How Do Politicians Conceal Private Returns Under Asset Disclosures? The Valuation Channel*

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August 16, 2025

Abstract

In democracies, politicians are often required to disclose their asset holdings and wealth, allowing voters to detect and sanction corrupt practices. Using value assessments covering all land parcels in South Korea and leveraging discontinuities in close election outcomes, we find that properties owned by politicians are significantly underassessed. Further analyses suggest that, beyond lowering tax liabilities, an important motive for underassessment is to obscure private returns to public office. Politicians who report lower wealth accumulation while in office tend to perform better in subsequent elections. Our findings highlight a limitation of asset disclosures, a key component of anti-corruption policy worldwide.

*We thank Matt Billett, Jess Cornaggia, Ran Duchin, Eitan Goldman, Isaac Hacamo, Ankit Kalda, Elisabeth Kempf, Seohee Kim, Kristoph Kleiner, Aaron Kolb, and Alessandro Previtero for their helpful comments. We are grateful for research support from Tulane University. The authors declare no conflicts of interest.

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"In the large, the electorate behaves about as rationally and responsibly as we should expect, given the clarity and the alternatives presented to it and the character of the information available to it." (Key, 1966)

1 Introduction

Democratic institutions, in theory, restrain government officials from abuse of power by allowing voters to remove corrupt politicians from office (Riker, 1988; Myerson, 1993; Persson et al., 1997). The effectiveness of electoral systems in addressing this agency problem hinges on the availability of information that allows voters to detect acts of corruption (Ferraz and Finan, 2008, 2011). Despite its social benefits, voters often do not actively seek political information, as the personal benefits they derive are minimal (Nelson, 1976). To address this issue, anti-corruption efforts are often coupled with transparency-enhancing measures, a primary policy being mandatory asset disclosures by politicians (Djankov et al., 2010; Rossi et al., 2017). While the existing literature highlights the effectiveness of asset disclosures in curbing corruption (Fisman et al., 2016; Artiles et al., 2021; Szakonyi, 2023; Malik, 2020; Grossman et al., 2024), a critical question remains: Can politicians leverage their authority to influence the content of mandatory financial disclosures?

A common concern in this context is that politicians may conceal their asset ownership and income, particularly in countries with weak institutions (Burdescu et al., 2009; Ray and Singh, 2022; Deng et al., 2023). This paper, by contrast, examines whether politicians in a highly transparent country can obscure the appreciation of their assets' value—a mechanism we refer to as the *valuation channel*—even when ownership is disclosed and asset values are subject to routine scrutiny. If such exploitation occurs, it undermines electoral accountability and implies that previous empirical studies may have overestimated the impact of policies aimed at reducing asymmetric information in the political process to curb corruption.[1]

Asset valuation is often subjective, shaped by assumptions regarding future cash flows, stochastic discount factors, or the selection of comparable peer assets (e.g., Décaire and Graham, 2024; Eaton et al., 2022). The potential for political influence over asset valuations is particularly pronounced when market prices are not readily observable, as is often the case for infrequently traded real

[1] See, among others, Ferraz and Finan (2008); Reinikka and Svensson (2011); Gentzkow et al. (2006); Strömberg (2004); Besley and Burgess (2002); Gentzkow (2006); Banerjee et al. (2020); Campante and Do (2014).

estate. This study investigates this possibility in the context of South Korea, where public officials are legally required to disclose their asset holdings and wealth on an annual basis. Our analysis focuses exclusively on landholdings for two principal reasons. First, land in South Korea is rarely traded, and the values reported in mandatory financial disclosures generally reflect the assessed values determined by municipal governments. Second, the availability of address-level data allows for comprehensive observation of land characteristics nationwide and enables precise tracking of changes in assessed values over time.

Using address-level data on all land parcels in the country, we provide empirical evidence that land owned by politicians is significantly underassessed. However, there is no evidence of a corresponding decline in the actual market value of these properties. In fact, their market values increase significantly over the same period. This underassessment enables politicians to understate the true growth of their wealth while in office, thereby undermining the transparency and accountability objectives of mandated financial disclosure policies.

Recent empirical evidence documents systematic disparities in property tax assessments based on homeowners' race (Avenancio-León and Howard, 2022), political affiliation (Kalda et al., 2024), and political power (Chen and Cohen, 2024). While the desire to lower tax liabilities commonly motivates individuals to underreport the value of their taxable assets (Anagol et al., 2023), politicians face additional incentives to pursue underassessment. For politicians, undervaluing assets not only reduces tax obligations but also helps obscure the true extent of wealth accumulated while in office, thereby mitigating the risk of electoral backlash stemming from perceptions of personal enrichment. Chauchard et al. (2019), for instance, document that voters in India strongly disapprove of wealth accumulation by politicians while in office, often equating it with corruption. In our context, the annual assessment of land values for tax purposes directly determines the figures reported in politicians' asset disclosures. Importantly, city mayors, elected every four years, wield legal authority and significant discretion over this assessment process. This institutional arrangement creates opportunities for mayors to influence assessed land values, thereby obscuring the extent of wealth accumulation by themselves or other politicians during their time in office.

The primary objective of our analysis is to identify the impact of holding public office on the assessed values of politicians' land lots. To achieve this, we compile a dataset of land lots owned by politicians and their family members, using annual asset disclosures from 2010 to 2023. We

then track the land lots owned by incumbent politicians and their family members who run for reelection to the same position, comparing the assessed values of land lots owned by winning and losing incumbents before and after the elections.

We combine two empirical strategies to address identification challenges. First, we exploit within-land-parcel variation by analyzing differential changes in assessed values around elections using a difference-in-differences approach. This method helps rule out alternative explanations tied to time-invariant differences between land parcels owned by winners and losers. Second, we refine our analysis by focusing on candidates in closely contested elections. This difference-in-discontinuities design further mitigates concerns that factors unrelated to holding public office may differentially impact the assessed values of land owned by winners and losers. In closely contested elections, outcomes are quasi-random, reducing the likelihood that other changes surrounding the election systematically differ between winners and losers.

We find robust evidence of substantial underassessment in the value of land parcels owned by politicians. Specifically, land parcels owned by winners of closely contested elections exhibit 12 to 15 percentage points lower growth in assessed value from one year prior to the election to four years afterward, relative to parcels owned by losing candidates. This effect is confined to land parcels owned by mayors, who have legal control over land value assessments and the authority to revise these assessments afterward. The underassessment is economically significant: a back-of-the-envelope calculation shows that, since land constitutes 9 percent of the total wealth of the median mayor, a 15 percentage points lower growth in assessed land values could translate into approximately 1.4 percentage points lower overall asset growth. This reduction is substantial relative to the median wealth growth of 20 percent during their tenure.

A key concern regarding our main finding is the possibility that the market value of landholdings owned by elected politicians may have actually declined. This could result from elected officials having less time or fewer resources to invest in improving their land parcels compared to narrowly defeated candidates. To address this concern, we analyze the universe of land transactions in the country, encompassing over 11 million transactions recorded between 2006 and 2023. Due to the infrequent trading of land parcels, we estimate their market values using transaction prices of parcels sold within the same neighborhood and year. Neighborhoods in South Korea, *dong-ri*, are highly

granular geographic units, with a median area of 1.5 square miles.[2] In addition, we account for changes in key attributes affecting land values, such as land use regulations and road conditions.

Using the inferred market values, we find no evidence of a decline in the market value of land owned by politicians during their time in office. In fact, these parcels experienced substantial appreciation, with values rising approximately 17.5 percentage points more than those of land owned by losing candidates in closely contested elections. This finding aligns with prior research documenting the private benefits of holding public office (Fisman et al., 2014). For example, Baldauf et al. (2022) demonstrate that U.S. politicians outperform not only average homeowners but also sophisticated investors and runners-up in close elections in their real estate transactions.

Another potential concern in interpreting our findings is that our estimates may reflect effects specific to cities undergoing a change in leadership, which we refer to as *new mayor effects*. For instance, newly elected mayors may seek additional tax revenues to fund their projects, potentially achieving this by increasing the assessed value of land within their jurisdictions. We rule out this alternative explanation by conducting several empirical analyses. For example, we focus on a subsample of mayors' land parcels located outside their jurisdiction. If the observed effects were driven by the influence of newly elected mayors on local land value assessments, we would expect no evidence of underassessment for land parcels beyond their jurisdiction. However, our findings indicate a persistent pattern of underassessment for these properties as well. In addition, this result implies that politicians can leverage their authority to affect the assessed value of their landholdings, even when these properties are located outside their jurisdiction.

Moreover, our study investigates whether the value underassessment of land owned by politicians extends to properties owned by their immediate family members, including spouses and children. Specifically, we investigate whether land parcels owned by narrowly elected politicians or their immediate family members are systematically underassessed in value compared to those owned by their close-election losers and their families. Our results indicate that such value underassessment is not confined to land owned by the politicians themselves. Similar findings emerge when we broaden the scope to include the land owned by immediate family members of politicians.

To provide further evidence that politicians exploit public office to influence the assessed values

[2]In South Korea, neighborhoods (*dong-ri*) are geographic districts within each city. The median land area of these units is 1.5 square miles, with an average of 2.1 square miles. These areas are significantly smaller compared to five-digit ZIP codes in the United States, which cover an average of 82.25 square miles.

of their landholdings, we decompose these values into two components: the reference value and its adjustment. Municipal governments assess the value of each land parcel by first assigning a standard lot to serve as the reference value, and then adjusting it by multiplying it with an attribute factor to account for variations in land characteristics. These attribute factors are predetermined by the central government, leaving municipal governments with minimal discretion in this regard. The assignment of a standard lot as the reference, however, is where municipal governments can exercise the greatest discretion. Consequently, we expect value underassessment to arise primarily from differences in the reference value rather than the adjustment factor. Supporting this hypothesis, we find the reference value for landholdings owned by elected officials is significantly lower than that for land owned by losing incumbents. Furthermore, there are no differences in the adjustment component of assessed land values between the treatment and control groups.

What motivates politicians to have their landholdings underassessed? While a common explanation is the desire to reduce property tax liabilities, our empirical evidence points to an additional, often overlooked incentive: concealing the extent of wealth accumulation during their time in office. First, we show that among politicians from the same party, those who experience greater wealth growth over four years of public service receive fewer votes in subsequent reelection races compared to their peers within the same province.[3] We then conduct several analyses and find that the underassessment of politicians' properties cannot be explained by tax incentives alone. For instance, although the tax benefits from lowering assessed property values are invariant to electoral competitiveness, we observe greater distortions in assessed values among politicians running in competitive elections, where the incentive to manage public perceptions is particularly salient. Furthermore, when we hold constant the marginal tax benefit of underassessment by comparing land parcels subject to similar tax rates, we find that underassessment is significantly more pronounced among properties owned by wealthier politicians, who arguably have stronger incentives to obscure their wealth. This pattern is difficult to reconcile with tax minimization as the sole motive, given that the marginal value of a dollar saved in taxes is plausibly lower for wealthier individuals.

A key contribution of our paper is to show that politicians can leverage public office to manipulate the official valuation of their assets, thereby obscuring the true magnitude of the private returns

[3]This finding is consistent with prior literature indicating that voters strongly disapprove of wealth accumulation by politicians during their time in public office (Chauchard et al., 2019).

accumulated during their tenure. Numerous studies in this literature show that transparency-enhancing measures, such as mandatory financial disclosures by politicians, can discipline political behavior. *Ex ante*, such measures may deter corrupt individuals from seeking public office (Fisman et al., 2016; Artiles et al., 2021; Szakonyi, 2023), while *ex post*, they can reduce corruption through improved monitoring (Snyder Jr and Strömberg, 2010; Enikolopov et al., 2018; Gavazza et al., 2019; Cordis and Warren, 2014; Grossman and Michelitch, 2018). Our paper contributes to this literature by demonstrating that politicians can, in turn, influence the content of mandated disclosures. This exploitation significantly undermines the effectiveness of these accountability institutions.

We also contribute to the public finance literature on tax evasion.[4] Existing research estimates that approximately 8 percent of global wealth is held in tax havens, utilized by both corporations and individuals (Zucman, 2013, 2014). While Hanlon et al. (2015) find that tax information exchange agreements (TIEAs) between countries reduce offshore tax evasion to some degree by facilitating information sharing and enforcement, tax evaders often adopt new strategies that undermine the efficacy of these treaties (Johannesen and Zucman, 2014; Menkhoff and Miethe, 2019). Although access to information is critical in deterring tax evasion (Pomeranz, 2015), our findings reveal that politicians can influence the content of this information, further complicating enforcement efforts.

The third contribution of our paper, therefore, lies in advancing the growing body of research on abnormal wealth accumulation by politicians during their time in public office (Fisman et al., 2014; Eggers and Hainmueller, 2009; Querubin et al., 2011). While existing empirical evidence highlights the private returns to holding public office, the mechanisms driving such wealth accumulation remain less understood.[5] We present a novel mechanism that helps to explain, at least in part, the private returns associated with holding public office. Our findings reveal that while the market value of politicians' real estate properties increases significantly during their tenure, their tax burden remains disproportionately low because these properties are systematically assessed at values well below their actual market worth.

[4] For a review of the tax evasion literature, see Slemrod (2019).

[5] One exception is Baldauf et al. (2022), which shows that politicians in the USA outperform both their runners-up and even sophisticated investors in their real estate transactions.

2 Institutional Setting and Data

This section provides an overview of the institutional background and details the data used in our analysis.

2.1 Administrative Geographic Divisions

South Korea is divided into 17 administrative regions known as *si-do* (provinces). Each *si-do* functions as a regional local government, with its governor elected by public vote every four years.

Within each *si-do*, municipal governments called *si-gun-gu* (cities) serve as local administrative units. Mayors of these *si-gun-gu* are also elected through public elections held every four years. As of 2024, there are 226 *si-gun-gu*s across the country.

At the most granular level are *dong-ri* (neighborhoods), which operate under the jurisdiction of *si-gun-gu*s. These units aim to streamline public service delivery and enhance interaction between the government and residents. However, *dong-ri*s lack independently elected leaders or their own local councils. As of 2024, South Korea has 18,864 *dong-ri*s.

Figure 1 illustrates the hierarchical structure of administrative divisions in South Korea. Panel (A) depicts the 17 *sido*, with Seoul-*si* highlighted in orange. Panel (B) focuses on the 25 *si-gun-gu* within Seoul-*si*, emphasizing Jongro-*gu* in dark red. Panel (C) zooms in further to show the 87 *dong-ri* within Jongro-*gu*.

2.2 Assessed Values of Lands

Each year, municipal governments assess and announce the value of land lots within their jurisdictions. As in many other countries, these assessed values serve as the basis for national and local taxation. The assessment process is conducted as follows.

The central government first selects approximately 500,000 representative parcels, known as standard lots, from over 30 million land lots nationwide. These standard lots are evaluated by nationally certified appraisers.[6] The appraisers determine the values of these standard lots based on land attributes, transaction prices of nearby lots, and other relevant factors. The *Minister of*

[6]Comparable to real estate appraisers in the United States, these professionals must obtain a national license, which requires passing a highly competitive examination, to perform valuation tasks.

Land, Infrastructure, and Transport then publicly announces the assessed values of the standard lots.

Using the assessed values of standard lots as reference points, municipal governments calculate and announce the assessed values of individual lots in their jurisdictions by the end of May each year.[7] Municipal governments assign a standard lot to each individual lot as a reference.[8] Based on annually updated attributes of each lot, the assessed value is determined using the following formula:

$$\text{Assessed Value (per m}^2\text{)} = \text{Reference Value (per m}^2\text{)} \times \underbrace{\left(\frac{\text{Attribute Factor of the Lot}}{\text{Attribute Factor of the Reference Lot}}\right)}_{\text{Adjustment}}, \tag{1}$$

where the attribute factor is a multiplier that adjusts the assessed value to account for differences in land attributes, such as land use regulations or surrounding road conditions. The attribute factors are predetermined by the central government, limiting the discretion of municipal governments primarily to the selection of reference lots. Notably, mayors have the legal authority to revise these assessed values after their initial determination, such as by reselecting the reference lot.[9] This authority provides mayors with additional discretion to influence the assessed values of land lots.

