dishonesty and/or criminal activity.

---

[23] Astafyeva, Nina. "Kak Prokuratura Proveryaet Dohody Gosudarstvennyh Sluzhashih" *Online812*, February 8, 2011

5 Concluding Remarks and Next Steps

Deputies who prioritize achieving personal financial gains in office (and then hide their income) may be absent more regularly, sponsor fewer bills, as well as vote more in line with the ruling party, presumably to retain favor with the regime. This desire for self-enrichment therefore can divide authoritarian parliaments. Some legislators view their roles more akin to their counterparts in democratic settings: passing legislation not only to extend the the their party's hold on power, but also potentially improve societal welfare, protect national security, among other goals. Others may shirk their duties while also aligning themselves closely with the regime, as to better focus on exploit their position for personal gain. Their obedience can to some degree be purchased, directly or indirectly, through access to financial spoils.

Future versions of this paper will shore up the hidden earnings measure by investigating whether deputies who hide cars altogether from their disclosures display similar legislative behavior. Moreover, does a propensity to self-enrich in office hurt a deputy's chances at re-election? By bringing in more data on candidate selection and party list placement over time, I will examine how corruption affects the career paths of legislators, independent of their legislative activity (Shirikov, 2021).

References

Abalkina, Anna, and Alexander Libman. 2020. "The real costs of plagiarism: Russian governors, plagiarized PhD theses, and infrastructure in Russian regions." *Scientometrics* 125 (3): 2793–2820.

Arnold, Felix, Björn Kauder, and Niklas Potrafke. 2014. "Outside Earnings, Absence, And Activity: Evidence From German Parliamentarians." *European Journal of Political Economy* 36: 147–157.

Berg, Heléne. 2020. "On the returns to holding political office (Is it worth it?)." *Journal of Economic Behavior & Organization* 178: 840–865.

Bhattacharyya, Sambit, and Roland Hodler. 2015. "Media freedom and democracy in the fight against corruption." *European Journal of Political Economy* 39: 13–24.

Blaydes, Lisa. 2011. *Elections and Distributive Politics in Mubarak's Egypt*. Cambridge: Cambridge University Press.

Braguinsky, Serguey, and Sergey Mityakov. 2015. "Foreign Corporations and the Culture of Transparency: Evidence from Russian Administrative Data." *Journal of Financial Economics* 117 (1): 139 – 164.

Braguinsky, Serguey, Sergey Mityakov, and Andrey Liscovich. 2014. "Direct Estimation of Hidden Earnings: Evidence From Russian Administrative Data." *The Journal of Law and Economics* 57 (2): 281–319.

Chaisty, Paul. 2013. "The preponderance and effects of sectoral ties in the State Duma." *Europe-Asia Studies* 65 (4): 717–736.

Cunha, Gabriel. 2019. "Financial Gains from Legislative office: Evidence from Brazilian Municipal Councilors." *Economic Research Initiatives at Duke (ERID) Working Paper Forthcoming* .

Darden, Keith. 2008. "The integrity of corrupt states: Graft as an informal state institution." *Politics & society* 36 (1): 35–59.

De Mesquita, Bruce Bueno, Alastair Smith, Randolph M Siverson, and James D Morrow. 2005. *The logic of political survival*. MIT press.

De Vries, Catherine E, and Hector Solaz. 2017. "The electoral consequences of corruption." *Annual Review of Political Science* 20: 391–408.

Djankov, Simeon, Rafael La Porta, Florencio Lopez-de Silanes, and Andrei Shleifer. 2010. "Disclosure by Politicians." *American Economic Journal: Applied Economics* 2 (2): 179–209.

Dollar, David, Raymond Fisman, and Roberta Gatti. 2001. "Are women really the "fairer" sex? Corruption and women in government." *Journal of Economic Behavior & Organization* 46 (4): 423–429.

Dreher, Axel, and Thomas Herzfeld. 2005. "The economic costs of corruption: a survey and new evidence." *Available at SSRN 734184* .

