Hidden Wealth: Asset Holdings and Land Acquisition Strategies of Political Households

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Abstract

Ample evidence points that politicians exploit their political connections for private gains throughout the world. This paper investigates to what extent politicians are capable of enriching themselves and their family members through shrewd investment decisions. We do so with a unique longitudinal dataset on mandatory disclosures of asset holdings by political households in Thailand. Landholdings are a particularly attractive type of asset for political households as they allow politicians to exploit their office for private gain while simultaneously making it possible to hide these gains from detection by public authorities. Exploiting a high-resolution spatial dataset on all their land plots, we find that politicians hold a strikingly large fraction of their wealth in land and that these land holdings are highly concentrated around their place of birth and their constituency. The concentration of land ownership in a politician's own local constituency increases even further once she has taken office. The land plots acquired by politicians after taking office and located in their local constituency outperform their other holdings, in term of changes in night-time light intensity, infrastructure investments, and closeness to commercial hubs. Meanwhile, politicians' asset disclosures indicate zero increases in wealth during their time in office. We discuss different explanations for these patterns and find that only private returns to public office are consistent with the data. In light of these findings, we suggest ways to improve the monitoring of politicians' assets.

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1. INTRODUCTION

Anecdotal exposés and an extensive body of research highlight that politicians around the world exploit their privileged political positions in order to increase their private returns. Given that public policy can drastically direct market mechanisms, politicians with considerable legislative authority may be able to profit as investors by taking actions to advance their private interests[1]. Unethical behaviours by politicians are considered a major obstacle to economic development and social welfare (Olken and Pande, 2012; Cingano and Pinotti, 2013). A recent body of research documents such practices in the case of stock market trading in both the advanced and developing economies (for instance Fisman et al., 2001; Jayachandran, 2006; Ziobrowski et al., 2011; Eggers and Hainmueller, 2014). Furthermore, a wide academic literature has established that many politicians use their political influence to benefit their networks, both in term of the distribution of public resources and the timing of policy (Carvalho, 2014; Asher and Novad, 2017; Lehne et al., 2018).

Giving this growing concern over the abuse of political office for private gain, much global attention is now given to anti-corruption policies and institutions. At present, at least 109 countries have income and asset disclosure rules (IAD) in place in order to assist in the prevention, detection, and prosecution of illicit enrichment by political figures (Djankov et al., 2010; Querubin and Snyder, 2011; World Bank, 2013)[2]. Whilst IAD systems are gaining prominence as a tool in the fight against corruption, in return politicians are also highly aware that their asset holdings are subject to a certain degree of monitoring and scrutiny.

Because asset accumulation decisions of a politician respond to two competing factors: the motive of wealth optimisation; and the aim to minimise the risk that conflicts of interest are detected, we argue that among a plethora of asset classes, landholdings become an attractive asset for political households - particularly in the developing world[3]. Politicians can acquire land which they know will increase in value[4]. At the same time, such investments also have a low probability of *being detected*[5]. To elaborate this latter feature, we outline a simple conceptual framework with politicians perceiving wealth disclosure laws as a probabilistic tax on capital gains. Asset classes

[1] A list of studies show that financial markets can be highly sensitive to political factors. Therefore, one way a political insider can beat the market is because she has non-public knowledge of political events which allows her to profit from information arbitrage (Fisman, 2001; Faccio, 2006; Jayachandran, 2006; Goldman, Rocholl and So, 2009). Another source of political advantages may come from superior information through political networks and personal ties with industry experts (Cohen et al, 2008; Eggers and Hainmueller, 2014). Such investment practices have raised a fundamental issue of insider's trading and widespread public concern.

[2] As elaborated in Djankov et al. (2010), the scope of disclosure rules (how much information is declared, how frequently; and the degree of public availability) varies significantly across the world. Public accessibility to political disclosure information remains limited with less than 15 percent of the sample is available publicly.