We obtain annual data on the assessed values and attributes of over 30 million land lots from the *Minister of Land, Infrastructure, and Transport*'s website (`https://www.vworld.kr`). These datasets encompass nearly all land lots across the country from 2007 to 2023, while data on land attributes are available only from 2011. Additionally, we collect data on the reference lots assigned to each land lot, including their assessed values and attributes, from the same source. This information is available for the period from 2012 to 2023.

[7] Exceptions exist. For instance, if a land lot undergoes attribute changes after January, the announcement may be postponed until the end of October.

[8] Although uncommon, two standard lots may be assigned to a single land parcel.

[9] According to Article 12 (Correction of Individually Assessed Land Values) of the **Act on the Public Announcement of Real Estate Prices**, mayors are required to promptly correct any errors in assessed values upon identifying issues such as miscalculations, clerical mistakes, errors in the selection of reference lots, or other obvious errors prescribed by Presidential Decree.

2.3 Asset Holdings by Public Officials

In Korea, high-ranking public officials, including congress members, governors, and mayors, are required to disclose all their assets as of the end of each year by the following March.[10] These mandatory disclosures typically cover a wide range of assets, including stock holdings, cash holdings, deposits, automobiles, and real estate properties. While all types of real estate owned by politicians must be disclosed, exact addresses are provided only for land lots. For this reason, the analysis focuses exclusively on land lots. Immediate family members of officials are also required to disclose their assets, although they may decline if they are not financially dependent on the official.

The asset disclosures of public officials have received substantial media attention in the country. For instance, the *Korea Times* reports that "69.8 percent, or 1,589, of Korea's 2,375 high-ranking officials reported an increase in their personal assets in 2010 despite the sluggish economy."[11] The article also highlights that "of 15 local administrative chiefs, Seoul Mayor Oh Se-hoon was the wealthiest with assets of 5.8 billion won, followed by Daejeon Mayor Yum Hong-chul with 2.2 billion won." This media focus on the growth of politicians' wealth aligns with our argument that politicians may have incentives to understate their asset values. Importantly, Article 4 of the Public Official Ethics Act specifies that the valuation of individual land lots could be based either on their actual transaction price or their assessed value. However, since land lots are infrequently traded, in most cases, the disclosed value reflects their "assessed values."[12]

We obtain data on the asset holdings of high-ranking public officials from Newstapa (`https://jaesan.newstapa.org`), which compiles this information from PDF files released annually by central and local governments. The dataset spans the period from 2010 to 2023.[13] We geocode the disclosed land lots using KakaoMap's API (`https://apis.map.kakao.com`), enabling us to link this dataset to information on assessed values and land attributes. Figure 2 illustrates the geographic distribution of landholdings by mayors and non-mayors across the country as of 2017.

Table 1 provides summary statistics on asset disclosures by politicians, i.e., high-ranking officials

[10] Articles 3 and 4 of the **Public Official Ethics Act**, which outline the full list of public officials required to disclose their assets annually and specify the assets subject to disclosure, are detailed in Appendix B.

[11] https://www.koreatimes.co.kr/www/nation/2024/12/113_83865.html

[12] The method for valuing land parcels is Individual publicly announced land price under the **Act on the Public Announcement of Real Estate Prices**, or, if unavailable, the amount calculated based on the announced price under Article 8 of the same Act) or actual transaction price.

[13] For city council members, Newstapa has collected data starting in 2021, possibly due to resource constraints given the large number of city council members.

elected through public elections. While nearly all politicians and their spouses report their asset holdings, other family members often decline to disclose this information (Table 1, Panel (B)). The average and median values of politicians' net wealth are 17.5 billion KRW (approximately 14.6 million USD) and 6.8 billion KRW (approximately 5.7 million USD), respectively (Table 1, Panel (C)).

3 Empirical Strategy

The primary objective of our empirical analysis is to identify the effects of holding public office on the assessed values of privately held land. To do this, we compare the assessed values of land owned by election winners and losers. While this approach controls for selection into running for elections, a key identification concern is that winners and losers may differ systematically, leading to potential differences in the land they own. Consequently, any observed differences in the assessed values of land held by winners and losers could reflect these pre-existing disparities rather than the causal impact of holding public office.

To overcome this empirical challenge, we employ two identification strategies. First, we leverage within-land variation by examining differential changes in assessed values around elections using a difference-in-differences approach. This method accounts for any time-invariant differences between land owned by winners and losers. Second, we refine the analysis by focusing on differential effects between winners and losers in closely contested elections. This difference-in-discontinuities approach further mitigates concerns that factors unrelated to holding public office might differentially influence the assessed values of land owned by winners and losers around elections. In closely contested elections, the outcome is quasi-random; therefore, it is unlikely that other changes around the elections systematically differ between winners and losers.

3.1 Sample Construction

To implement our empirical strategy, we construct a matched dataset that combines public election results, politicians' landholdings, and the assessed values and attributes of individual land parcels. We begin with data on election candidates and results obtained from the National Election Commission (https://info.nec.go.kr). During the sample period, the regular election years for

congressional members are 2012, 2016, and 2020, while those for mayors and other politicians are 2014, 2018, and 2022. For each election, we identify the landholdings of candidates in the year prior to the election using asset disclosure data from high-ranking officials. The matching process relies on each candidate's name and position. By design, our analysis is restricted to candidates who hold public office prior to the elections, as asset holdings of candidates without prior office are unavailable. Therefore, we focus on incumbent candidates who run for the same position in the same electoral district.

We then track the assessed and actual values, as well as the attributes, of land held by both winners and losers during the event window $[-4, +4]$ surrounding the elections. Our analysis focuses on candidates whose vote margin relative to the runner-up (for winners) or the winner (for losers) falls within the range of -25 percent to 25 percent.

Table 2 presents summary statistics for the regression sample. While the methodology for estimating actual values is described in Section 4.2, it is worth noting that the significant gap between assessed and actual values of real estate assets is a well-documented pattern in the country. For instance, an analysis of apartments, where frequent transactions of relatively homogeneous assets are observed, indicates that the assessed value of apartments averages 64.4 percent of transaction prices in 2024.[14]

3.2 Empirical Model

Using our regression sample, we estimate the following equation:

$$\log(Y_{i,j,t}) = \beta \cdot (\text{Win}_j \times \text{After}_t) + f_t(X_j) + \mu_i + \lambda_t + \varepsilon_{i,j,t}, \tag{2}$$

where $Y_{i,n,t}$ represents the assessed value per square meter of land i held by politician j (or their family members) in event year t. μ_i denotes land fixed effects, and λ_t captures event year fixed effects. X_j is the vote margin relative to the runner-up (for winners) or the winner (for losers), Win_j is an indicator set to one for politicians winning the election ($X_j > 0$), and After_t is an indicator for the election year and subsequent four years, i.e., $t = \tau, \tau + 1, \cdots, \tau + 4$, where τ is the election year. $f_t(X_j)$ represents a flexible function of X_j to control for the effects of the running variable.

[14] Despite the target rate of 69 percent, the actual rate of assessed value to transaction prices stands at 64.4 percent. *YTN*, March 2024.

The parameter of interest, β, captures the difference-in-differences between winners and losers in closely contested elections. Specifically, it captures the differential change in the assessed value per unit between properties owned by winners and losers around such elections.

We use both non-parametric and parametric approaches to control for $f_t(X_j)$. In the non-parametric approach, we restrict the sample to candidates with a vote margin of less than or equal to 5 percent in the election and model $f_t(X_j)$ as a linear function of X_j:

$$f_t(X_j) = \begin{cases} \gamma X_j & \text{After}_t = 0 \\ 0 & \text{After}_t = 1 \end{cases} \tag{3}$$

In the parametric approach, we model $f_t(X_j)$ as a polynomial function of X_j, which is further interacted with Win_j, as follows:

$$f_t(X_j) = \begin{cases} \gamma_1 X_j + \gamma_2 X_j^2 + \gamma_3 X_j^3 + \gamma_4 \left(X_j \times \text{Win}_j\right) + \gamma_5 \left(X_j^2 \times \text{Win}_j\right) + \gamma_6 \left(X_j^3 \times \text{Win}_j\right) & \text{After}_t = 0 \\ 0 & \text{After}_t = 1 \end{cases} \tag{4}$$

This parametric approach provides flexibility by accommodating potential non-linearities and interaction effects with the winner indicator.

We also estimate a first-differenced model:

$$\Delta \log(Y_{i,j}) = \alpha + \beta \text{Win}_j + f(X_j) + \varepsilon_{i,j}, \tag{5}$$

where $\Delta \log(Y_{i,j})$ represents $\log(Y_{i,j,\tau+4}) - \log(Y_{i,j,\tau-1})$, and τ is the election year. This approach requires observations at $\tau - 1$ and $\tau + 4$ for each land parcel, and we winsorize $\Delta \log(Y_{i,j})$ at the 1 percent level to mitigate the influence of outliers. As before, we apply both non-parametric and parametric approaches to control for $f(X_j)$: In the non-parametric approach, $f(X_j) = \gamma X_j$; In the parametric approach, $f(X_j) = \gamma_1 X_j + \gamma_2 X_j^2 + \gamma_3 X_j^3 + \gamma_4 (X_j \times \text{Win}_j) + \gamma_5 (X_j^2 \times \text{Win}_j) + \gamma_6 (X_j^3 \times \text{Win}_j)$.

In the first-differenced model in Equation (5), the parameter of interest, β, captures the growth in the assessed value per square meter of land owned by winners from one year before the election to four years after, relative to the corresponding growth for parcels of losers.

4 Results

Using the empirical strategy outlined in Section 3, this section investigates the impact of holding public office on the assessed values of land privately owned by politicians.

4.1 Baseline Results: Gaps in Assessed Values for Land Owned by Mayors

We begin our analysis by examining whether land parcels owned by mayors and their family members are underassessed. Our focus on mayors is motivated by their legal authority to determine the assessed values of land within their municipalities, as discussed in Section 2.

Table 3 presents the baseline estimation results. Columns (1) and (2) report estimates from the difference-in-discontinuities approach outlined in Equation (2), while Columns (3) and (4) present results from the first-differenced approach specified in Equation (5). Columns (1) and (3) employ a non-parametric approach, restricting the sample to candidates with a vote margin of 5 percent or less in their respective mayoral races, and include a linear function of the vote margin to account for its effects. In contrast, Columns (2) and (4) adopt a parametric approach, broadening the sample to candidates with a vote margin of up to 25 percent. This approach incorporates a cubic polynomial function of the vote margin, further interacted with an indicator for winning candidates.

Across all four specifications, we find robust evidence that land owned by winners of closely contested mayoral elections are assessed at significantly lower values in the post-election period compared to land owned by losers. The coefficient estimates range from 0.122 to 0.218 with statistical significance, indicating that the assessed values of land parcels owned by election winners is, on average, 11.4 to 19.6 percentage points lower than that of losers during the post-election period. For example, the coefficient estimate in column (4) provides a more specific insight: the growth in the assessed value per unit of land owned by election winners from one year before the election to four years after is 19.6 percentage points lower than the growth observed for parcels owned by losers.

To visually illustrate the dynamics of the value underassessment of land parcels owned by mayors

over the four years before and after elections, we estimate the following equation:

$$\log(Y_{i,j,t}) = \sum_{\substack{j=-4 \\ j\neq -1}}^{4} \beta_j \cdot (\text{Win}_j \times 1_{t=\tau+j}) + f_t(X_j) + \mu_i + \lambda_t + \varepsilon_{i,j,t}, \tag{6}$$

where $1_{t=\tau+j}$ is an indicator variable set to one if event year t is j years from the election year τ, and $f_t(X_j)$ corresponds to the functional form specified in Equation (4). The coefficient for the year before the election year ($t = \tau - 1$) is omitted to serve as the reference point. This approach allows us to evaluate how differences in the assessed values of land owned by winners and losers evolve throughout the event window.

The results are presented in Panel (A) of Figure 3. The circles and triangles represent the point estimates, while the vertical bars denote the 95 percent confidence intervals for each point estimate. First, the patterns suggest that the timing of the underassessment of land owned by mayors coincides with the election year, with no significant differences observed during the pre-election period when both candidates hold public office. This absence of pre-election trends further strengthens our inference that holding public office leads to differences in the assessed values of land. Second, the underassessment of land owned by mayors persists consistently throughout their tenure in public office.

Another important concern is that our main results might be driven by a misspecified model of the running variable, $f(X)$. To address this concern, Panel (B) of Figure 3 visually illustrates the changes in the assessed values of land around the threshold for winning elections, which is the zero percent point for the vote share gap. As previously mentioned, the vote share gap represents the vote margin relative to the runner-up for winners or relative to the winner for losers, making this gap positive for winners and negative for losers. In this figure, circles and triangles represent the unconditional means of the changes in assessed values of land from the year before the elections to four years after, grouped by vote share gap in 1 percent intervals. The dashed lines depict fitted lines based on a cubic polynomial, with gray shaded areas indicating the standard errors of these fitted lines. The findings reveal a clear discontinuity around the threshold of winning an election, characterized by a sharp decline in the future growth in the assessed value of land parcels for winners after the elections. This clear discontinuity suggests that our main results are robust to

model specifications of the running variable.

4.2 Do Corresponding Decreases in Actual Market Values Exist?

In the previous section, we show that the growth in the assessed value of land owned by mayors in Korea, who are legally responsible for land value assessments, is over 10 percentage points lower than that of land owned by losers after closely contested elections. While we interpret this as evidence that mayors use public office to underassess their properties, a key alternative explanation is that the actual value of land owned by mayors may have genuinely declined after the elections. For instance, elected mayors might invest less in their properties than election losers due to their commitment to public service. If this "election effect" exists, the observed lower assessed values of land owned by mayors could arise even in the absence of manipulation through public office. While this alternative explanation is inconsistent with a large body of existing research showing positive private returns from holding public office,[15] we address it using two approaches: first, by examining the existence of the election effect using non-mayoral election candidates; and second, by analyzing differential changes in the inferred actual values of land owned by winners and losers of mayoral elections.

4.2.1 Approach 1: Assessed Values for Land Owned by Non-Mayors

First, we test whether the assessment gaps observed for mayors also appear among non-mayors, who by law lack the authority to determine the assessed values of landholdings. If the election effect were driving our main results, similar assessment gaps should be evident when focusing solely on landholdings owned by non-mayor politicians. To conduct this analysis, we estimate the regression models specified in Equations (2) and (5), focusing on incumbent non-mayor politicians who run for reelection to the same non-mayoral positions.

Table 4 presents the coefficient estimates, with the regression specifications mirroring those reported in Table 3. Across all four specifications, we find no evidence of a decrease in the assessed value of land parcels owned by elected non-mayor politicians during the post-election period compared to those owned by losers. These results suggest that merely winning an election does not lead

[15] For example, Baldauf et al. (2022) find that U.S. politicians outperform not only average homeowners but also sophisticated investors and runners-up in close elections in their real estate transactions.

to a decrease in assessed value, highlighting legal control over assessment as the key factor driving our main findings.

To visually examine the dynamics of the assessed value difference between land parcels owned by winners and losers of non-mayoral elections, we estimate Equation (6) on a subsample of candidates who participated in close non-mayoral elections, using $\log(\text{Assessed Value}_{i,j})$ as the dependent variable. The coefficient for the year preceding the election year ($t = \tau - 1$) are omitted to serve as the reference point.

The coefficient estimates are presented in Panel (A) of Figure 6. These estimates indicate that the assessed value difference between land parcels owned by winners of close non-mayoral elections and those owned by losers does not increase in the post-election period compared to the prevailing difference in the year prior to the election. This finding further undermines the alternative explanation that the election effect, such as reduced investment in land by election winners, could explain the results.

Lastly, we visually test for any discontinuity in the unconditional mean of future growth in the assessed value of land parcels based on whether the owner won or lost a closely contested non-mayoral election. Panel (B) of Figure 6 confirms the absence of any discontinuous drops in the future growth of assessed values for properties owned by winners near the threshold of winning the election, which corresponds to the zero percent point for the vote share gap. Overall, these findings suggest that the assessment gap is not observed among non-mayors, who lack authority over land value assessments. These results help to rule out alternative explanations based on the election effect, highlighting legal control as the key factor driving the underassessment.