Eggers, Andrew C, and Jens Hainmueller. 2009. "MPs for Sale? Returns to Office in Postwar British Politics." *American Political Science Review* 103 (04): 513–533.

Eggers, Andrew C, and Jens Hainmueller. 2014. "Political capital: Corporate connections and stock investments in the US congress, 2004-2008." *Quarterly Journal of Political Science* pp. 2012–26.

Fahey, Kevin. 2018. "The Perks of Being a Lawmaker: Returns to Office as a Legislative Goal." *Legislative Studies Quarterly* 43 (1): 37–68.

Fernández-Vázquez, Pablo, Pablo Barberá, and Gonzalo Rivero. 2016. "Rooting out corruption or rooting for corruption? The heterogeneous electoral consequences of scandals." *Political science research and methods* 4 (2): 379–397.

Ferraz, Claudio, and Frederico Finan. 2011. "Electoral Accountability and Corruption: Evidence from the Audits of Local Governments." *American Economic Review* 101 (4): 1274.

Ferraz, Claudio, Frederico Finan, and Diana B Moreira. 2012. "Corrupting Learning: Evidence From Missing Federal Education Funds In Brazil." *Journal of Public Economics* 96 (9-10): 712–726.

Fisman, Raymond, Florian Schulz, and Vikrant Vig. 2012. "Private Returns to Public Office." *Journal of Political Economy* 122 (4): 806–862.

Fisman, Raymond, and Shang-Jin Wei. 2004. "Tax rates and tax evasion: evidence from "missing imports" in China." *Journal of political Economy* 112 (2): 471–496.

General, Prosecutors. 2018. "Kontrol' za sootvyetstviyem rashodov gosoodarstvyennih i munitsipal'nih sluzhashshih ih dohodam." Pamyatka dlya sluzhashshih.

Hollyer, James R, and Leonard Wantchekon. 2015. "Corruption and Ideology in Autocracies." *Journal of Law, Economics, and Organization* 31 (3): 499–533.

Hurka, Steffen, William T Daniel, and Lukas Obholzer. 2018. "Determinants of moonlighting in the European Parliament." *The Journal of Legislative Studies* 24 (1): 127–147.

Jung, Hoyong. 2020. "Examining Politicians' Wealth Accumulation in South Korea." *Asian Survey* 60 (2): 290–322.

Klašnja, Marko. 2015. "Corruption and the incumbency disadvantage: Theory and evidence." *The Journal of Politics* 77 (4): 928–942.

Klašnja, Marko, and Joshua A Tucker. 2013. "The economy, corruption, and the vote: Evidence from experiments in Sweden and Moldova." *Electoral Studies* 32 (3): 536–543.

Kotakorpi, Kaisa, Panu Poutvaara, and Marko Terviö. 2017. "Returns to office in national and local politics: A bootstrap method and evidence from Finland." *The Journal of Law, Economics, and Organization* 33 (3): 413–442.

Lenz, Gabriel S, and Kevin Lim. 2009. Getting rich (er) in office? Corruption and wealth accumulation in Congress. In *Corruption and Wealth Accumulation in Congress*.

Lorentzen, Peter L, and Xi Lu. 2018. "Personal Ties, Meritocracy, and China's Anti-Corruption Campaign." *Meritocracy, and China's Anti-Corruption Campaign (November 21, 2018)* .

Mahzab, Moogdho. 2020. "Dishonest Politicians and Public Goods Provision." *Job Market Paper* .

McCarty, Nolan, Keith T Poole, and Howard Rosenthal. 2016. *Polarized America: The dance of ideology and unequal riches*. mit Press.

McMillan, John, and Pablo Zoido. 2004. "How to subvert democracy: Montesinos in Peru." *Journal of Economic perspectives* 18 (4): 69–92.

Mironov, Maxim, and Ekaterina Zhuravskaya. 2015. "Corruption in Procurement: Evidence from Financial Transactions Data." *Unpublished Working Paper* .