[3] Land acquisitions remain a prominent channel through which politicians have been known to abuse their political power in many developing countries. Politicians in low income countries are typically of wealthier backgrounds than the average, and they also own significantly more land than ordinary villagers (Besley, Pande and Rao, 2005). The characteristic of land relations, particularly in rural communities, paves way to greater linkages between political power and economic advantages (See Pande (2007) for the review). Goldstein and Udry (2008) show that in Ghana, local political power allows individuals' ability to exercise claims to land, enjoy more secure property rights on their land, which subsequently translates into greater agricultural profits. See Fisman et al. (2014) for selected headline corruption cases of Indian politicians involving real estate assets.

[4] Increase in values is driven by either insider information or due to their ability to actively channel resources to a particular region (Eggers and Hainmueller, 2013; Hodler and Raschky, 2014)

[5] In addition, the Finance Ministry only recently proposed a revision of taxes on unoccupied, non-rental properties, which will come into effect in 2020. During the period in our analysis, only plots classified as property for rent, commercial property or buildings are subjected to property tax, at a fixed rate of 12.5% annually.

which capital gains can be deferred allow households to minimise the life-time tax burden (Bergstresser and Poterba 2004; Alan et al. 2010; Bergstresser and Pontiff 2013)[6]. Non-commercial land plots fit the characteristics of highly tax-deferral assets as they do not generate frequent rental income. Moreover, the true value of land can be strategically concealed by only reporting the official appraisal, which tends to be updated infrequently and represents at best a lower bound[7].

Under this framework, our paper begins by investigating the extent to which politicians and their families - in the presence of public scrutiny - are capable of profiting from asset portfolio choices and well-timed investments. To do so, we exploit a unique, longitudinal data on mandatory asset holdings disclosures of all politicians who are office-holders at the national level in Thailand, covering the years 2001- 2016[8]. The data also contains details of ownership of each different asset class among household members. Therefore, for each politician, we are able to track changes in absolute values of wealth as well as intra-household asset allocations over her political tenure. Our paper's first contribution is to shed light on portfolio decisions *within* political households *across* time. Provided that Thai political households overwhelmingly belong to the top socio-economic stratum, our paper offers the first look into intra-household asset allocations of relatively wealthy couples in high public positions, especially in a developing country context.

We show that land is the dominant asset class in politicians' wealth portfolio, accounting for over 60 percent of total portfolio values on average - while holding very little of assets with instantaneous capital gains realisation such as deposits or cash equivalents. 99 percent of political households participate in real estate assets, and on average they hold 15 plots of land per household[9]. Even among political households in the top income percentiles, our data shows that only 10 percent of total assets is held in risky asset classes (for example stocks and bonds). Within a couple, whilst the wife tends to hold more cash-equivalent assets, the husband holds more real estate in the household's portfolio. However, for dual-earning political households, the spouse is more likely to hold higher values of each asset than the politician. Most strikingly, we find that according to the disclosure data there are no statistically significant increases in the disclosed wealth of politicians' households during the time that the politician is in office.

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[6] The conceptual framework is directly motivated by theoretical models of portfolio selection and asset *location*. The deferral period in this context depends on the duration of the asset monitoring rules. In Thailand, the monitoring of politician's wealth continues for 5 years after her leaving office. In Argentina, the time horizon is 10 years. For more details on different monitoring systems in other countries, see the World Bank (2013) report on income and asset disclosure.

[7] The official appraisal of land and property values in Thailand is conducted every four years by the Ministry of Finance. Commercial banks usually adjust the appraised value upwards when referring to the official rate to account for current market conditions.

[8] The wealth disclosure laws require all members of Parliament, the Senate and the cabinet to file declarations detailing the assets they and their immediate family members hold in three consecutive periods: (i) when taking office, (ii) when leaving office and (iii) one year after leaving office.