4.2.2 Approach 2: Inferred Market Values of Land Owned by Mayors

Second, we test whether land lots owned by mayors experience a decline in their actual values after elections. A key empirical challenge in this analysis is that, since land is infrequently traded, the market value of most parcels is not directly observed. To overcome this challenge, we analyze the complete record of 11 million land transactions in South Korea from 2006 to 2023, described in detail in Appendix A, and infer the actual values of land lots owned by winners and losers of elections from these transaction prices.

Our approach incorporates two key factors that influence land values. First, the inferred actual

value of each parcel in a given year reflects transaction prices of parcels traded within the same neighborhood and year. Neighborhoods in South Korea, *dong-ri*, are highly granular geographic units, with a median area of 1.5 square miles. Second, we account for changes in key attributes affecting land values, such as land use regulations and road conditions.

Specifically, using the land transaction dataset, we estimate the following equation:

$$\log(Y_{i,n,t}) = \alpha_{n,t} + \beta \cdot \log(A_i) + \sum_z \sum_t (\zeta_{z,t} \cdot \text{Zone}_{i,t}) + \sum_c \sum_t (\kappa_{c,t} \cdot \text{Category}_{i,t}) + \sum_r \sum_t (\rho_{r,t} \cdot \text{Road Condition}_{i,t}) + \varepsilon_{i,n,t}, \quad (7)$$

where i indexes land parcels, n represents neighborhoods, and t denotes the year. The dependent variable, $\log(Y_{i,n,t})$, is the logarithm of the transaction price per square meter of land i in neighborhood n traded in year t. The explanatory variables include the geographical size of the land (A_i), as well as land zone ($\text{Zone}_{i,t}$), land category ($\text{Category}_{i,t}$), and road condition ($\text{Road Condition}_{i,t}$) in a given year. Here, land zone and land category represent two key forms of land use regulations in South Korea. We allow the coefficients for land zone, land category, road conditions to be time-varying.[16] Additionally, $\alpha_{n,t}$ represents neighborhood $\times$ year fixed effects, and $\varepsilon_{i,n,t}$ denotes the error term.Table A2 indicates that this empirical model captures substantial variation in land transaction prices, with an R^2 value of 0.81 in column (3).

Figure 4 summarizes the coefficients estimated from Equation (7). Panel (A) displays the average coefficients for each land zone over the sample period, using *Undesignated Area* as the reference category. Each coefficient, therefore, reflects the relative value of land in the corresponding zone compared to land in an undesignated area within the same neighborhood, with the same land category and road condition. The results indicate that land is most valuable in commercial areas, followed by residential and industrial areas. In contrast, land located in zones with development restrictions, such as natural environment conservation areas, is significantly less valuable. Panel (B) summarizes the average coefficients for each land category over the sample period. Among the categories, the four highlighted in bold are the most common, collectively accounting for 89 percent of all land transactions: building sites, rice fields, fields, and forest lands. The results reveal that,

[16]We also explore alternative specifications in which the coefficients for land zones, land categories, and road conditions are time-invariant. The results remain quantitatively similar.

among these four categories, land parcels categorized as *Building Site* are the most valuable, while those designated as *Forest Land* are the least valuable. Panel (C) reports the average coefficients for each road condition during the sample period. As expected, land lots tend to trade at higher prices when the surrounding roads are wider. Finally, Panel (D) illustrates the geographical distribution of the average coefficient estimates for each neighborhood over the sample period.

Building on these coefficient estimates, we construct the actual market values for each land parcel held by winners and losers of mayoral elections as follows:

$$\log(\text{Actual Value}_{i,t}) = \hat{\alpha}_{n,t} + \hat{\beta} \cdot \log(A_i) + \hat{\zeta}_{z,t} + \hat{\kappa}_{c,t} + \hat{\rho}_{r,t}, \tag{8}$$

where $\text{Actual Value}_{i,t}$ represents the constructed actual value of land i in year t. In this context, n denotes the neighborhood of land i, z represents the *Land Zone* of land i in year t, c indicates the *Land Category* of land i in year t, and r refers to the *Road Condition* of land i in year t. The estimated actual value captures changes in neighborhood-level values over time, along with variations in land use regulations and surrounding road conditions specific to each land parcel.

Using these estimated actual values, we analyze differential changes in the actual values of land parcels owned by winners and losers in closely contested mayoral elections. Specifically, we estimate Equations (2) and (5), using $\log(\text{Actual Value}_{i,t})$ as the dependent variable.

Table 5 presents the coefficient estimates, with the regression specifications mirroring those reported in Table 3. Consistently across all specifications, land lots owned by election winners exhibit a statistically significant *increase* in their actual values following the elections. For example, the estimate in Column (2) indicates that the per-unit market value of land owned by elected politicians rises by 20.0 percentage points more than that of land owned by close election losers. These findings are consistent with existing empirical evidence suggesting that politicians tend to outperform both average participants and their close runners-up in the real estate market. Moreover, the results challenge the alternative explanation that the market value of landholdings owned by politicians might decline following their electoral victories.

To visually illustrate the dynamics of the actual value difference between land parcels owned by winners of close mayoral elections and those owned by losers, we estimate Equation (6) using $\log(\text{Actual Value}_{i,j})$ as the dependent variable. The coefficient for the year before the election year

$(t = \tau - 1)$ are omitted to serve as the reference point.

The coefficient estimates are shown in Panel (A) of Figure 5. Circles and triangles represent the point estimates, while vertical bars denote the 95 percent confidence intervals for each estimate. The coefficient estimates presented in Panel (A) indicate that the actual value difference between land parcels owned by winners of close mayoral elections and those owned by losers increases in the post-election period, rather than decreasing, compared to the difference observed one year before the election. This finding further undermines the alternative explanation that the actual value of land owned by mayors may have declined after the elections.

Lastly, we visually examine whether the growth in the actual value of land parcels exhibits a sharp change around the threshold for winning elections. Panel (B) of Figure 5 reveals a distinct discontinuity at the threshold of winning an election, marked by a sharp increase in the unconditional mean of future growth in the actual value of land parcels. This pronounced discontinuity further mitigates concerns about potential model misspecifications of $f(X)$ in these results.

Overall, we find no evidence of a decline in the actual values of land owned by mayors, despite the observed decrease in assessed values. Instead, our findings show that land owned by mayors experiences an increase in actual values. This stark contrast between assessed and actual values strongly supports our argument that mayors utilize their office to conceal their private returns.

4.3 Do New Mayor Effects Explain the Findings?

Our analysis focuses on incumbent mayors running for reelection and interprets the gap between the assessed values of land owned by winners and losers as evidence that mayors use their office to conceal their private returns. However, another important concern regarding our interpretation is that our estimates might capture effects specific to cities experiencing a change in leadership, which we refer to as *new mayor effects*. For instance, newly elected mayors might require additional tax revenues to fund their projects. To facilitate this, the central government could increase the assessed values of standard lots in jurisdictions with new mayors, which might, in turn, elevate the assessed values of all individual lots in those jurisdictions, as these values are tied to the standard lots (Section 2).

This alternative explanation is particularly relevant in our context, given that more than half of the land owned by candidates is located within the city where they are running for office (Table 2,

Panel (B)). We address this concern using two approaches: first, by examining differential changes in the assessed values of standard lots in jurisdictions where winners and losers of closely contested mayoral elections run; and second, by analyzing the subsample of land owned by mayors that is located outside their jurisdiction.

4.3.1 Approach 1: Assessed Values of Standard Lots

First, we examine changes in the value assessment of standard lots in jurisdictions led by winners and losers of closely contested mayoral elections. For this analysis, we estimate the regression models specified in Equations (2) and (5), comparing the assessed values of standard lots in jurisdictions with new mayors (where incumbents lose) to those in jurisdictions where the incumbent mayor remains in office. Table 6 presents the coefficient estimates, with the regression specifications mirroring those reported in Table 3.

The findings do not provide evidence of any significant change in the assessed value of standard lots during the post-election period in jurisdictions with new mayors compared to those in jurisdictions where the incumbent mayor remains in office. The estimate of the coefficient of interest is not statistically different from zero in any of the four regression specifications. These results suggest that during the post-election period, there is no significant change in the assessed value difference of standard lots between jurisdictions with new mayors and those with incumbent mayors. Consequently, our findings do not support the notion that the central government raises the assessed values of standard lots in jurisdictions with new leadership after mayoral elections to help new mayors generate additional tax revenue.

Furthermore, we visually examine the dynamics of the assessed value difference between standard lots located in jurisdictions with new mayors and those in jurisdictions where the incumbent mayor remains in office. We do not expect to observe a statistically significant increase in this difference during the post-election years. For this analysis, we estimate Equation (6) using $\log(\text{Assessed Value}_{i,j})$ as the dependent variable. The coefficient for the year prior to the election year ($t = \tau - 1$) is omitted to serve as the reference point.

The coefficient estimates are presented in Panel (A) of Figure 7. Circles and triangles represent the point estimates, while vertical bars denote the 95 percent confidence intervals for each estimate. The results indicate no differential changes in the assessed values of standard lots located in juris-

dictions where the incumbent mayor remains in office compared to those in jurisdictions with new mayors around the elections. This finding further undermines the alternative explanation that the central government increases the assessed values of standard lots in jurisdictions with new leadership after mayoral elections to help new mayors generate additional tax revenue.

Finally, we visually test for any discontinuity in the unconditional mean of future growth in the assessed value of standard lots when new leadership takes office or the incumbent mayor remains in place. Panel (B) of Figure 7 confirms that no such discontinuity exists around the threshold of winning the election.

4.3.2 Approach 2: Land Located Outside Mayors' Jurisdiction

We further address alternative explanations based on the new mayor effects by analyzing the subsample of landholdings owned by mayors that are located outside their jurisdiction. If the observed underassessment were driven by the influence of newly elected mayors on local land value assessments, we would expect no evidence of underassessment for land located outside incumbent mayors' jurisdictions during the post-election period.

For this analysis, we estimate a modified version of the regression models in Equations (2) and (5), incorporating an indicator variable to denote whether a land parcel is located within the jurisdictions where winners and losers are running for office. Specifically, the regression models include indicator variables, Own City and Other Cities, where Own City is set to one for land parcels located within the jurisdiction where the candidate is running for office, and Other Cities is set to one for land parcels located outside the jurisdiction. The control group for land parcels outside the jurisdiction of election-winning owners can be defined as either all land parcels owned by the losers or only those located outside the jurisdiction the losers contested. We test our hypothesis using both control group definitions.

Table 7 presents the coefficient estimates. The findings suggest that the documented underassessment of the value of landholdings owned by mayors who remain in office is not solely driven by the influence of newly elected mayors on the value assessments of land located within their jurisdictions. The coefficient of interest is negative and statistically significant across all regression specifications.

For instance, the estimate in Column (4) indicates that during the post-election period, the

assessed value difference between the winners' land parcels located outside their jurisdiction and the losers' land parcels outside their jurisdiction decreases by 18.4 percentage points compared to the pre-election period. Column (3) yields similar results, showing a 14.3 percentage points decrease in the assessed value difference between the winners' land parcels located outside their jurisdiction and the losers' land parcels during the post-election period. Notably, for land parcels located within their jurisdiction, the coefficient estimate remains consistent. Specifically, the assessed value difference between the winners' land parcels within their jurisdiction and the losers' land parcels also decreases by 14.3 percentage points during the post-election period.

Overall, the findings in Table 7 suggest that the documented underassessment of land values owned by mayoral election winners during the post-election period is not solely driven by their influence on landholdings within their jurisdiction. Interestingly, the coefficient estimates suggest that the influence of mayors on land value assessments extends beyond their own jurisdiction. This finding implies that mayors can leverage their authority to affect the assessed values of their landholdings, even when these properties are located outside their jurisdiction.

4.4 Anatomy of Assessed Land Values

To further uncover the exact mechanism driving the documented underassessment of land values owned by mayors, we decompose the assessed values using the identity derived from Equation (1):

$$\log(\text{Assessed Value}) = \log(\text{Reference Value}) + \log(\text{Adjustment}). \tag{9}$$

We then separately analyze the two components of the assessed value of landholdings: (i) log(Reference Value) and (ii) log(Adjustment).

As discussed in Section 2, the legal process for assessing the value of individual landholdings proceeds as follows. For a given land parcel, the municipal government of the jurisdiction where the parcel is located first selects a standard lot to serve as the benchmark for the value assessment. The assessed value is then calculated by adjusting the value of the selected reference lot to account for variations in land characteristics. This adjustment is performed by multiplying the reference value by an attribute factor. Importantly, these attribute factors are predetermined by the central government, leaving municipal governments with minimal discretion in this aspect of the assessment

process.

In the legal process of assessing landholdings, municipal governments led by mayors have the most discretion in selecting the standard lot that serves as the reference for each land parcel. Consequently, we expect that the documented differential decrease in the assessed value of land parcels owned by mayors arises primarily from a reduction in the reference value, log(Reference Value), rather than from changes in the adjustment factor.

To test this hypothesis, we estimate regression Equations (2) and (5) using the first component of the assessed value of landholdings, Reference Value, as the dependent variable. The coefficient estimates are reported in Panel (A) of Table 8. As in Table 3, the first two columns report estimates from the difference-in-discontinuities approach outlined in Equation (2), while the last two columns apply the first-differenced approach specified in (5).

Columns (1) and (3) employ a non-parametric approach, focusing on the subsample of candidates with a vote margin (X_j) of 5 percent or less in their respective mayoral elections. These models control for the effects of the vote margin by including a linear function of it. In contrast, Columns (2) and (4) analyze all mayoral candidates with a vote margin of 25 percent or less. To account for the effects of the vote margin, a cubic polynomial function of the vote margin is incorporated into the regression specifications.

The estimate of the coefficient of interest is negative across all four regression specifications and statistically significant in Columns (2) and (4). For instance, the estimate in column (2) indicates that during the post-election period, the difference in the reference value used to assess the land parcels of winners relative to those owned by losers decreases by 11.1 percent point. The coefficient estimate reported in column (4) suggests an even larger decrease in the reference value selected to assess the value of land parcels owned by mayors. These results highlight the role of reductions in the reference value in driving the observed underassessment of land parcels owned by mayors.

Next, we estimate regression Equations (2) and (5), using the second component of the assessed value of landholdings, Adjustment, as the dependent variable. The coefficient estimates are reported in Panel (B) of Table 8, and the regression specifications mirror those in Panel (A).

The estimate of the coefficient of interest is not statistically different from zero in any of the four regression specifications. This finding suggests that during the post-election period, there is no significant difference in the adjustment factor applied to assess the value of land parcels owned by

mayoral election winners compared to the adjustment factor used for land parcels owned by election losers.

Overall, Panels (A) and (B) of Table 8 provide empirical evidence supporting our hypothesis: the documented differential decrease in the assessed value of land parcels owned by mayors arises primarily from a reduction in the reference value, rather than from changes in the adjustment factor.

5 Motivations Behind Property Value Underassessment

We have shown thus far that land parcels owned by politicians are significantly underassessed. What explains this pattern? While we interpret our findings as evidence of politicians' incentives to obscure private gains during their tenure, alternative motivations could also account for the results. For example, mayors might lower the assessed values of their land to reduce their tax liabilities. We now conduct several heterogeneity analyses to examine whether, beyond minimizing property tax liabilities, one important motivation for this underassessment is the desire to conceal the extent of wealth accumulation during public office. We do not claim that this is the only motive.

5.1 Wealth Accumulation in Office and Subsequent Election Results

Lowering the tax burden as a motivation for influencing the official value assessment of land parcels is important for several reasons. First, as shown in Table 1, landholdings constitute a substantial portion of the total wealth of politicians in South Korea. landholdings account for an average of 17 percent of total wealth among mayors and 20 percent among non-mayor politicians. Second, in South Korea, the value assessment of landholdings serves as the basis for several taxes, with property taxes being the most significant.[17] Citizens are required to pay property taxes calculated as Assessed Value of Land Lot $\times 70\% \times$ Tax Rate, where the tax rate ranges from 0.2 percent to 0.5 percent, depending on the total assessed value of all land parcels owned by the taxpayer. Therefore, a 10 percent reduction in the assessed value of a land parcel results in at least a 10 percent decrease in property taxes.