Noble, Ben. 2020. "Authoritarian amendments: Legislative institutions as intraexecutive constraints in post-Soviet Russia." *Comparative Political Studies* 53 (9): 1417–1454.

Noble, Ben, and Ekaterina Schulmann. 2018. "Not Just a Rubber Stamp: Parliament and Lawmaking." In *The New Autocracy: Information, Politics, and Policy in Putin's Russia*, ed. Daniel Treisman. Brookings Institution Press.

Olejnik, Łukasz Wiktor. 2020. "Why ruling politicians grow rich faster—Rent-seeking or selection bias?" *Society and Economy* 42 (1): 74–97.

Olken, Benjamin A. 2007. "Monitoring Corruption: Evidence from a Field Experiment in Indonesia." *Journal of Political Economy* 115 (2): 200–249.

Peichl, Andreas, Nico Pestel, and Sebastian Siegloch. 2013. "The politicians' wage gap: insights from German members of parliament." *Public Choice* 156 (3-4): 653–676.

Poole, Keith T, and Howard Rosenthal. 1985. "A spatial model for legislative roll call analysis." *American journal of political science* pp. 357–384.

Poole, Keith T, Jeffrey B Lewis, James Lo, and Royce Carroll. 2008. "Scaling Roll Call Votes with W-NOMINATE in R." *Available at SSRN 1276082* .

Querubin, Pablo, and James M Snyder Jr. 2013. "The Control of Politicians in Normal Times and Times of Crisis: Wealth Accumulation by US Congressmen, 1850-1880." *Quarterly Journal of Political Science* 8 (4): 409–450.

Reuter, Ora John, and David Szakonyi. 2019. "Elite Defection under Autocracy: Evidence from Russia." *American Political Science Review* 113 (2): 552–568.

Reuter, Ora John, and Graeme B Robertson. 2015. "Legislatures, Cooptation, and Social Protest in Contemporary Authoritarian Regimes." *The Journal of Politics* 77 (1): 235–248.

Rijkers, Bob, Leila Baghdadi, and Gael Raballand. 2017. "Political connections and tariff evasion evidence from Tunisia." *The World Bank Economic Review* 31 (2): 459–482.

Rossi, Ivana Maria, Laura Pop, and Tammar Berger. 2017. *Getting the Full Picture on Public Officials: A How-to Guide for Effective Financial Disclosure*. Washington DC: World Bank.

Scherf, Alexandra. 2021. "How do online conflict disclosures support enforcement? Evidence from personal financial disclosures and public corruption." *Evidence from Personal Financial Disclosures and Public Corruption (May 25, 2021)* .

Sequeira, Sandra. 2012. "Advances in Measuring Corruption in the Field." *New Advances in Experimental Research on Corruption* .

Shirikov, Anton. 2021. "Who gets ahead in authoritarian parliaments? The case of the Russian state duma." *The Journal of Legislative Studies* pp. 1–24.

Staat, Christian, and Colin R Kuehnhanss. 2017. "Outside earnings, electoral systems and legislative effort in the European Parliament." *JCMS: Journal of Common Market Studies* 55 (2): 368–386.

Szakonyi, David. 2016. "Businesspeople in Elected Office: Identifying Private Benefits from Firm-Level Returns." *SSRN Working Paper* .

Szakonyi, David. 2020. *Politics for Profit: Business, Elections and Policymaking in Russia*. Cambridge: Cambridge University Press.

Szakonyi, David. 2021. "Indecent Disclosures: Anti-Corruption Reforms and Political Selection." *American Journal of Political Science* .

Treisman, Daniel. 2007. "What Have We Learned about the Causes of Corruption from Ten years of Cross-national Empirical Research?" *Annual Review of Political Science* 10: 211–244.

Truex, Rory. 2014. "The Returns to Office in a "Rubber Stamp" Parliament." *American Political Science Review* 108 (02): 235–251.