[9] There are two external datasets on asset portfolios of representative Thai households: Thailand Socio-Economic Surveys (SES) and Townsend Thai Surveys. The Thai SES are nationally representative and are administratively bi-annually. Unfortunately, the datasets do not collect information on cash assets, nor non-farm landownership. The Townsend Thai Data contains for extensive variables on financial instruments but does not have information on formal instruments, namely stocks and bonds. We, nevertheless, calculate, for each dataset, patterns of asset holdings given the data limitation. The statistics shown in Appendix Table A.3 show asset portfolio behaviours of a subset of households whose household heads working to an equivalent occupation to politicians in our dataset ("senior government official" or "senior managers") and have at least university education. Almost all households in both datasets hold at least a land plot (the participation rate is 99%). And the real estate assets are the highest value in the household gross wealth. As for international comparison, Domínguez-Barrero and López-Laborda (2012) show that Spanish households hold 25 percent of their wealth in non-residential real estate. In Sweden, the fraction of household wealth in non-residential property is 8.8 percent (Calvet et al. 2007).

Provided land is the major source of wealth of political households, our next step is to examine the roles of political favouritism on politicians' decisions on landholdings. Precisely, we estimate the effects of the connections a politician has with a locality - as her birthplace and as her local constituency (*connected localities*) - on the portfolio weight attached to the locality in her land portfolio. We do so by using a geocoded dataset which covers the universe of land plots held by political households in our sample (over 23,000 unique plots), and contains detailed information on transaction date and appraised value[10].

We apply a difference-in-differences (DD) approach to a subset of politicians who are active in land transaction both before and during their tenure in political office. The estimation is based on the assumption that the transmission of political favouritism to each land plot is *switched on* only when two conditions are satisfied: (i) the plot must be in the electoral constituency of a politician, and (ii) the plot is acquired during or after her time in office. Both conditions would guarantee that the politician would be able, if desired, to exploit her political resources and redirect public expenditures to the locality connected to her (Hodler and Raschky, 2014). Therefore, our DD estimation compares the portfolio decisions acquired *before* and *during or after* the politician's entry to office, and between political households *with* political connections to the locality (being her electoral district) and those *without* such connections[11]. We estimate the DD with individual and area fixed effects so that the coefficients would be interpreted as the marginal gain from political connection *within-owner* and *within-area*.

Our results show that location choices for land investments of political household are highly driven by the connections each household has with an area. Being the birthplace of a politician increases the portfolio weight of land held in the province by 16 percent, and we find a similar effect for the birthplace of a politician's spouse. All in all, being the electoral constituency of a politician raises the portfolio weight of land allocated to the locality the most - at 25 percent. Among land plots acquired *after* their ascent to political office, the effect of electoral connection on land portfolio decisions is higher. The land data also reveals that most politicians hold land within the area that their political party historically dominate in elections. For instance, locations of plots belong to politicians from the Democrat Party concentrate significantly in the South, and are rarely found in the North East - the region dominates by the Pheu Thai Party, and vice versa[12].

Next, we estimate the implication of a strong skew in politicians' land portfolios toward areas to which they are politically connected on economic performances at plot level. On the one hand, the lack of geographical diversification of land portfolio due to biased investment strategies, may in fact be financially unsound. Eggers and Hainmueller (2013) argue that despite better access to insider information, politicians can be constrained by competing political goals, in particular the

[10] Each land plot comes with its unique title deed identification, which allows us to map it with the official land plot database of the Department of Land and obtain its GIS coordinates and its official appraised value.

[11] Politicians in our data ascent to office in various ways: via election as well as via appointment. Office holders who are appointed or do not have own electoral constituency may not have extra political connections to an area, compared to elected members. Elected members of Parliament in our data come from both a First-Past-the-Post electoral constituency, as well as from Proportional Representation (PR). A subset of members of Parliament from PR is elected by regional constituency (the 2007 election year). Senators entering office in 2007 comprises of elected and appointed members. In addition, our data also encompasses two military-appointed governments that came into power after a coup d'état. This gives us two cabinets with all appointed members.

[12] Asher and Novasad (2017) present suggestive evidence that spatially differences of local economic growth in India is stemmed from the governing party's strategies which favour the allocation of government services to their own constituencies. This mechanism could account for the highly clustering in certain regions of land plots held by members of the Pheu Thai Party, which is the ruling political party almost throughout our observation periods

incentive to display their loyalty to their relationship with their electoral location for future political support. Holding a highly clustered portfolio with minimal diversification may not be as profitable. On the other hand, politicians in office have better advantages at redirecting public resources to their constituency (Hodler and Raschky, 2014). In that case, it is rational to invest predominantly in own localities.