Although these alternative motivations cannot be entirely ruled out, we provide evidence suggesting that the desire to conceal private returns is likely a significant concern for mayors. But

[17] In the context of the United States, Avenancio-León and Howard (2022) document that gaps in assessed values of properties across races lead to racial inequalities in tax burdens.

why would mayors care about concealing private returns to their real estate assets acquired during their tenure in public office? One plausible explanation is that doing so enhances their chances of remaining in office (Chauchard et al., 2019). To explore this possibility, we examine whether higher wealth growth among politicians during their tenure negatively impacts their reelection prospects. For this analysis, we estimate the following equation:

$$\text{Vote Share Gap}_{j,\tau} = \alpha + \beta \left(\frac{\text{Wealth}_{j,\tau-1}}{\text{Wealth}_{j,\tau-4}} - 1 \right) + \gamma \text{Vote Share Gap}_{j,\tau-4} + \varepsilon_j, \tag{10}$$

where the dependent variable is the vote share gap of incumbent mayor j running for reelection in year τ. The independent variable, $\text{Wealth}_{j,\tau-1}$ ($\text{Wealth}_{j,\tau-4}$), represents the combined wealth of mayor j and their partner in year $\tau - 1$ ($\tau - 4$).[18] $\text{Vote Share Gap}_{j,\tau-4}$ denotes the vote share gap of the incumbent mayor in the previous election, held in year $\tau - 4$.

In regression Equation (10), the coefficient of interest, β, captures the effect of mayors' wealth growth during their tenure on their electoral performance in the subsequent election. Table 9 summarizes the results. We find a statistically significant negative association between the electoral performance of incumbent mayors and their wealth growth during their tenure.

For instance, the coefficient estimate in Column (2) suggests that a 10 percentage points increase in the wealth growth of mayors and their partners over their tenure in public office is associated with a 0.5 percentage points decrease in the vote share gap in the next mayoral election. These findings indicate that, among politicians from the same political party, those who experience greater wealth growth during four years of public service tend to receive fewer votes in subsequent election races compared to their peers within the same province.

5.2 Electoral Competition and Property Value Underassessment

The results presented in Table 9 indicate that greater wealth accumulation by politicians during their time in public office is significantly associated with a smaller vote share margin in the subsequent election. This finding supports the interpretation that increases in personal wealth while in office adversely affect reelection prospects. Accordingly, incumbents facing closely contested elections may have stronger incentives to obscure the true extent of their wealth accumulation while in office.

[18] We exclude the wealth of other immediate family members to avoid capturing changes arising from refusals to disclose wealth.

Although the political incentive to conceal wealth growth intensifies in closely contested elections, the tax benefits from underassessment do not vary with electoral competitiveness.

We test whether such political incentives exist by examining whether distortions in assessed values are more pronounced for parcels owned by politicians running in competitive elections, where the motivation to manage public perceptions is particularly strong. To investigate this, we estimate a modified version of Equations (2) and (5). We classify an election as closely contested if the candidate either wins or loses by a margin of less than five percentage points. Notably, we do not control for a linear or polynomial function of the vote margin, as our objective is to compare closely contested elections to landslide outcomes, rather than to focus exclusively on close races.

Table 10 reports the coefficient estimates. In Columns (1) and (2), we conduct subsample analyses focusing on closely contested and landslide elections, respectively. In closely contested elections, we find that the assessed value per unit of land owned by winners is significantly lower in the post-election period compared to that of losers (Column (1)). In contrast, there is no evidence of underassessment for land owned by winners in landslide elections (Column (2)). Column (3) confirms that the coefficients from the two subsamples are significantly different. Columns (4)–(6) present results using a first-differenced approach, yielding similar results.

Overall, the results in Table 10 indicate that the gap in assessed value per unit of land between election winners and losers increases significantly in closely contested races. This finding supports the hypothesis that concealing the extent of wealth accumulation during public office is an important motive for asset underassessment among politicians. The pattern cannot be explained by tax incentives alone, as the tax benefit from underassessment does not vary with the competitiveness of the election.

5.3 Wealth and Property Value Underassessment

Next, we examine cross-sectional variation in assessment distortions based on politicians' reported wealth. We hypothesize that wealthier politicians face stronger incentives to suppress the assessed value of their properties. For these individuals, a given percentage increase in wealth translates into a larger absolute gain—one that is more conspicuous, more likely to attract media scrutiny, and potentially more politically damaging. As a result, the incentive to obscure wealth accumulation during public office is likely amplified among wealthier politicians.

Notably, the two underlying motives—tax minimization and wealth concealment—yield contrasting predictions for this analysis. Holding the marginal tax benefit from underassessment constant across individuals, standard economic theory predicts that wealthier politicians should exhibit weaker incentives to underassess, due to the diminishing marginal utility of income. By contrast, as previously discussed, the political cost of visible wealth accumulation is likely greater for wealthier individuals, reinforcing their incentive to conceal gains made while in office.

To formally test this hypothesis, we estimate a modified version of Equations (2) and (5). Specifically, we introduce an indicator variable, High Wealth, which equals one for candidates whose total household wealth—defined as the combined wealth of the candidate and their partner—in the year prior to the election exceeds the within-year median, and zero otherwise. Importantly, the regression model also includes Land Value $\times$ Event Year fixed effects, where Land Value denotes the quintile of each individual's aggregated land value in the year prior to the election. This specification helps control for differences in marginal tax rates across land parcels.

Table 11 reports the coefficient estimates. In the regression specifications that include land value quintile fixed effects (even-numbered columns), the coefficient of interest is consistently negative. For example, Column (4) indicates that, within each land value quintile, the post-election difference in assessed land value per unit between winners and losers declines by 18.7 percent relative to the pre-election period, for winners whose total household wealth exceeded the within-year median among candidates. Consistent with the difference-in-differences estimates, the first-differenced specifications in Columns (6) and (8) also yield negative coefficients, although these estimates are not statistically significant. The lack of statistical significance may reflect limited power arising from the relatively small number of observations near the cutoff, a well-recognized limitation in regression discontinuity designs that use election outcomes (e.g., Stommes et al., 2023).

Overall, the results presented in Table 11 indicate that even when the marginal tax benefit from lowering the assessed value of landholdings is similar across politicians, the degree of underassessment is more pronounced for properties owned by wealthier politicians. This finding is consistent with our hypothesis that the observed pattern cannot be explained solely by tax benefit motivations.

6 Additional Results

6.1 Politician-Owned Lands vs. Lands Owned by Politicians' Family Members

In this section, we further investigate whether the documented underassessment of land values owned by mayors extends to properties owned by their immediate family members, including spouses and children. To address this, we estimate a modified version of the regression models in Equations (2) and (5), incorporating an indicator variable that specifies whether a land parcel is owned by the candidate directly or by a family member. Specifically, the regression models include the indicator variables Own and Family, where Own equals one for land parcels owned by candidates running in mayoral elections, and Family equals one for land parcels owned by the candidates' immediate family members.

The control group for land parcels owned by family members of election-winning politicians is defined as either all land parcels owned by election losers or only those owned by the family members of the losers. Consistent with the approach in Table 7, we test our hypothesis using both control group definitions. Table 12 presents the coefficient estimates. The findings reveal that the documented underassessment of land values during the post-election period for winning candidates in closely contested mayoral elections is not confined to properties directly owned by the candidates. This underassessment extends to land parcels owned by the family members of winners. In Table 12, the coefficient of interest remains consistently negative and statistically significant across all regression specifications.

For example, the estimate in Column (4) indicates that during the post-election period, the assessed value of landholdings owned by family members of winners decreases by 16.3 percentage points compared to those owned by family members of election losers. Column (3) yields similar results, showing that the assessed value of landholdings owned by family members of election-winning politicians is 16.1 percentage points lower than those owned by either losers or their family members during the post-election period. Likewise, for land parcels directly owned by the winners, the assessed value decreases by 13.1 percentage points relative to the same benchmark during this period.

Overall, the findings in Table 12 indicate that the underassessment of land values for winners in closely contested mayoral elections is not confined to properties directly owned by the winners.

During the post-election period, this underassessment extends to landholdings owned by the family members of the winners.

6.2 Political Affiliation and Property Value Underassessment

A large body of theoretical and empirical research finds that political liberals ground their moral judgments mainly in two psychological foundations: Harm and Fairness. In contrast, political conservatives build their moral systems more evenly across five foundations—the same two as liberals, plus Ingroup, Authority, and Purity.[19]

Because corruption is a violation of fairness, it might strike liberals at the core of their moral framework, while conservatives' stronger in-group orientation provides a buffer. In our context, this implies that the cost of being exposed for distorting assessments of personal property values should be lower for conservatives. Supporting this proposition, experimental evidence from various countries shows that conservative electorates tend to be more lenient toward corrupt politicians from their own party and are less inclined to punish transgressions when the offender is a co-partisan (Anduiza et al., 2013; Walter and Redlawsk, 2019; Redlawsk and Walter, 2024). We would therefore expect the underassessment of personal landholdings to be more pronounced among conservatives.

To test this, we estimate a modified version of Equations (2) and (5). We construct three indicator variables—Liberal, Conservative, and Independent—that capture the party affiliation of each election candidate. Each variable equals one if the candidate is affiliated with a liberal party, a conservative party, or has no party affiliation, respectively, and zero otherwise.

Table 13 reports the coefficient estimates. The results show that the underassessment of land value is more pronounced among politicians affiliated with conservative parties. The coefficient of interest is negative and statistically significant across all specifications. For instance, in Column (1), the estimate suggests that following an election, the assessed value difference between the landholdings of winners and losers decreases by 26.0 percent relative to the pre-election period if the winner is affiliated with a conservative party. Column (3) shows a similar pattern: the growth in assessed land value from one year before to four years after the election is 26.4 percent lower for conservative winners.

Overall, the findings in Table 13 indicate that the value underassessment of landholdings is

[19] See, among others, Turiel (1983); Haidt and Joseph (2004); Haidt and Graham (2007); Graham et al. (2009)

more concentrated among politicians affiliated with conservative parties. This is consistent with our expectations, given that conservative politicians are less likely to face negative electoral consequences when wrongdoing is revealed.

6.3 Land Share of Wealth and Property Value Underassessment

When landholdings constitute a substantial share of a politician's total wealth, the incentive to manipulate their assessed value is stronger. First, a given percentage reduction in assessed value yields a larger absolute decrease in property tax liabilities for these individuals, relative to politicians whose wealth is less concentrated in land. Second, these politicians have stronger incentives to distort property valuations, as doing so more effectively conceals the overall wealth accumulated during their time in office. Taken together, both incentives are more salient for politicians whose wealth is disproportionately concentrated in landholdings. Therefore, we expect the documented underassessment of land values to be more pronounced for properties owned by politicians for whom land represents a larger fraction of net wealth.

To test this hypothesis, we estimate a modified version of Equations (2) and (5). Specifically, we include an indicator variable, High Land Ratio, which equals one for candidates whose ratio of the total assessed value of all land parcels to total household wealth in the year prior to the election exceeds the within-year median, and zero otherwise. Table 14 presents the coefficient estimates. Across all four specifications, the coefficient of interest is negative, indicating a greater underassessment of land parcels owned by politicians for whom land represents a larger share of their total wealth. For example, in Column (4), the coefficient suggests that the growth in assessed land value from one year before to four years after the election is 13.5 percent lower for election winners with a high land-to-wealth ratio, relative to their otherwise comparable counterparts.

Overall, the results in Table 14 indicate that the underassessment of landholdings is more pronounced for properties owned by politicians for whom land constitutes a substantial share of their net wealth. This finding aligns with our expectation, as both incentives discussed above are stronger for land-rich politicians. The potential tax savings from a reduced assessed base are larger for these individuals, and the incentive to obscure wealth accumulation while in office is more pressing, given that land appreciation would otherwise account for a significant portion of observable wealth growth.

7 Conclusion

The determinants of government responsiveness to citizens are a central concern in political economy. In democracies where leaders are periodically elected, the resolution of political agency problems depends critically on the availability of information that allows voters to effectively evaluate incumbent politicians. Anti-corruption legislative efforts worldwide are, therefore, often accompanied by transparency-enhancing measures, such as mandatory asset disclosures by politicians.

Our findings provide empirical evidence that politicians may exploit their office to manipulate the assessed value of their properties. While reducing tax liabilities is an obvious incentive, our analyses show that tax minimization alone does not fully explain the underassessment of politicians' landholdings. An additional motivation appears to be the concealment of the true extent of private gains accumulated during their tenure, thereby mitigating the risk of electoral backlash associated with perceptions of self-enrichment. This abuse of power undermines electoral accountability by limiting voters' ability to effectively sanction corrupt politicians. Moreover, the underassessment of land parcels owned by politicians mechanically reduces their property tax liabilities, revealing a novel mechanism that contributes to the abnormal accumulation of wealth by politicians while in office, as documented in the existing literature.

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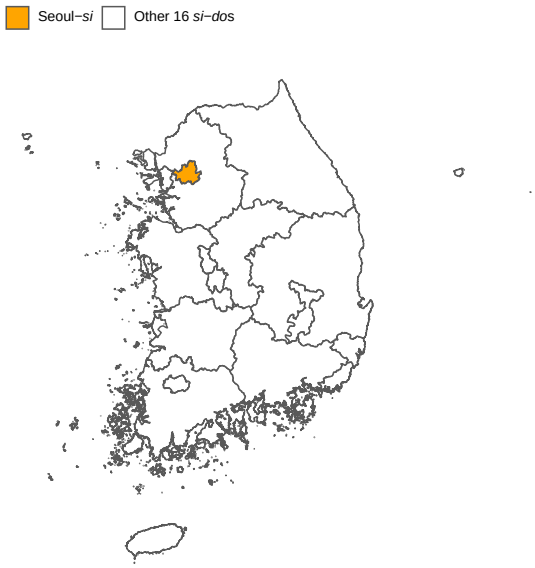
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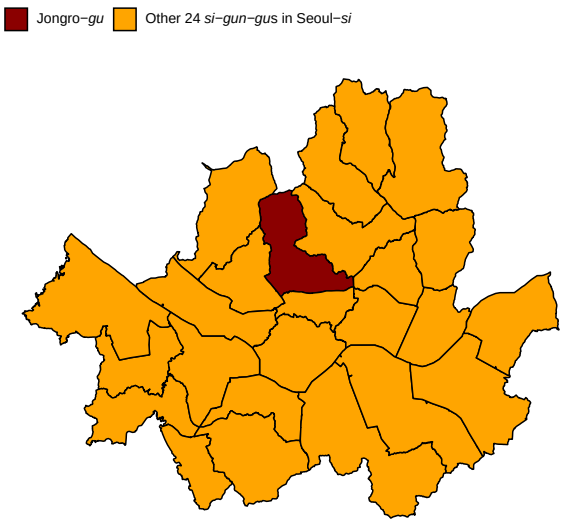
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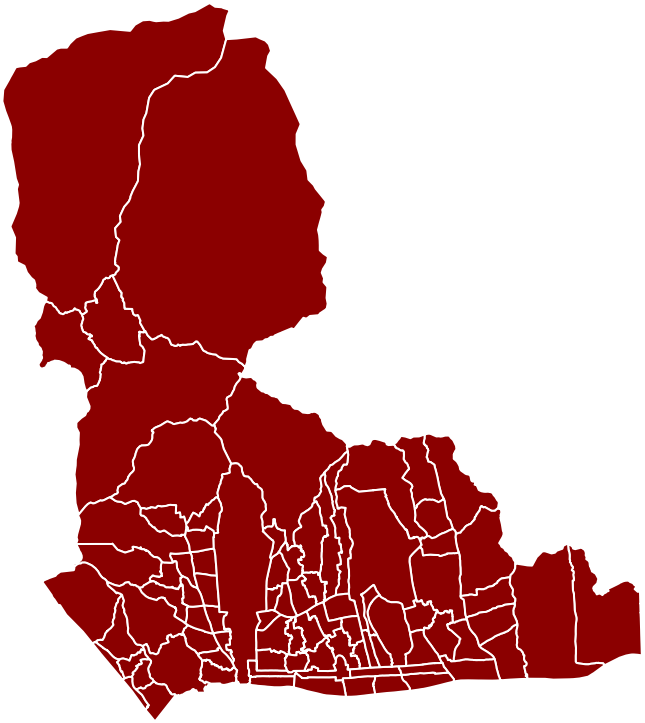
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(A) South Korea



(B) Seoul-*si* (605.2 km^2)



(C) Jongro-*gu* (23.9 km^2)

Figure 1: Administrative Divisions in South Korea

This figure illustrates the levels of administrative divisions in South Korea. Panel (A) shows the 17 *sido*, with Seoul-*si* highlighted in orange. Panel (B) provides a closer view of the 25 *si-gun-gu* within Seoul, with Jongro-*gu* highlighted in dark red. Panel (C) zooms in further to display the 87 *dong-ri* within Jongro-*gu*.