Wang, Yuhua, and Bruce Dickson. 2019. "How Corruption Investigations Undermine Regime Support: Evidence from China." Unpublished Working Paper: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3086286.

Weschle, Simon. 2022. *Money in Politics: Self-Enrichment, Campaign Spending, and Golden Parachutes*. Cambridge: Cambridge University Press.

Yadav, Vineeta. 2011. *Political Parties, Business Groups, and Corruption in Developing Countries*. Oxford: Oxford University Press.

Zitzewitz, Eric. 2012. "Forensic economics." *Journal of Economic Literature* 50 (3): 731–69.

TABLE A1: LITERATURE ON RETURNS TO PUBLIC OFFICE

Paper	Country	Government	Office Type	Data	Years
Mahzab (2020)	Bangladesh	Local	Elected	Disclosures	2009-2020
Cunha (2019)	Brazil	Local	Elected	Disclosures	2008-2016
Kotakorpi, Poutvaara, and Terviö (2017)	Finland	National and local	Elected	Disclosures	1970-2008
Peichl, Pestel, and Siegloch (2013)	Germany	National	Elected	Disclosures	2005-2009
Fisman, Schulz, and Vig (2012)	India	State	Elected	Disclosures	2003-2012
Olejnik (2020)	Poland	State	Elected	Disclosures	2010-2018
Klašnja (2015)	Romania	Local	Elected	Disclosures	2008-2012
Jung (2020)	South Korea	National	Elected	Disclosures	2004-2016
Berg (2020)	Sweden	Local	Elected	Household data	1991-2006
Eggers and Hainmueller (2009)	UK	National	Elected	Estate records	1950-1970
Querubin and Snyder Jr (2013)	USA	National	Elected	Census records	1850-1880
Lenz and Lim (2009)	USA	National	Elected	Disclosures	1995-2005
Fahey (2018)	USA	State	Elected	Disclosures	1995-2014
Eggers and Hainmueller (2014)	USA	National	Elected	Disclosures	2004-2008

Notes: This table lists literature on the returns to public office, either analyzed as an outcome variable or analyzed as a predictor of other policy outcomes.

Appendix

TABLE A2: REQUIRED INFORMATION IN RUSSIAN DISCLOSURES

Type of Asset or Income	Description	What Information is Made Public?
Income	Broken out by source: employment, investment, etc.	Total income
Expenses	Both assets and source of income used to purchase	
Real Properties	Type, address, square meters, leased or owned	Type, square meters, country location, leased or owned
Transportation	Make/model and registered location	Make/model
Bank Accounts	Currency, balance, flows	
Company Shares	Equity name, address, share	
Short-term Liabilities	Creditor, term, balance	
Sales of Real Property and Transportation	Buyer(s)	

FIGURE A1: EXAMPLE FINANCIAL DISCLOSURE

Last Name, First Name, Patronymic	Position	Total Declared Annual Income for 2015 (ths. Rubles)	List of Real Estate Properties			List of Transportation Assets	Information on the sources of assets on which a transaction was made
			Type of Property	Sq. Meters	Country		
Kondrat'eva Irina Vyacheslavovna	Member of the Council of People's Deputies of the Municipal Organization City Gus'-Krustalnyi	629 577,08	Apartment (total share - 1/2)	77,90	Russia		
Spouse		383 996,26	Apartment (free use)	77,90	Russia	Light automobile VOLKSWAGEN POLO (individual asset)	
Son		17 382,50	Apartment (total share - 1/2)	77,90	Russia		
Son			Apartment (free use)	77,90	Russia		

Note: This figure gives a translated version of one of the public available disclosures for a public official in Russia, in this case a municipal deputy.