With multiple measures of plot-level economic performances, our DD estimations provide robust evidence that politicians' decisions to hold land in their connected localities prove to be financially sound investments. Compare to other plots within a portfolio, connected land plots outperform non-connected land plots in term of economic growth (measured by night-time light intensity)[13] and public infrastructure investments (measured by additional road networks and density of urban amenities)[14]. Furthermore, there are larger economic gains on land acquisitions made within a politician's constituency while the politician is in office.

Our work complements the existing literature on distributive politics by taking a systematic look at regional favouritism at a much finer level. Going further from Hodler and Raschky (2014) and Burgess et al. (2015), we show that there are multiple channels that can connect a locality with a politician - by birth, through the electoral system, and even by marriage (spouse's birthplace). We show that localities with political connections enjoy higher public investments not only because the incentive for re-election, but because politicians have financial motives.

We also contribute to the literature on corruption magnitudes. Estimates from direct observations are clearly the best way to gauge corruption, but are hard to come by (Olken and Pande, 2012)[15]. Until recently, most studies were therefore based on surveys of perceptions, rather than direct measurements. Evidence from these surveys, for example Transparency International's Corruption Perceptions Index (CPI), demonstrates that corruption is highly prevalent in developing countries. The lack of such systematic data is not surprising as corrupted stakeholders have very strong incentives to disguise their suspicious activities as well as unusual private gains.

Alternatively, researchers have opted for estimating corruption from market inference. A number of recent papers have made use of transaction data to show the premium of political connections in Indonesia (Fisman, 2001), the United States (Lenz and Lim, 2009, Eggers and Hainmueller, 2014), and the UK (Eggers and Hainmueller, 2009). The evidence of the benefits from political connections is also documented in other market settings. Lehne et al. (2018) find that Indian politicians intervene in the allocation of road construction contracts on behalf of members of their own network. Eggers and Hainmueller (2014) show that members of Congress in the US tend to invest disproportionately in locally connected firms, which subsequently outperform stocks of non-locally connected firms.

Similar to our work, previous studies on corruption detections have relied on the presence of wealth disclosure laws, which mandate politicians or high public officials to declare their wealth periodically and publicly. Subject to the variability of their content and legal requirements, the data is a useful source to estimate unusual private gains to public office (Djankov et al., 2010; Querubin

[13]Following Henderson et al. 2012, satellite image data on nighttime light density has been shown to have high positive correlation with growth and development to a granular grid level. Subsequent studies are for example Chen and Nordhaus, 2011; Michalopoulos and Papaioannou, 2013; Hodler and Raschky 2014; Alesina et al, 2016.

[14] Burgess et al. (2015) investigates the role of ethnic favouritism on public road construction in Kenya. They show that districts that share the ethnicity of the president receive higher public expenditure and have more paved roads.

[15] Examples of works on direct measures of corruption are McMillan and Zoido (2004) on Peru.

and Snyder, 2011)[16]. Fisman et al. (2014) exploit the nature of wealth disclosure laws in India, which mandate all election candidates to declare their wealth and provide estimates of the winner's premium. Our work follows a more granular approach and focuses on the performance of one principal asset – land. Our findings contribute to the body of knowledge of the corruption literature as well as introduce a novel way to utilise wealth disclosure data.

The remainder of the paper proceeds as follows. Section 2 provides background context on wealth disclosure laws and electoral systems in Thailand. Section 3 describes the dataset used in the analysis. Section 4 outlines a conceptual framework on the role of disclosure laws in portfolio strategies, and presents the estimation results on portfolio decisions of Thailand's political households. Section 5 analyses potential private gains to public office among politicians in power. Section 6 discusses and concludes.