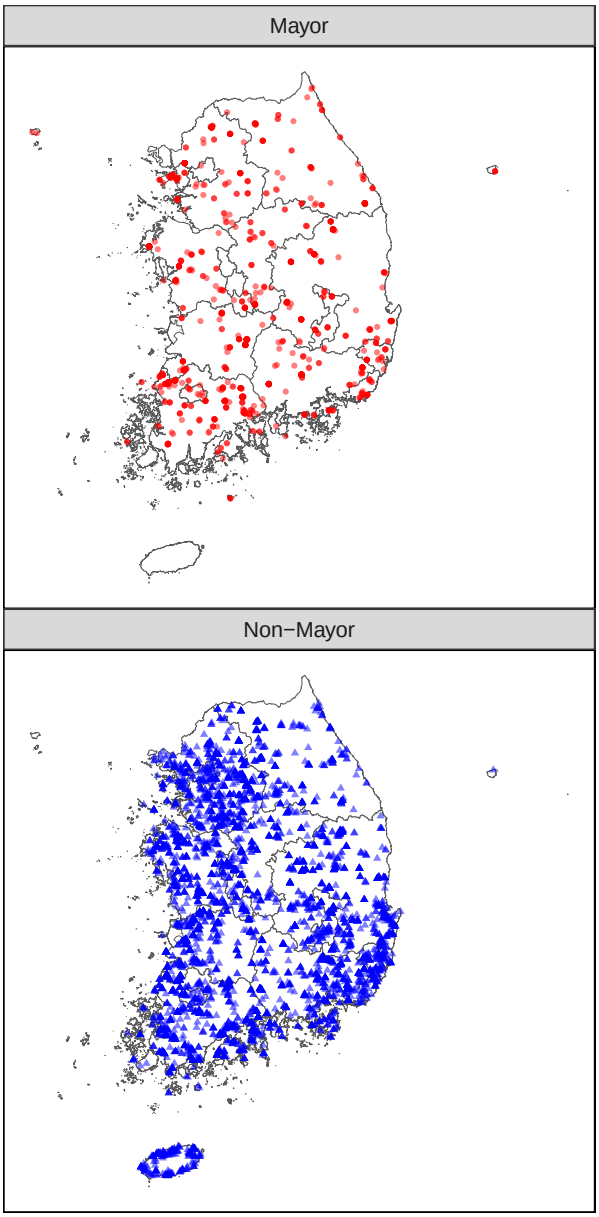
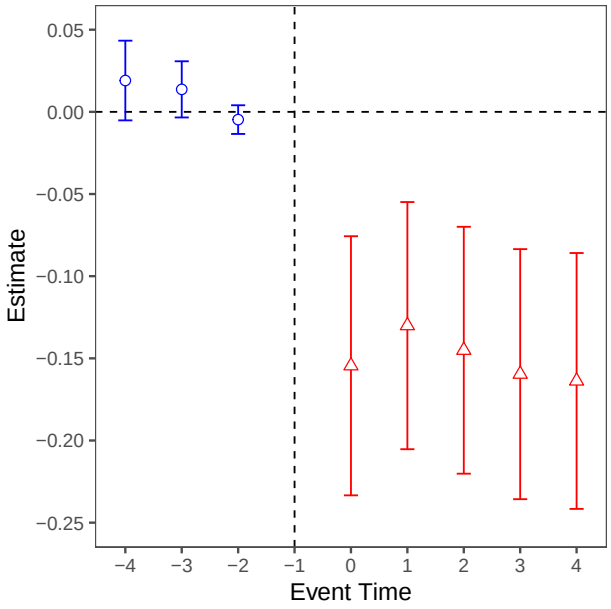
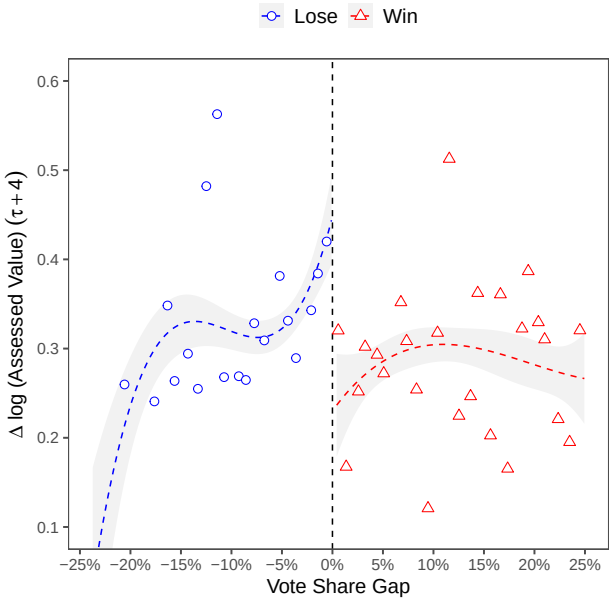


Figure 2: Geographic Distribution of Politicians' Landholdings in 2017

This figure illustrates the geographic distribution of landholdings by mayors and non-mayors across the country. Red circles represent 971 land lots owned by 143 mayors and their immediate family members, while blue triangles indicate 5,246 land lots owned by 755 non-mayors and their immediate family members, as of 2017.



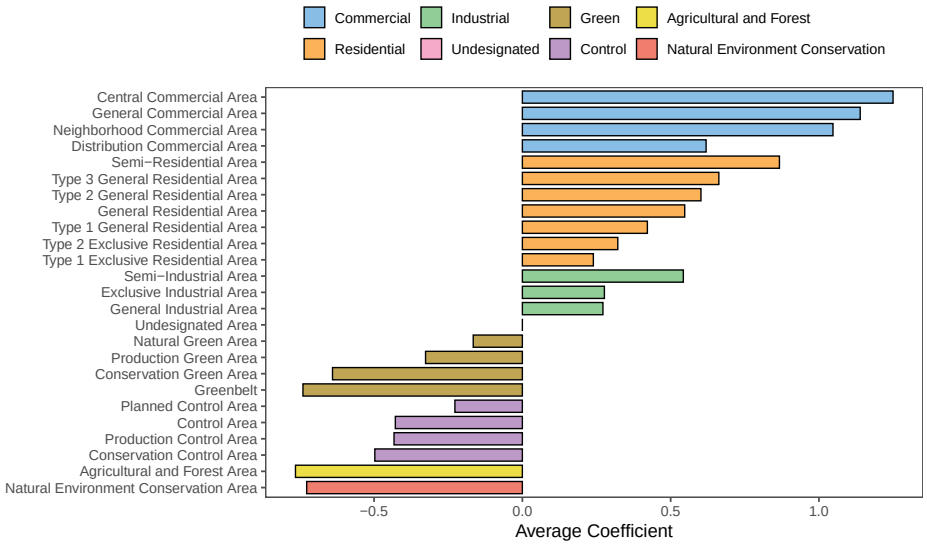
(A) Difference-in-Discontinuities Estimates by Event Time



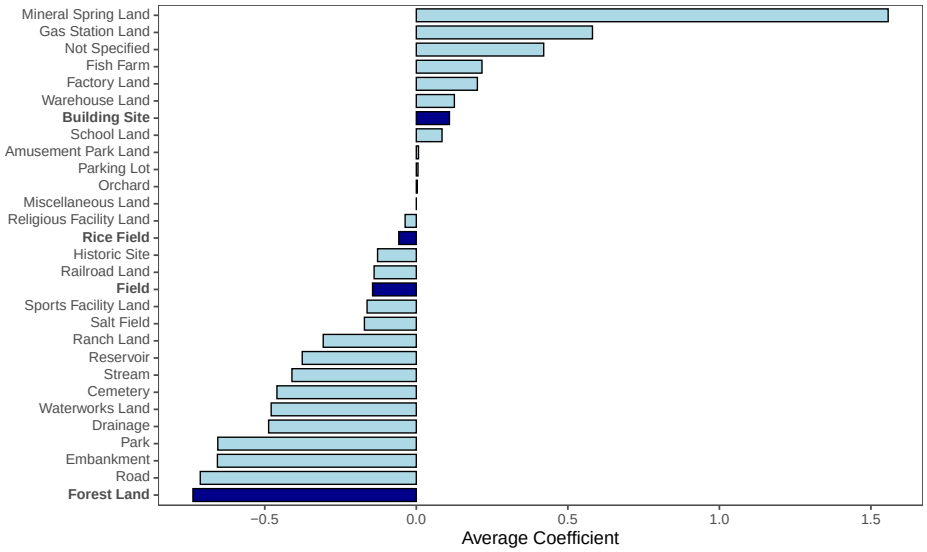
(B) Log Difference in Assessed Value Between $t = \tau + 4$ and $t = \tau - 1$

Figure 3: Gaps in Assessed Values of Land Parcels Owned by Mayors

This figure illustrates the differential changes in the assessed values of land lots owned by winners and losers in closely contested mayoral elections. Panel (A) presents the results from estimating Equation (6), where the dependent variable is log(Assessed Value). The coefficient for the year preceding the election year ($t = \tau - 1$) is omitted as the reference point. Circles and triangles represent the point estimates, with vertical bars denoting the 95 percent confidence intervals. Panel (B) depicts changes in log(Assessed Value) from $t = \tau - 1$ to $t = \tau + 4$. Circles and triangles represent unconditional means, grouped by vote share gap in 1 percent intervals. Dashed lines indicate fitted values from a cubic polynomial regression, and gray shaded areas represent the corresponding standard errors.



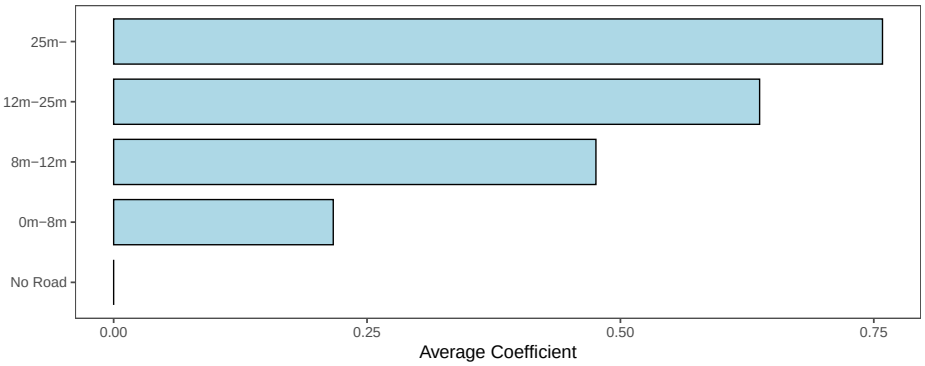
(A) Land Zone



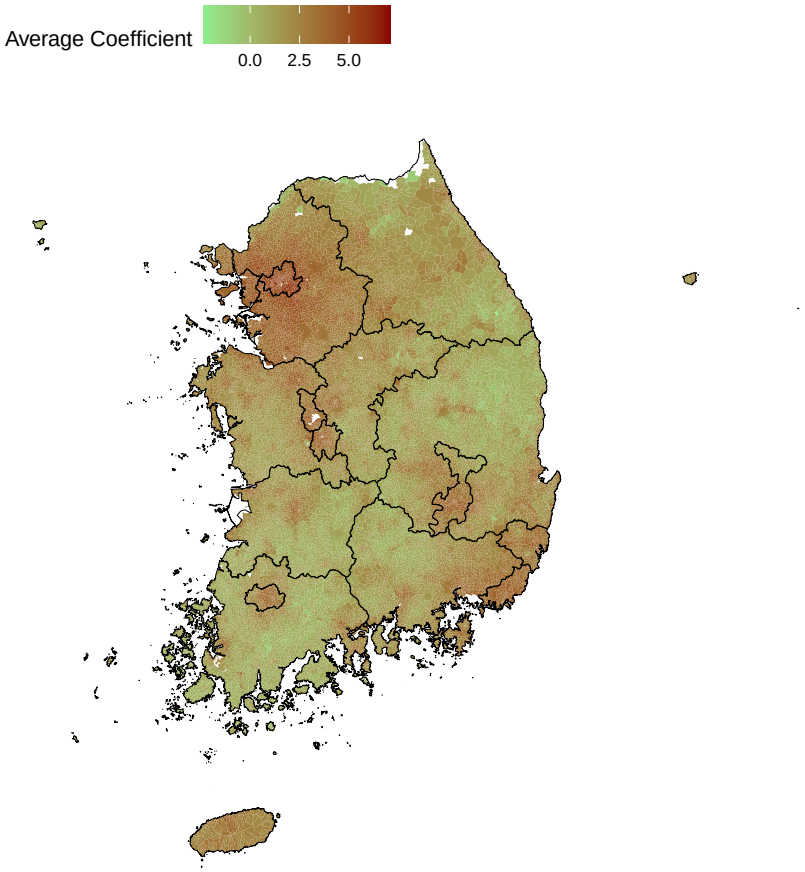
(B) Land Category

Figure 4: Analysis of Land Transaction Prices

This figure presents the estimated coefficients for land attributes influencing transaction prices, based on Equation (7). Panel (A) shows the average coefficients by land zone over the sample period. Panel (B) summarizes the average coefficients by land category, with the four most common categories, accounting for 89 percent of all land transactions, highlighted in bold. Panel (C) reports the average coefficients by road condition. Panel (D) displays the geographic distribution of average coefficients by neighborhood.