5.1 Predictors of Hidden Earnings

TABLE A3: PREDICTORS OF HIDDEN EARNINGS

	Car Values / Earnings Ratio		
	(1)	(2)	(3)
Total Family Earnings (log)	−0.217***	−0.224***	−0.188***
	(0.018)	(0.018)	(0.015)
Age (log)	−0.276***	−0.200*	−0.075
	(0.100)	(0.105)	(0.103)
Female	−0.132***	−0.149***	−0.143***
	(0.051)	(0.051)	(0.051)
College Education	−0.303	−0.270	−0.241
	(0.196)	(0.198)	(0.200)
Moscow Resident	0.102**	0.119***	0.064
	(0.041)	(0.041)	(0.041)
Businessperson	0.211**	0.220**	0.164
	(0.103)	(0.107)	(0.102)
Civil Society	0.238**	0.242**	0.233**
	(0.117)	(0.120)	(0.115)
Education	0.103	0.114	0.086
	(0.115)	(0.118)	(0.116)
Government	0.143	0.160	0.133
	(0.097)	(0.101)	(0.097)
Health Care	0.240	0.239	0.267*
	(0.163)	(0.160)	(0.151)
Pensioner / Unemployed	0.142	0.152	0.098
	(0.149)	(0.148)	(0.140)
Committee Leadership		−0.028	−0.030
		(0.033)	(0.031)
Member: LDPR		0.285***	0.312***
		(0.086)	(0.085)
Member: Just Russia		0.192***	0.172**
		(0.070)	(0.072)
Member: United Russia		0.191***	0.199***
		(0.054)	(0.054)
Year Fixed Effects	No	No	Yes
Observations	4,284	4,284	4,284
R^2	0.146	0.156	0.212

Note:

5.2 Adding Individual Fixed Effects

TABLE A4: HIDDEN EARNINGS AND SHIRKING: INDIVIDUAL FE

	Absenteeism (%)	Sessions Attended (%)	Laws Initiated	Speeches Given	Questions Asked
	(1)	(2)	(3)	(4)	(5)
Car Value / Earnings	0.003	0.003	−0.017*	0.009	0.003
	(0.004)	(0.003)	(0.009)	(0.057)	(0.053)
Total Family Earnings (log)	−0.0003	0.003	−0.0002	0.025	0.009
	(0.004)	(0.003)	(0.008)	(0.033)	(0.030)
Age (log)	−0.487**	0.321**	1.830***	3.910*	2.706
	(0.215)	(0.159)	(0.550)	(2.299)	(2.071)
Female					
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
College Education	0.006	−0.029	0.084	−0.787***	−0.756***
	(0.058)	(0.044)	(0.099)	(0.238)	(0.168)
Moscow Resident	0.032	−0.024*	−0.061	−0.157	−0.139
	(0.024)	(0.014)	(0.063)	(0.132)	(0.123)
Committee Leadership	−0.012*	0.007*	0.038**	0.417***	0.368***
	(0.006)	(0.004)	(0.017)	(0.094)	(0.085)
Member: LDPR	−0.001	−0.039	0.029	3.111***	2.791***
	(0.044)	(0.052)	(0.090)	(0.785)	(0.767)
Member: Just Russia	−0.018	−0.115***	0.044	2.979***	2.674***
	(0.042)	(0.040)	(0.091)	(0.513)	(0.494)
Member: United Russia	−0.224***	−0.059***	0.009	3.366***	3.087***
	(0.026)	(0.017)	(0.077)	(0.190)	(0.181)
Occupation, Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	4,284	4,284	4,284	4,284	4,284
R^2	0.784	0.555	0.481	0.824	0.830

Note: This table shows results using different measures of individual shirking as the outcome variables. All models are estimated using OLS with standard errors clustered at the deputy level. All models include individual deputy fixed effects.