2. BACKGROUND

2.1. Background of the Wealth Disclosure Act

Initiated by a general desire to increase transparency and reduce the prevalence of corruption in the political institutions of Thailand, the National Anti-Corruption Commission (NACC) was established in 1999 following the new Constitution introduced in 1997. The NACC is an independent body with the main responsibility to establish and promote anti-corruption mechanisms, investigate political corruption, as well as oversee asset scrutiny of holders of political office and high government officials. The 1997 Constitution also enacted the Wealth Disclosure Act in 1999, which applied to all holders of national-level politicians. This includes the prime minister, cabinet ministers, Members of Parliament (MP), and Members of the Senate. Only politicians in office are mandated to disclose their wealth, while unsuccessful candidates are not required to do so.

Politicians in office are required to submit the wealth disclosure form three times during each of their own political sessions: (i) when taking office, (ii) when leaving office, and (iii) exactly one year after leaving office. For example, a politician elected to Parliament for two consecutive terms would submit the form six times in total. Together, the wealth disclosure provides at least three snapshots of the market value of a politician's assets and liabilities. Because of the maximum duration of an electoral term, the time lapse between the disclosure at the time of entry and at the point of exit is at most four years for MPs and cabinet members, and 5 years for senators[17]. Politicians must also disclose income, wealth and liabilities of their spouse and dependent family members (children under 18 years old)[18]. Other information includes national identification

[16] Djankov et al. (2010) show large variation in key characteristics of wealth disclosure laws worldwide. Among countries, their laws differ not only whether the disclosed wealth is fully publicly accessible, but only the degree of contents in the forms. Only 33 percent of 175 countries in their datasets allow public to access the information.

[17] Due to a series of upheavals in Thai politics in the past two decades, the average time lapse between the submission when taking office and when leaving office is approximately 2 years, whilst the time lapse between the time when leaving office and the third submission is always 1 year.

[18] This is a standard practice in many other countries as it prevents simple concealment of total assets. Politicians in multiple posts are required to file the form for each separate post (for example, a cabinet member holding two cabinet positions, or one who is also an MP).

number, marital status, birth year, place of residence and employment history (in the last 5 years). Politicians file the form in person to the NACC office in hard copy. Supporting documents, for example income tax forms or land deed titles, are also required when filing the form. The NACC then posts each disclosure form online for public access.[19]

The penalty for non-compliance or inaccurate information may include financial sanctions and disqualification for 5 years from holding a political office and political party membership. To detect suspicious behaviours in politicians' wealth, the NACC targets (i) unjustified values of wealth and assets at a point in time, (ii) an unjustified increase in asset accumulation, (iii) an unjustified decrease in debt de-accumulation, and (iv) suspicious means of asset acquisition. It is worth noting that the disclosure laws mandate the NACC to maintain and monitor the declaration of wealth up to 5 year after leaving office. Therefore, there is a limited time frame during which the disclosed wealth is under official scrutiny and subjected to verification[20].

2.2. Electoral systems in Thailand

Prior to the military junta government in 2014, the National Assembly of Thailand was a bicameral legislature composed of the lower house (the Parliament) and the upper house (the Senate). The 1997 Constitution and the revised 2007 Constitution codify that Members of Parliament (MPs) are elected through a Mixed Member Majoritarian system (MMM). This is a two-tier voting system combining First-Past-the-Post (FPTP) elections in local constituencies with party list Proportional Representation (PR). Each voter casts two votes: one for the constituency representative (district level) and one for the party they favour. Voting for the party translates to voting for a closed list of party's candidates[21]. A fixed number of seats in Parliament is filled with constituency representatives, while the remaining seats are apportioned to political parties in accordance to the popular votes received.

There are slight differences between the PR system used in the 2005, 2007 and 2011 general elections. The 2007 election used *regional* popular votes to apportion the seats to political parties (8 electoral regions), whilst the 2011 election reversed to the nation-wide popular votes, as originally used in the 2005 election. The total number of MPs varies through electoral cycles. In the most recent general election (2011), there were 125 MPs selected according to PR and 375 MPs from FPTP.