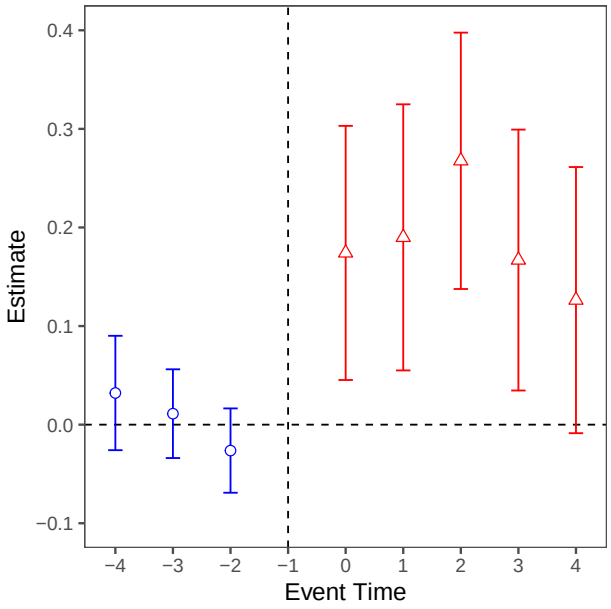


(C) Road Condition

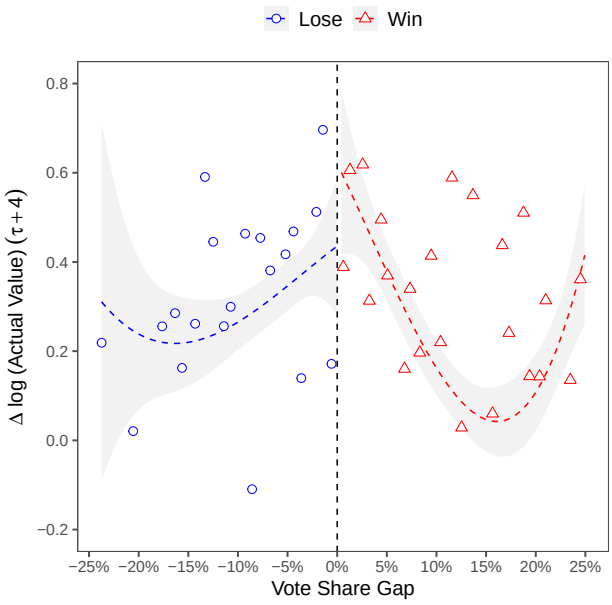


(D) Neighborhood

Figure 4: Analysis of Land Transaction Prices (Continued)



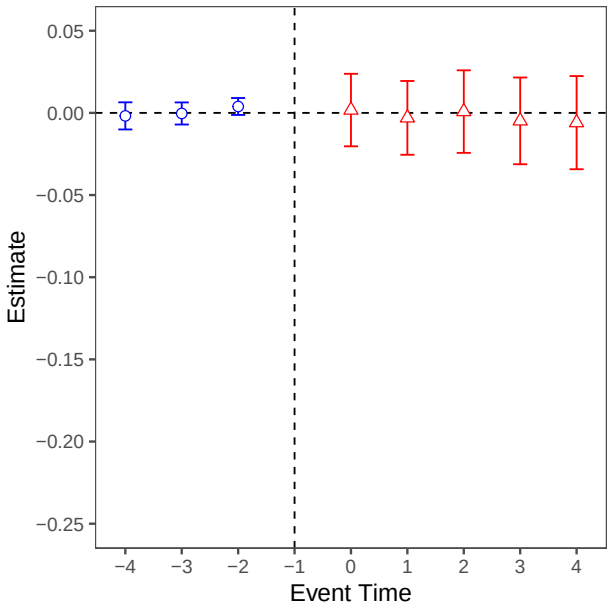
(A) Difference-in-Discontinuities Estimates by Event Time



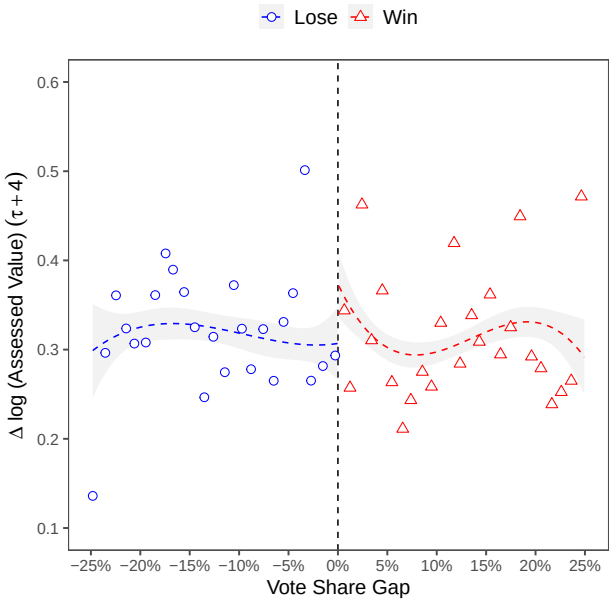
(B) Log Difference in Actual Value Between $t = \tau + 4$ and $t = \tau - 1$

Figure 5: Gaps in Actual Values of Land Parcels Owned by Mayors

This figure illustrates the differential changes in the actual values of land lots owned by winners and losers in closely contested mayoral elections. Panel (A) presents results from estimating Equation (6), where the dependent variable is log(Actual Value). The coefficient for the year preceding the election $t = \tau - 1$ is omitted as the reference point. Circles and triangles represent point estimates, with vertical bars denoting 95 percent confidence intervals. Panel (B) depicts changes in log(Actual Value) from $t = \tau - 1$ to $t = \tau + 4$. Circles and triangles represent unconditional means, grouped by vote share gap in 1 percent intervals. Dashed lines indicate fitted values from a cubic polynomial, and gray shaded areas represent the corresponding standard errors.



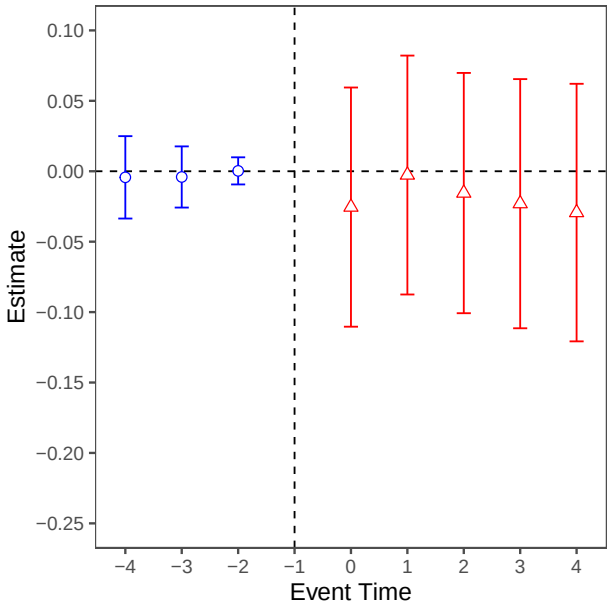
(A) Difference-in-Discontinuities Estimates by Event Time



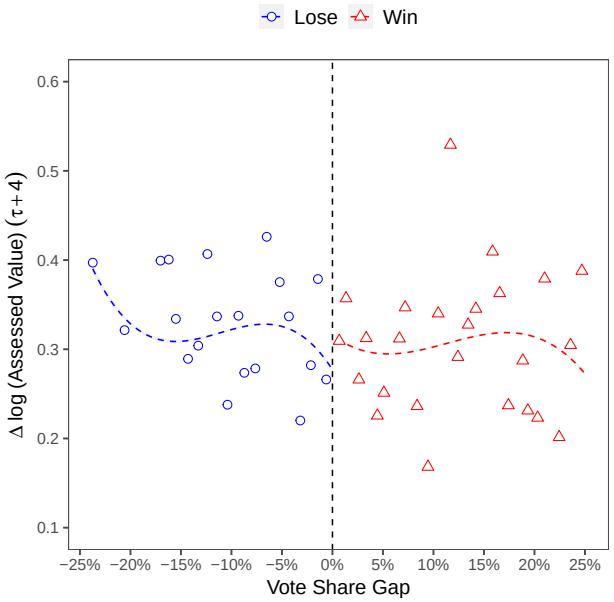
(B) Log Difference in Assessed Value Between $t = \tau + 4$ and $t = \tau - 1$

Figure 6: Gaps in Assessed Values of Land Parcels Owned by Non-Mayors

This figure illustrates the differential changes in the assessed values of land lots owned by winners and losers in closely contested non-mayoral elections. The analysis follows the same approach as in Figure 3, with the key difference being the focus on land parcels owned by candidates in closely contested non-mayoral races rather than mayoral elections.



(A) Difference-in-Discontinuities Estimates by Event Time



(B) Log Difference in Assessed Value Between $t = \tau + 4$ and $t = \tau - 1$

Figure 7: Gaps in Assessed Values of Standard Land Lots in Jurisdictions with Newly Elected Mayors

This figure illustrates the differential changes in the assessed values of standard land lots located in jurisdictions where incumbent mayors either won or lost closely contested elections. The analysis follows the same approach as in Figure 3, but here the focus is on standard land lots within each jurisdiction rather than on land lots owned by the candidates.

Table 1: Summary Statistics: Politicians' Asset Holdings

This table presents summary statistics on asset disclosures by Korean politicians from 2010 to 2023. Panel (A) shows the number of individuals in the dataset across various political positions, including congress members, governors, mayors, the president, state council members, and city council members. Panel (B) reports the number of politicians and their family members who consented to disclose their asset holdings and those who declined. Panel (C) provides summary statistics on asset holdings by category. The unit is 1 million KRW.

(A) Number of Politicians

	Congressman	Governor	Mayor	President	State Council Member	City Council Member
2010	293	15	221	1	831	0
2011	292	16	219	1	804	0
2012	294	16	220	0	846	0
2013	295	17	213	1	842	0
2014	291	17	224	1	785	0
2015	289	17	218	1	776	0
2016	297	17	220	1	783	0
2017	286	14	212	1	780	0
2018	289	16	226	1	828	0
2019	290	17	216	1	812	0
2020	296	16	222	1	818	0
2021	289	14	218	1	817	2,817
2022	296	17	224	1	873	2,982
2023	289	17	223	1	858	2,941
Total	4,086	226	3,076	13	11,453	8,740

(B) Refuse Rate by Relationship

	Disclosed	Refused	Refuse Rate (%)
Self	27,594	0	0.00
Partner	24,929	97	0.39
Child	18,456	5,877	24.15
Mother	10,421	3,945	27.46
Father	4,082	2,985	42.24
Grandchild	423	1,822	81.16
Grandmother	138	67	32.68
Mother-in-law	111	60	35.09
Father-in-law	44	46	51.11
Grandfather	33	24	42.11
Others	1	3	75.00
Daughter-in-law	0	7	100.00
Total	86,232	14,933	14.76

(C) Summary Statistics: Politicians' Asset Holdings by Category

	Obs.	N. Politicians	Mean	Median	Std.
Deposits	88,483	27,544	1279	458	5163
Building	52,137	27,225	4399	2030	9598
Debts	52,121	25,972	−2471	−900	6221
Automobiles, construction machinery, ships, and aircraft	38,543	25,471	224	119	782
Land	29,035	18,965	2699	831	7021
Stocks	15,310	9,762	1355	55	19698
Securities	8,673	5,975	15453	100	537831
Bonds	7,650	6,542	2705	900	10492
Membership rights	3,025	2,571	609	275	1052
Deposits in accounts for the receipt and expenditure of political funds	2,741	2,732	750	494	828
Cash	2,370	1,838	364	130	1244
Partnership, limited partnership, and limited liability company equity shares	1,401	1,042	1412	500	2356
Gold and platinum	776	668	250	109	513
Jewelry	461	403	215	120	256
Antiques and artworks	397	372	895	300	3055
Virtual assets	341	296	565	20	6358
Property contributed to nonprofit corporations	269	234	0	0	0
Property contributed by nonprofit corporations	246	219	0	0	0
Intellectual property rights	206	199	0	0	0
Total Net Wealth	27,596	27,596	17530	6751	308877

Table 2: Summary Statistics: Regression Sample

This table presents summary statistics for our main regression sample. Panel (A) reports the wealth of candidates in the year before the election and their election outcomes, categorized by those running for mayoral and non-mayoral positions. The sample is restricted to candidates whose vote margin relative to the runner-up (for winners) or the winner (for losers) falls between −25 percent and 25 percent. Panel (B) provides summary statistics on the landholdings of these candidates as of the year before the elections.

(A) Wealth

	Mayor				Non-Mayor			
	Obs.	Mean	Median	Std.	Obs.	Mean	Median	Std.
Wealth (1M KRW)	237	1750.15	1063.13	2327.93	1,679	3327.47	951.36	49972.67
Wealth Growth ($\tau-4$, $\tau-1$)	216	0.32	0.20	0.54	667	0.48	0.15	4.03
Land Ratio	237	0.17	0.09	0.19	1,679	0.20	0.13	0.20
Vote Share Gap	237	0.01	0.01	0.12	1,679	0.03	0.03	0.12
Win	237	0.51	1.00	0.50	1,679	0.61	1.00	0.49

(B) Land

	Mayor				Non-Mayor			
	Obs.	Mean	Median	Std.	Obs.	Mean	Median	Std.
Assessed Value (1K KRW, per m^2)	1,512	124.32	18.50	428.36	10,322	200.57	22.00	1535.25
Actual Value (1K KRW, per m^2)	1,481	230.10	40.36	1192.74	10,149	217.20	45.21	868.06
Reference Value (1K KRW, per m^2)	953	194.94	28.00	574.08	6,340	295.07	31.50	1913.14
Geographical Size (m^2)	1,512	3846.07	660.50	16978.61	10,312	4267.00	815.50	20935.14
Family's	1,512	0.38	0.00	0.49	10,322	0.41	0.00	0.49
Own City	1,512	0.68	1.00	0.47				

Table 3: Are Land Parcels Owned by Mayors Underassessed During Their Tenure in Public Office?

This table presents coefficient estimates from Equations (2) and (5), where the dependent variable is log(Assessed Value). Win_j is an indicator set to one if the politician wins the election, while After_t indicates the election year and the subsequent four years. Columns (1) and (2) examine differential changes in log(Assessed Value) for land owned by winners and losers of closely contested mayoral elections during the event window $[-4, 4]$ surrounding the elections. Columns (3) and (4) use a first-differenced model, where the dependent variable is the change in log(Assessed Value) from one year before the election ($\tau - 1$) to four years after the election ($\tau + 4$). Columns (1) and (3) restrict the sample to candidates with a vote margin of 5 percent or less and control for vote margin relative to the runner-up (for winners) or the winner (for losers) using a linear function. Columns (2) and (4) extend the sample to candidates with a vote margin of 25 percent or less, incorporating a polynomial function of vote margin interacted with Win_j. Standard errors are clustered by land in Columns (1) and (2), while they are heteroskedasticity-robust in Columns (3) and (4). t-statistics are reported in parentheses. $*$, $**$, and $***$ denote statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

Dep. Var.:	log(Assessed Value)		Δ log(Assessed Value) $(\tau - 1, \tau + 4)$	
	(1)	(2)	(3)	(4)
Win×After	-0.1215^{***}	-0.1542^{***}		
	(-3.06)	(-4.02)		
Win			-0.1847^{***}	-0.2180^{***}
			(-3.11)	(-4.15)
Sample: $\lvert\Delta\rvert \leq$	5%	25%	5%	25%
$f(\Delta)$	Linear	Cubic	Linear	Cubic
Land FEs	✓	✓		
Event Year FEs	✓	✓		
Obs	3,482	12,027	288	1,047
Adj. R^2	1.00	0.99	0.05	0.03

Table 4: Are Land Parcels Owned by Non-Mayor Politicians Also Underassessed During Their Tenure in Public Office?

This table presents coefficient estimates from Equations (2) and (5), where the dependent variable is log(Assessed Value). Win_j is an indicator set to one if the politician wins the election, while After_t indicates the election year and the subsequent four years. Columns (1) and (2) analyze differential changes in log(Assessed Value) for land owned by winners and losers of closely contested non-mayoral elections during the event period $[-4, 4]$ surrounding the elections. Columns (3) and (4) use a first-differenced model, where the dependent variable is the change in log(Assessed Value) from one year before the election ($\tau - 1$) to four years after the election ($\tau + 4$). Columns (1) and (3) focus on the subsample of election candidates with a vote margin of 5 percent or less, controlling for the candidate's vote margin relative to the runner-up (for winners) or the winner (for losers) using a linear function. Columns (2) and (4) extend the analysis to candidates with a vote margin of 25 percent or less, incorporating a polynomial function of the vote margin interacted with Win_j. Standard errors are clustered by land in Columns (1) and (2), while they are heteroskedasticity-robust in Columns (3) and (4). t-statistics are reported in parentheses. $*$, $**$, and $***$ denote statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

Dep. Var.:	log(Assessed Value)		Δ log(Assessed Value) $(\tau-1, \tau+4)$	
	(1)	(2)	(3)	(4)
Win×After	0.0065	−0.0016		
	(0.55)	(−0.14)		
Win			0.0920**	0.0666*
			(2.35)	(1.89)
Sample: $\lvert\Delta\rvert \leq$	5%	25%	5%	25%
$f(\Delta)$	Linear	Cubic	Linear	Cubic
Land FEs	✓	✓		
Event Year FEs	✓	✓		
Obs	20,900	69,857	527	2,831
Adj. R^2	1.00	1.00	0.01	0.00

Table 5: Does the Actual Value of Land Parcels Owned by Mayors Decline During Their Time in Office?