TABLE A5: HIDDEN EARNINGS AND LOYALTY: INDIVIDUAL FE

	Pro-Kremlin Voting Behavior			
	1st Reading (%)	2nd Reading (%)	3rd Reading (%)	Ideal Point Score
	(1)	(2)	(3)	(4)
Car Value / Earnings	0.006***	0.007***	0.007***	0.015**
	(0.001)	(0.002)	(0.002)	(0.007)
Total Family Earnings (log)	0.002*	0.00004	0.001	0.0005
	(0.001)	(0.001)	(0.001)	(0.005)
Age (log)	−0.280***	−0.309***	−0.318***	−1.250***
	(0.089)	(0.097)	(0.100)	(0.342)
Female				
	(0.000)	(0.000)	(0.000)	(0.000)
College Education	−0.014**	0.001	−0.002	0.013
	(0.006)	(0.005)	(0.007)	(0.052)
Moscow Resident	0.005	0.007	0.012	0.0001
	(0.008)	(0.010)	(0.010)	(0.027)
Committee Leadership	0.012***	0.015***	0.015***	0.016
	(0.003)	(0.004)	(0.003)	(0.010)
Member: LDPR	0.064***	0.051*	0.067***	1.016***
	(0.019)	(0.026)	(0.019)	(0.185)
Member: Just Russia	−0.009	0.003	0.013	0.486***
	(0.013)	(0.015)	(0.015)	(0.090)
Member: United Russia	0.070***	0.070***	0.083***	1.715***
	(0.009)	(0.011)	(0.011)	(0.036)
Occupation, Year Fixed Effects	Yes	Yes	Yes	Yes
Observations	4,283	4,283	4,283	3,780
R^2	0.881	0.841	0.855	0.976

Note: This table shows results using different measures of loyalty to the regime as the outcome variables. All models are estimated using OLS with standard errors clustered at the deputy level. All models include individual deputy fixed effects.

TABLE A6: HIDDEN EARNINGS AND BILL SPONSORSHIP: ROBUSTNESS

| | Bills Initiated | | | | | |
	All	Solo	Weighted	All, %	Solo, %	Weighted, %
	(1)	(2)	(3)	(4)	(5)	(6)
Hidden Earnings	−0.064*	−0.016**	−0.033*	−0.023	−0.003**	−0.004
	(0.035)	(0.007)	(0.018)	(0.019)	(0.001)	(0.004)
Total Family Earnings (log)	−0.041	−0.003	−0.009	−0.021	−0.001	−0.002
	(0.028)	(0.006)	(0.014)	(0.015)	(0.001)	(0.003)
Age (log)	−0.354**	−0.079**	−0.241***	−0.121	−0.012**	−0.045**
	(0.169)	(0.040)	(0.092)	(0.110)	(0.006)	(0.020)
Female	0.166*	−0.029	−0.060	0.010	−0.005*	−0.018**
	(0.094)	(0.019)	(0.044)	(0.053)	(0.003)	(0.008)
College Education	0.319*	0.076***	0.238***	0.216***	0.011***	0.045***
	(0.164)	(0.029)	(0.081)	(0.070)	(0.004)	(0.014)
Moscow Resident	−0.035	−0.021	0.022	−0.071	−0.004*	0.002
	(0.069)	(0.015)	(0.039)	(0.045)	(0.002)	(0.009)
Committee Leadership	0.148**	0.047***	0.101***	0.088**	0.008***	0.020***
	(0.062)	(0.014)	(0.035)	(0.042)	(0.002)	(0.008)
Member: LDPR	−0.013	0.199***	0.383***	0.015	0.030***	0.080***
	(0.137)	(0.061)	(0.097)	(0.077)	(0.010)	(0.023)
Member: Just Russia	0.654***	0.056	0.451***	0.396***	0.009	0.088***
	(0.128)	(0.039)	(0.091)	(0.094)	(0.006)	(0.023)
Member: United Russia	0.223**	−0.054***	−0.033	0.125***	−0.005*	−0.0004
	(0.090)	(0.019)	(0.043)	(0.044)	(0.003)	(0.006)
Occupation, Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4,284	4,284	4,284	4,284	4,284	4,284
R^2	0.205	0.092	0.151	0.134	0.068	0.117

Note: This table shows results using different measures of bill sponsorship. All models are estimated using OLS with standard errors clustered at the deputy level.