For Senators, there have been two changes of the selection method. In 2008, Senators took office both from being appointed (74 members), and from FPTP elections (76 members). In 2011, all Senators were elected under a FPTP system, one for each province. Military coup d'états are not uncommon in the political history of Thailand. In total, there have been 21 coups during 86 years of democracy in the country. During the period considered in our analysis, two sessions of

[19] So far, the NACC has only made the wealth disclosure information publicly available on its webpage. Each form is in a PDF scanned version of a hand-written form and it must be downloaded one form at the time. No tables of summary statistics are available. In the time of writing (October 2018), due to a high profile case of cabinet minister's incorrect wealth disclosure, the entire database has been taken offline.

[20] Ordinary citizens may also put forward a claim and request for investigation if they are able to provide sufficient evidence to the NACC. However, if there is no such request within one year after a politician leaves office, there is no further wealth monitoring by the authority.

[21] A closed-list PR system is when voters can only select the party, but not individual candidates.

the cabinet were appointed subsequent to a military coup, in 2006 and 2014. Appendix Table A.1. summarises political sessions during our period of analysis, including the duration in power, and the fraction of politicians contained in our wealth disclosure sample.

3. DATA AND ESTIMATION SAMPLE

3.1. Wealth disclosure data

The NACC keeps digitalised records of individual wealth disclosure forms filed by Thailand's Members of Parliament, Senators and cabinet ministers. The database contains information since 2001 – the year the Disclosure Act was enacted. This corresponds to the terms of the 54th Cabinet (the first term under Prime Minister Thaksin, or Thaksin I for short) and the 22nd Parliament (see Appendix Table A.1.). However, at the first implementation, the compliance rate was very low. By 2005, all cabinet ministers of Thaksin II (entry year of 2006) submitted their wealth disclosures. By 2008, almost all MPs filed their wealth disclosures (the 25th Parliament). Therefore, our analysis will focus on the cohorts of politicians (i) from Thaksin II for cabinet ministers, (ii) from the 25th Parliament for MPs, and (iii) from the 2008 cohorts of Senators. Table 1 provides summary statistics of the office-holder politicians by political sessions and positions. Compliance rates are over 90 percent for MPs and Senators. Among cabinet ministers, we observe a smaller compliance rate for the governments of Samak and Somchai in 2008. This is likely a consequence of two consecutively short-lived governments, which were in power during political turmoil in Thailand at the time. Our analysis uses all politicians who submit their wealth disclosure in the database, from 2001 to 2016.

All politicians in office are mandated to disclose an extraordinarily rich set of information: a full list of their own assets and their values, as well as those of their spouse and dependents (children under 18 years old). The information is broken down further into detailed sources of income, asset classes, and liabilities. In addition, they must declare member-level ownership (self, spouse, dependent) of each asset item. Demographic information of politicians includes the full name, age, gender, marital status (single, married, divorced, widow), education (levels), district of birth, unique Citizen Identification Number (CIDN), and employment history (current and the past 5 years). Married politicians must supply information on the spouse's full name, CIDN, and employment history[22].

We use a supplementary database on past cabinet members and past MPs to identify if a politician has previous political tenure (MPs and cabinet ministers)[23] for each politician in our wealth database[24]. Since we also have the spouse's personal information, we additionally create political tenure variables for the spouse. Furthermore, we construct a dummy variable of *first-timer* equal to 1 if the politician appears for the first time in the political term being considered, and zero otherwise. Similarly, we assign a dummy variable of *career politician* equal to 1 if the politician has

[22] Other information we can extract from each individual's prefixes includes titles of nobility, professional affiliation with the Armed Forces (military and police), and academic titles.
[23] There are 61 cabinet minister sessions, and 26 parliament sessions up to date.
[24] Because of highly unique nature of Thai full names, common name duplication is not a serious concern in our name matching process. First, we let the computer's algorithm match names across the datasets. But because Thai names are complicated in their spellings, they are prone to have minor typos. Therefore, we repeat the matching process manually for few unmatched names. In the end, we are able to match 100 percent of our wealth sample.

been in office in any preceding political terms either as an MP or a Cabinet Minister. We construct identical variables for the spouses.