This table presents coefficient estimates from Equations (2) and (5), where the dependent variable is log(Actual Value). Win_j is an indicator set to one if the politician wins the election, while After_t indicates the election year and the subsequent four years. Columns (1) and (2) analyze differential changes in log(Actual Value) for land owned by winners and losers of closely contested mayoral elections during the event period $[-4, 4]$ surrounding the elections. Columns (3) and (4) use a first-differenced model, where the dependent variable is the change in log(Actual Value) from one year before the election ($\tau - 1$) to four years after the election ($\tau + 4$). Columns (1) and (3) focus on the subsample of election candidates with a vote margin of 5 percent or less, controlling for the candidate's vote margin relative to the runner-up (for winners) or the winner (for losers) using a linear function. Columns (2) and (4) extend the analysis to candidates with a vote margin of 25 percent or less, incorporating a polynomial function of the vote margin interacted with Win_j. Standard errors are clustered by land in Columns (1) and (2), while they are heteroskedasticity-robust in Columns (3) and (4). t-statistics are reported in parentheses. $*$, $**$, and $***$ denote statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

Dep. Var.:	log(Actual Value)		Δ log(Actual Value) $(\tau-1, \tau+4)$	
	(1)	(2)	(3)	(4)
Win×After	0.1583**	0.1822***		
	(2.31)	(2.82)		
Win			0.2144**	0.1843*
			(2.03)	(1.77)
Sample: $\lvert\Delta\rvert \leq$	5%	25%	5%	25%
$f(\Delta)$	Linear	Cubic	Linear	Cubic
Land FEs	✓	✓		
Event Year FEs	✓	✓		
Obs	3,109	10,785	284	1,019
Adj. R^2	0.95	0.96	-0.00	0.04

Table 6: Is There an Increase in the Assessed Value of Standard Lots in Jurisdictions with Newly Elected Mayors?

This table presents coefficient estimates from Equations (2) and (5), where the dependent variable is log(Assessed Value). Win_j is an indicator set to one if the politician wins the election, while After_t indicates the election year and the subsequent four years. Columns (1) and (2) analyze differential changes in log(Assessed Value) for standard lots located in jurisdictions with newly elected mayors, compared to those in jurisdictions where the incumbent mayor remains in office, during the event period $[-4, 4]$ surrounding the elections. Columns (3) and (4) use a first-differenced model, where the dependent variable is the change in log(Assessed Value) for standard lots from one year prior to the election ($\tau - 1$) to four years after the election ($\tau + 4$). Columns (1) and (3) focus on the subsample of election candidates with a vote margin of 5 percent or less, controlling for the candidate's vote margin relative to the runner-up (for winners) or the winner (for losers) using a linear function. Columns (2) and (4) extend the analysis to candidates with a vote margin of 25 percent or less, incorporating a polynomial function of the vote margin interacted with Win_j. Standard errors are clustered by city. t-statistics are reported in parentheses. $*$, $**$, and $***$ denote statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

Dep. Var.:	log(Assessed Value)		Δ log(Assessed Value) $(\tau-1, \tau+4)$	
	(1)	(2)	(3)	(4)
Win×After	0.0216	−0.0158		
	(0.49)	(−0.36)		
Win			0.1023	0.0388
			(1.28)	(0.50)
Sample: $\lvert\Delta\rvert \leq$	5%	25%	5%	25%
$f(\Delta)$	Linear	Cubic	Linear	Cubic
Land FEs	✓	✓	✓	✓
Event Year FEs	✓	✓	✓	✓
Obs	884,812	3,138,978	68,337	253,390
Adj. R^2	1.00	1.00	0.03	0.01

Table 7: Are Mayors' Land Parcels Outside Their Jurisdiction Also Underassessed During Their Tenure in Public Office?

This table presents coefficient estimates from a modified version of Equations (2) and (5), where the dependent variable is log(Assessed Value). Own City is an indicator equal to one for land located within the jurisdiction of the mayor-owner, while Other Cities is equal to one for land located outside the mayor's jurisdiction. Win_j is an indicator set to one if the politician wins the election, while After_t indicates the election year and the subsequent four years. Columns (1)–(4) analyze differential changes in log(Assessed Value) for land owned by winners and losers of closely contested mayoral elections during the event period $[-4, 4]$ surrounding the elections. Columns (5)–(8) use a first-differenced model, where the dependent variable is the change in log(Assessed Value) from one year before the election ($\tau-1$) to four years after the election ($\tau+4$). Columns (1)–(2) and (5)–(6) focus on the subsample of election candidates with a vote margin of 5 percent or less, controlling for the candidate's vote margin relative to the runner-up (for winners) or the winner (for losers) using a linear function. Columns (3)–(4) and (7)–(8) extend the analysis to candidates with a vote margin of 25 percent or less, incorporating a polynomial function of the vote margin interacted with Win_j. Standard errors are clustered by land in Columns (1)–(4), while they are heteroskedasticity-robust in Columns (5)–(8). t-statistics are reported in parentheses. $*$, $**$, and $***$ denote statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

Dep. Var.:	log(Assessed Value)				Δ log(Assessed Value) $(\tau-1, \tau+4)$			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Other Cities×Win×After	−0.1261***	−0.1847***	−0.1541***	−0.2034***				
	(−2.85)	(−2.80)	(−3.84)	(−2.99)				
Own City×Win×After	−0.1185***	−0.0773	−0.1543***	−0.1043**				
	(−2.90)	(−1.44)	(−4.00)	(−2.09)				
Other Cities×Win					−0.1998***	−0.2543***	−0.2167***	−0.2777***
					(−3.16)	(−3.17)	(−4.11)	(−3.85)
Own City×Win					−0.1752***	−0.1110	−0.2188***	−0.1549**
					(−2.80)	(−1.23)	(−4.09)	(−2.00)
Sample: $\lvert\Delta\rvert \leq$	5%	5%	25%	25%	5%	5%	25%	25%
$f(\Delta)$	Linear	Linear×Other	Cubic	Cubic×Other	Linear	Linear×Other	Cubic	Cubic×Other
Own−Other	0.0075	0.1074	−0.0002	0.0990	0.0246	0.1433	−0.0022	0.1228
	(0.25)	(1.26)	(−0.01)	(1.17)	(0.57)	(1.19)	(−0.14)	(1.16)
Land FEs	✓	✓	✓	✓				
Event Year FEs	✓		✓					
Own City×Event Year FEs		✓		✓				
Own City FEs						✓		✓
Obs	3,482	3,482	12,027	12,027	288	288	1,047	1,047
Adj. R^2	1.00	1.00	0.99	0.99	0.04	0.05	0.03	0.04

Table 8: Anatomy of Land Assessed Values

This table presents coefficient estimates from Equations (2) and (5), where the dependent variable is log(Reference Value) in Panel (A) and log(Adjustment Value) in Panel (B). Win_j is an indicator set to one if the politician wins the election, while After_t indicates the election year and the subsequent four years. In each panel, Columns (1) and (2) examine differential changes in the dependent variable for land owned by winners and losers of closely contested mayoral elections during the event period $[-4, 4]$ surrounding the elections. Columns (3) and (4) use a first-differenced model, where the dependent variable is the change from one year before the election $(\tau - 1)$ to four years after the election $(\tau + 4)$. Columns (1) and (3) focus on the subsample of election candidates with a vote margin of 5 percent or less, controlling for the candidate's vote margin relative to the runner-up (for winners) or the winner (for losers) using a linear function. Columns (2) and (4) extend the analysis to candidates with a vote margin of 25 percent or less, incorporating a polynomial function of the vote margin interacted with Win_j. Standard errors are clustered by land in Columns (1) and (2), while they are heteroskedasticity-robust in Columns (3) and (4). t-statistics are reported in parentheses. $*$, $**$, and $***$ denote statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

(A) Reference Value

Dep. Var.:	log(Reference Value)		Δ log(Reference Value) $(\tau-1, \tau+4)$	
	(1)	(2)	(3)	(4)
Win×After	−0.0505	−0.1177**		
	(−0.99)	(−2.41)		
Win			−0.1164	−0.2453***
			(−1.48)	(−3.21)
Sample: $\lvert\Delta\rvert \leq$	5%	25%	5%	25%
$f(\Delta)$	Linear	Cubic	Linear	Cubic
Land FEs	✓	✓		
Event Year FEs	✓	✓		
Obs	1,807	7,177	146	580
Adj. R^2	1.00	1.00	0.16	0.05

(B) Adjustment

Dep. Var.:	log(Adjustment)		Δ log(Adjustment) $(\tau-1, \tau+4)$	
	(1)	(2)	(3)	(4)
Win×After	−0.0431*	−0.0332		
	(−1.65)	(−1.15)		
Win			−0.0180	0.0220
			(−0.37)	(0.44)
Sample: $\lvert\Delta\rvert \leq$	5%	25%	5%	25%
$f(\Delta)$	Linear	Cubic	Linear	Cubic
Land FEs	✓	✓		
Event Year FEs	✓	✓		
Obs	1,807	7,177	146	580
Adj. R^2	0.96	0.95	0.03	0.01

Table 9: How Politicians' Wealth Growth During Public Office Influences Subsequent Election Outcomes

This table presents coefficient estimates from Equation (10), where the dependent variable is Vote Share Gap. Wealth Growth$(\tau-4,\tau-1)$ captures the growth in the total wealth of mayors and their partners from four years before the election $(\tau-4)$ to one year before the election $(\tau-1)$. Previous Vote Share Gap denotes the vote share gap of the incumbent mayor in the previous election. The regression analysis examines whether greater wealth accumulation by politicians during their time in office adversely affects their reelection prospects. Standard errors are heteroskedasticity-robust. t-statistics are reported in parentheses. $*$, $**$, and $***$ denote statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

Dep. Var.:	Vote Share Gap			
	(1)	(2)	(3)	(4)
Wealth Growth $(\tau-4,\ \tau-1)$	-0.0407^{*}	-0.0506^{**}	-0.0419^{*}	-0.0513^{**}
	(-1.72)	(-2.50)	(-1.75)	(-2.52)
Previous Vote Share Gap			0.1247	0.0248
			(1.18)	(0.27)
Party FEs		✓		✓
Province FEs		✓		✓
Obs	278	275	270	267
Adj. R^2	0.00	0.38	0.01	0.37

Table 10: Closely Contested vs. Landslide Election

This table presents coefficient estimates from a modified version of Equations (2) and (5), where the dependent variable is log(Assessed Value). We do not control for either a linear or polynomial function of the vote margin. The variable Close Election is an indicator equal to one for candidates who either win or lose a mayoral election by a vote margin of less than five percent. Win_j is an indicator set to one if the politician wins the election, while After_t indicates the election year and the subsequent four years. Columns (1)–(3) analyze differential changes in log(Assessed Value) for land owned by winners and losers of mayoral elections during the event period $[-4, 4]$ surrounding the elections. Columns (4)–(6) use a first-differenced model, where the dependent variable is the change in log(Assessed Value) from one year before the election $(\tau - 1)$ to four years after the election $(\tau + 4)$. Columns (1) and (4) focus on the subsample of election candidates with a vote margin of 5 percent or less. Columns (2) and (5) analyze candidates with a vote margin between 5 percent and 25 percent. Columns (3) and (6) consider candidates with a vote margin of 25 percent or less. Standard errors are clustered by land in Columns (1)–(3), while they are heteroskedasticity-robust in Columns (4)-(6). t-statistics are reported in parentheses. $*$, $**$, and $***$ denote statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

Dep. Var.:	log(Assessed Value)			Δ log(Assessed Value) $(\tau-1, \tau+4)$		
	(1)	(2)	(3)	(4)	(5)	(6)
Win×After	−0.0750***	−0.0028	−0.0028			
	(−3.97)	(−0.21)	(−0.21)			
Win×After×Close Election			−0.0722***			
			(−3.14)			
Win				−0.0783***	−0.0247*	−0.0247*
				(−2.94)	(−1.76)	(−1.76)
Win×Close Election						−0.0536*
						(−1.78)
Sample: $\lvert\Delta\rvert \in$	[0%, 5%]	(5%, 25%]	[0%, 25%]	[0%, 5%]	(5%, 25%]	[0%, 25%]
Land FEs	✓	✓	✓			
Event Year FEs	✓	✓				
Close Election×Event Year FEs			✓			
Close Election FEs						✓
Obs	3,482	8,545	12,027	288	759	1,047
Adj. R^2	1.00	0.99	0.99	0.03	0.00	0.01

Table 11: High vs. Low Wealth

This table presents coefficient estimates from a modified version of Equations (2) and (5), where the dependent variable is log(Assessed Value). The variable High Wealth is an indicator set to one for candidates whose Wealth in the year prior to the election exceeds the within-year median among all candidates. Wealth is defined as the total wealth owned by the candidate and their partner. Land Value FEs denote fixed effects for land value quintiles. Win_j is an indicator set to one if the politician wins the election, while After_t indicates the election year and the subsequent four years. Columns (1)–(4) analyze differential changes in log(Assessed Value) for land owned by winners and losers of closely contested mayoral elections during the event period $[-4, 4]$ surrounding the elections. Columns (5)–(8) use a first-differenced model, where the dependent variable is the change in log(Assessed Value) from one year before the election $(\tau - 1)$ to four years after the election $(\tau + 4)$. Columns (1)–(2) and (5)–(6) focus on the subsample of election candidates with a vote margin of 5 percent or less, controlling for the candidate's vote margin relative to the runner-up (for winners) or the winner (for losers) using a linear function. Columns (3)–(4) and (7)–(8) extend the analysis to candidates with a vote margin of 25 percent or less, incorporating a polynomial function of the vote margin interacted with Win_j. Standard errors are clustered by land in Columns (1)–(4), while they are heteroskedasticity-robust in Columns (5) and (8). t-statistics are reported in parentheses. $*$, $**$, and $***$ denote statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

Dep. Var.:	log(Assessed Value)				Δ log(Assessed Value) $(\tau-1, \tau+4)$			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Win×After	−0.0077	0.0117	−0.0050	0.0086				
	(−0.12)	(0.16)	(−0.08)	(0.13)				
High Wealth×Win×After	−0.1609**	−0.1758*	−0.1900**	−0.2075**				
	(−2.02)	(−1.90)	(−2.45)	(−2.58)				
Win					−0.2239	−0.0850	−0.1715	−0.1141
					(−1.39)	(−0.38)	(−1.40)	(−0.84)
High Wealth×Win					0.0245	−0.1302	−0.0682	−0.1393
					(0.14)	(−0.54)	(−0.51)	(−0.94)
Sample: $\lvert\Delta\rvert \leq$	5%	5%	25%	25%	5%	5%	25%	25%
$f(\Delta)$	Linear×High	Linear×High	Cubic×High	Cubic×High	Linear×High	Linear×High	Cubic×High	Cubic×High
Land FEs	✓	✓	✓	✓				
High Wealth×Event Year FEs	✓	✓	✓	✓				
Land Value×Event Year FEs		✓		✓				
High Wealth FEs					✓	✓	✓	✓
Land Value FEs						✓		✓
Obs	3,482	3,473	12,027	12,002	288	287	1,047	1,044
Adj. R^2	1.00	1.00	0.99	0.99	0.09	0.10	0.05	0.05

Table 12: Are Land Parcels Owned by Mayors' Family Members Also Underassessed During Their Tenure in Public Office?

This table presents coefficient estimates from a modified version of Equations (2) and (5), where the dependent variable is log(Assessed Value). Own is an indicator equal to one for land parcels owned by candidates running in mayoral elections, while Family is set to one for land parcels owned by the candidates' immediate family members. Win_j is an indicator set to one if the politician wins the election, while After_t indicates the election year and the subsequent four years. Columns (1)–(4) analyze differential changes in log(Assessed Value) for land owned by winners and losers of closely contested mayoral elections during the event period $[-4, 4]$ surrounding the elections. Columns (5)–(8) use a first-differenced model, where the dependent variable is the change in log(Assessed Value) from one year before the election $(\tau - 1)$ to four years after the election $(\tau + 4)$. Columns (1)–(2) and (5)–(6) focus on the subsample of election candidates with a vote margin of 5 percent or less, controlling for the candidate's vote margin relative to the runner-up (for winners) or the winner (for losers) using a linear function. Columns (3)–(4) and (7)–(8) extend the analysis to candidates with a vote margin of 25 percent or less, incorporating a polynomial function of the vote margin interacted with Win_j. Standard errors are clustered by land in Columns (1)–(4), while they are heteroskedasticity-robust in Columns (5)–(8). t-statistics are reported in parentheses. $*$, $**$, and $***$ denote statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

Dep. Var.:	log(Assessed Value)				Δ log(Assessed Value) $(\tau-1, \tau+4)$			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Own×Win×After	−0.0891**	−0.0838*	−0.1405***	−0.1220**				
	(−2.13)	(−1.69)	(−3.70)	(−2.50)				
Family×Win×After	−0.1853***	−0.1495**	−0.1759***	−0.1778***				
	(−4.97)	(−2.24)	(−4.43)	(−2.85)				
Own×Win					−0.1454**	−0.0913	−0.2198***	−0.1208*
					(−2.44)	(−1.25)	(−4.13)	(−1.89)
Family×Win					−0.2858***	−0.3906***	−0.2145***	−0.4814***
					(−4.96)	(−3.82)	(−3.98)	(−4.62)
Sample: $\lvert\Delta\rvert \leq$	5%	5%	25%	25%	5%	5%	25%	25%
$f(\Delta)$	Linear	Linear×Family	Cubic	Cubic×Family	Linear	Linear×Family	Cubic	Cubic×Family
Family−Own	−0.0963***	−0.0657	−0.0353**	−0.0557	−0.1403***	−0.2993**	0.0053	−0.3606***
	(−3.42)	(−0.79)	(−2.08)	(−0.70)	(−3.35)	(−2.38)	(0.30)	(−2.95)
Land FEs	✓	✓	✓	✓				
Event Year FEs	✓		✓					
Family×Event Year FEs		✓		✓				
Family FEs						✓		✓
Obs	3,482	3,482	12,027	12,027	288	288	1,047	1,047
Adj. R^2	1.00	1.00	0.99	0.99	0.08	0.09	0.03	0.05

Table 13: Liberal vs. Conservative

This table presents coefficient estimates from a modified version of Equations (2) and (5), where the dependent variable is log(Assessed Value). The variables Liberal, Conservative, and Independent are indicators equal to one for candidates affiliated with liberal parties, conservative parties, and no political party, respectively. Win_j is an indicator set to one if the politician wins the election, while After_t indicates the election year and the subsequent four years. Columns (1) and (2) analyze differential changes in log(Assessed Value) for land owned by winners and losers of closely contested mayoral elections during the event period $[-4, 4]$ surrounding the elections. Columns (3) and (4) use a first-differenced model, where the dependent variable is the change in log(Assessed Value) from one year before the election ($\tau - 1$) to four years after the election ($\tau + 4$). Columns (1) and (3) focus on the subsample of election candidates with a vote margin of 5 percent or less, controlling for the candidate's vote margin relative to the runner-up (for winners) or the winner (for losers) using a linear function. Columns (2) and (4) extend the analysis to candidates with a vote margin of 25 percent or less, incorporating a polynomial function of the vote margin interacted with Win_j. Standard errors are clustered by land in Columns (1) and (2), while they are heteroskedasticity-robust in Columns (3) and (4). t-statistics are reported in parentheses. $*$, $**$, and $***$ denote statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

Dep. Var.:	log(Assessed Value)		Δ log(Assessed Value) $(\tau-1, \tau+4)$	
	(1)	(2)	(3)	(4)
Independent×Win×After	0.2624**	0.3395		
	(2.18)	(1.54)		
Liberal×Win×After	0.0228	0.0672		
	(0.49)	(1.40)		
Conservative×Win×After	−0.3010***	−0.3579***		
	(−5.00)	(−5.93)		
Independent×Win			0.3190**	0.5287*
			(2.11)	(1.95)
Liberal×Win			−0.0551	0.0424
			(−0.49)	(0.40)
Conservative×Win			−0.3072***	−0.3215***
			(−4.54)	(−5.14)
Sample: $\lvert\Delta\rvert \leq$	5%	25%	5%	25%
$f(\Delta)$	Linear×Party	Cubic×Party	Linear×Party	Cubic×Party
Conservative−Liberal	−0.3237***	−0.4251***	−0.2521*	−0.3639***
	(−4.24)	(−5.51)	(−1.91)	(−2.97)
Land FEs	✓	✓		
Event Year FEs	✓	✓		
Liberal×Event Year FEs			✓	✓
Liberal FEs	3,482	12,027	288	1,047
Obs	1.00	0.99	0.15	0.10

Table 14: High vs. Low Land Ratio

This table presents coefficient estimates from a modified version of Equations (2) and (5), where the dependent variable is log(Assessed Value). The variable High Land Ratio is an indicator set to one for candidates whose Land Ratio in the year prior to the election exceeds the within-year median among all candidates. Land Ratio is defined as the total value of land parcels divided by the total wealth owned by the candidate and their partner. Win_j is an indicator set to one if the politician wins the election, while After_t indicates the election year and the subsequent four years. Columns (1) and (2) analyze differential changes in log(Assessed Value) for land owned by winners and losers of closely contested mayoral elections during the event period $[-4, 4]$ surrounding the elections. Columns (3) and (4) use a first-differenced model, where the dependent variable is the change in log(Assessed Value) from one year before the election $(\tau - 1)$ to four years after the election $(\tau + 4)$. Columns (1) and (3) focus on the subsample of election candidates with a vote margin of 5 percent or less, controlling for the candidate's vote margin relative to the runner-up (for winners) or the winner (for losers) using a linear function. Columns (2) and (4) extend the analysis to candidates with a vote margin of 25 percent or less, incorporating a polynomial function of the vote margin interacted with Win_j. Standard errors are clustered by land in Columns (1) and (2), while they are heteroskedasticity-robust in Columns (3) and (4). t-statistics are reported in parentheses. $*$, $**$, and $***$ denote statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

Dep. Var.:	log(Assessed Value)		Δ log(Assessed Value) $(\tau-1, \tau+4)$	
	(1)	(2)	(3)	(4)
Win×After	−0.0568	−0.0569		
	(−1.15)	(−1.29)		
High Land Ratio×Win×After	−0.0845	−0.1453*		
	(−1.06)	(−1.85)		
Win			−0.1143*	−0.1445***
			(−1.84)	(−2.64)
High Land Ratio×Win			−0.0733	−0.0571
			(−0.37)	(−0.40)
Sample: $\lvert\Delta\rvert \leq$	5%	25%	5%	25%
$f(\Delta)$	Linear×High	Cubic×High	Linear×High	Cubic×High
Land FEs	✓	✓		
High Land Ratio×Event Year FEs	✓	✓		
High Land Ratio FEs			✓	✓
Obs	3,482	12,027	288	1,047
Adj. R^2	1.00	0.99	0.05	0.05

A Land Transaction Data

Since January 1, 2006, whenever land or a building is sold in Korea, the transaction price must be reported to the jurisdictional city within 30 days. The reported prices are subsequently verified by officials, and late or false disclosures incur monetary penalties for the real estate agent, seller, and buyer. These institutional features help ensure the accuracy of both the transaction value and its timing.

Transaction prices are publicly disclosed through the *Ministry of Land, Infrastructure, and Transport*'s Transaction Price Disclosure System (https://rt.molit.go.kr). Using this system, we obtain a complete record of 11 million land transactions in Korea from 2006 to 2023. Although the exact lot for each transaction is masked, we observe information on (i) the neighborhood (*dong-ri*), (ii) land zone, (iii) land category, and (iv) road condition of the transacted lot. Land zone and land category represent two key forms of land use regulation in Korea.

In Table A1, we present summary statistics of the land transactions. Table A2 reports the regression results from estimating Equation (7).

Table A1: Summary Statistics: Land Transactions in South Korea from 2006 to 2023

This table presents summary statistics for land transactions in Korea from 2006 to 2023.

	Obs.	Mean	Median	Std.
Transaction Value (1M KRW)	11,080,237	112.78	27.00	1304.21
Size of Transacted Land (m^2)	11,080,237	1796.83	492.56	12291.16
Unit Price (1K KRW, per m^2)	11,080,237	276.72	60.49	1585.81

Table A2: Analysis of Land Transaction Prices

This table presents coefficient estimates from Equation (7), where the dependent variable is log(Land Size). Standard errors are clustered by neighborhood. t-statistics are reported in parentheses. $*$, $**$, and $***$ denote statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

Dep. Var.:	log(Unit Price)		
	(1)	(2)	(3)
log(Land Size)	-0.1627^{***}	-0.1232^{***}	-0.1230^{***}
	(-111.00)	(-102.81)	(-102.63)
Neighborhood×Year FEs	✓	✓	✓
Zone FEs		✓	
Category FEs		✓	
Road Condition FEs		✓	
Zone×Year FEs			✓
Category×Year FEs			✓
Road Condition×Year FEs			✓
Obs	11,073,678	11,073,678	11,073,674
Adj. R^2	0.74	0.81	0.81

B Public Official Ethics Act

Article 3 (Persons Obligated to Register Property)

1. The following public officials (hereinafter referred to as "persons obligated to register") must register their property in accordance with this Act. <Amended February 3, 2009; July 29, 2011; December 11, 2012; March 23, 2013; December 30, 2014; December 29, 2015; July 26, 2017; December 10, 2019; April 1, 2021; December 26, 2023>

   (a) Political appointees at the national level, such as the President, Prime Minister, State Council Members, and National Assembly Members.

   (b) Political appointees at the local government level, such as heads of local governments and members of local councils.

   (c) General public officials of grade 4 or higher (including those in the Senior Civil Service) in the central and local governments, and special service officials with equivalent remuneration (including those in the Senior Civil Service).

   (d) Diplomats designated by presidential decree, officials of grade 4 or higher at the National Intelligence Service, and security officers of the Presidential Security Service.

   (e) Judges and prosecutors.

   (f) Constitutional researchers of the Constitutional Court.

   (g) Military officers of the rank of colonel or higher and equivalent civilian military personnel.

   (h) Among education officials, university presidents, vice presidents, graduate school deans, college deans (including those in universities), heads of specialized colleges, heads of schools equivalent to universities, and superintendents and directors of education in metropolitan cities, special cities, and provinces.

   (i) Police officers of the rank of senior superintendent (including senior superintendents in autonomous police) or higher and fire service officials of the rank of fire commander or higher.

   (j) Term-limited public officials under Article 26-5 of the "State Public Officials Act" and Article 25-5 of the "Local Public Officials Act," appointed to positions corresponding to those listed in Items 3 through 7 and Item 9.

(k) Heads, deputy heads, standing directors, and standing auditors of public enterprises under the "Act on the Management of Public Institutions" (hereinafter referred to as "public enterprises"); the Governor, Deputy Governor, Auditor, and Monetary Policy Committee-recommended members of the Bank of Korea; the Governor, Deputy Governors, Assistant Governors, and Auditor of the Financial Supervisory Service; and the heads and standing auditors of the National Agricultural Cooperative Federation and the National Federation of Fisheries Cooperatives.

(l) Executives of public institutions as defined in Article 3-2 of this Act (hereinafter referred to as "publicly affiliated institutions"). 12-2. Employees of publicly affiliated institutions, such as the Korea Land and Housing Corporation under the "Korea Land and Housing Corporation Act," involved in real estate-related duties or information, as specified by presidential decree. However, employees recognized as having no potential to acquire real estate-related information, such as janitors, building managers, and professional athletes, as defined by presidential decree, are excluded.

(m) Other public officials in specific fields and employees of publicly affiliated institutions as determined by National Assembly rules, Supreme Court rules, Constitutional Court rules, Central Election Commission rules, and presidential decrees.

Article 4 (Property Subject to Registration)

1. The property that a person obligated to register must declare includes the property of the following individuals (including property factually owned regardless of the name under which it is held, as well as property contributed to non-profit organizations and property located abroad; the same applies hereinafter). <Amended July 29, 2011>

   (a) The individual themselves.

   (b) The spouse (including a person in a de facto marital relationship; the same applies hereinafter).

   (c) The direct ascendants and descendants of the individual. However, this excludes married female descendants, maternal great-grandparents, maternal grandparents, maternal grandchildren, and maternal great-grandchildren.

2. The types of property that must be registered by the obligated person are as follows. <Amended August 27, 2019; June 13, 2023; July 18, 2023>

   (a) Ownership rights, superficies rights, and leasehold rights related to real estate.

   (b) Mining rights, fishery rights, aquaculture rights, and other rights subject to the same rules as real estate.

   (c) The following types of movable property, securities, claims, debts, and intellectual property rights:

      i. Cash (including checks) amounting to 10 million won or more per owner.

      ii. Deposits amounting to 10 million won or more per owner.

      iii. Securities such as stocks, government bonds, corporate bonds, and public bonds amounting to 10 million won or more per owner.

      iv. Claims amounting to 10 million won or more per owner.

      v. Debts amounting to 10 million won or more per owner.

      vi. Gold and platinum (including gold and platinum products) amounting to 5 million won or more per owner.

      vii. Jewelry valued at 5 million won or more per item.

      viii. Antiques and artworks valued at 5 million won or more per item.

      ix. Membership rights valued at 5 million won or more per item.

      x. Intellectual property rights generating annual income of 10 million won or more per owner.

      xi. Automobiles, construction machinery, ships, and aircraft.

   (d) Equity shares in partnerships, limited partnerships, and limited liability companies.

   (e) Stock options.

   (f) Virtual assets as defined in Article 2, Paragraph 1 of the "Virtual Asset User Protection Act" (hereinafter referred to as "virtual assets").

3. The methods for valuing or specifying the types of property subject to registration under Paragraph 1 are as follows. <Amended May 28, 2013; January 19, 2016; December 3, 2019; June 13, 2023>

(a) Land: Individual publicly announced land price under the "Act on the Public Announcement of Real Estate Prices" (or, if unavailable, the amount calculated based on the announced price under Article 8 of the same Act) or actual transaction price.

(b) Housing: Publicly announced price under Articles 16, 17, and 18 of the "Act on the Public Announcement of Real Estate Prices" or actual transaction price.

(c) Commercial properties, buildings, and officetels: The sum of the land value based on individual publicly announced land prices and the highest of officially announced building values or actual acquisition value, or the actual transaction price.

(d) Rights subject to real estate rules: Actual transaction price or expert valuation, including type, quantity, and details.

(e) Cash, deposits, claims, and debts: Corresponding amounts.

(f) Securities such as government bonds, public bonds, and corporate bonds: Face value.

(g) Stocks traded on exchanges or similar markets: Closing price on the property registration date; for unlisted stocks, calculated based on the issuing corporation's assets and earnings.

(h) Equity shares in partnerships, limited partnerships, and limited liability companies: Contribution amount, equity ratio, and recent annual sales.

(i) Gold and platinum: Actual transaction price or current market price on the disclosure date, including type, purity, and weight.

(j) Jewelry: Actual transaction price or expert valuation, including type, size, and color.

(k) Antiques and artworks: Actual transaction price or expert valuation, considering artist, size, and production period.

(l) Membership rights: Acquisition price; for golf memberships, standard market price under the "Income Tax Act" or actual transaction price.

(m) Vehicles, construction machinery, ships, and aircraft: Actual transaction price or depreciation-adjusted expert valuation, including type, year of manufacture, manufacturer, and registration number.

(n) Stock options: Type and quantity of stocks to be received, exercise price, exercise period, and conditions.

(o) Virtual assets: Value calculated based on trading volume and methods, as prescribed by presidential decree.

4. For property types and valuation methods not specified in Paragraph 3, additional methods and requirements shall be determined by presidential decree.

5. Registered property must include acquisition dates, acquisition details, and sources of income per owner. However, public officials involved in real estate-related duties or information must also document acquisition details for real estate, as specified by presidential decree. <Amended December 3, 2019; April 1, 2021>

6. Among properties subject to registration under Paragraph 1, the following must be separately indicated. <Amended December 30, 2014>

(a) Property contributed to non-profit organizations (the obligated person's position in the organization must be specified).

(b) Deposits in accounts for the receipt and expenditure of political funds under Article 3, Paragraph 1 of the "Political Funds Act."

7. If necessary to register stocks under Paragraph 2, the obligated person may request the issuing entity for total assets and other information as determined by presidential decree. The issuing entity must comply.