To gauge the extent of electoral competition faced by each politician, we obtain additional data from the Electoral Commission, which contains information on all candidates who stood for a national-level election for all electoral cycles in our wealth disclosure data. Key information includes personal background (age, education, occupation group, titles) as well as electoral information (electoral district, number of votes won, vote margin, political party, total vote turnouts). For the PR-elected MPs, the data provides information on their hierarchical position on the party's candidate list, and the number of PR votes won.

Table 2 summarises key characteristics of politicians-in-office in our sample. We have 1,692 unique individuals in the data, which can be disaggregated into 1,342 MPs, 377 cabinet ministers and 248 Senators. Note that some politicians can hold multiple positions at the same time. 22 percent of our MPs also hold a cabinet position. They are more highly educated than the national average. This is unsurprising as election laws require candidates to hold at least a bachelor degree to stand for election[25]. Married politicians are older and have more political experiences than the single counterpart. 17 percent of Senators and 8 percent of cabinet members are female (see Appendix Table A.2). Around 10 percent of cabinet members have connections with the Armed Forces while as the same is true for 1 and 6 percent among Senators and MPs respectively. In total, around 50 percent of our politicians have previous political experience at the national-level (on average of 3 political cycles). Among married politicians, they have 2 dependents in the households, and 47 percent is considered a dual-earning household as the spouse is reported to hold a job. Out of these, 5 percent are fully political households where both spouses have previous political tenure at the national level.

3.2. Value of household wealth, asset classes and financial diversification

Income in the wealth disclosure data is disaggregated into labour income, capital income, income from commissions, and income from other sources (all in annualised values). Wealth includes assets and liabilities. There are 9 asset classes: cash, bank account deposit balances, investment funds, loans to others, land, real estate, vehicles, rights and concessions, and other asset classes[26]. Following Calvet, Campbell and Sodini (2007, 2009), we group asset classes into (i) *cash-equivalent assets* (cash and bank account deposit), (ii) *risky assets* (investment funds and loans to others, (iii) *real estate assets* (land and real estate) and (iv) *other assets* (vehicles, rights and concessions, and other asset classes)[27].

We define *gross household assets* as total assets of all household members (own, spouse and dependents). *Net household assets* are gross household assets minus total household liabilities.

[25] Approximately 10 percent of the sample has a doctoral degree, which indicates that our sample represents more highly educated households than the national average.

[26] Other assets mandated to be disclosed are assets worth THB 200,000 or higher (US$ 5,700), for example luxury watches, amulets, jewellery, art works, and gold.

[27] Following Alan et al. (2010), assets can be referred to as heavily taxed assets (cash, interest-bearing assets and labour income), moderately taxed assets (stocks and mutual funds) and tax-favoured or tax-deferred assets (deferred withdrawal assets). Fisman et al. (2014) aggregate assets into *movable assets* (cash, deposits, bonds and shares in companies, personal loans, motor vehicles, and other asset, such as values of claims) and *non-movable assets* (agricultural land, non- agricultural land, commercial buildings and residential buildings)

Therefore, *net household wealth* is the sum of total household income and gross household assets. Aggregate statistics of wealth in Table 2 show how an average political household allocates their wealth. We report both the values of wealth and assets and the fractions held in politicians' portfolio. Asset allocations can diverge significantly between the wealthy and the poorer households (Calvet et al. 2007; Carroll 2002). On average, the net wealth of political households is equal to 138 million bahts in mean value ($4.32 million), but the distribution is highly negatively skewed. The median value of wealth equals 40 million bahts ($1.25 million), with a maximum wealth value of 368.2 million bahts ($11.5 million) (Appendix Table A.3.). In comparison to statistics on household finance in other countries, political households in our sample are relatively well-off, even by advanced economy standards[28]. Comparing across different political positions, cabinet ministers have the highest value of wealth ($2.5 million), with merely $0.15 million allocated to financial risky assets (Table 1). Unmarried politicians have around 50 percent less wealth than married politicians, and they hold less than 2 percent in risky assets.

To measure the extensive margin of household portfolio strategies, we define *a participant household* as a household whose financial portfolio consists of some non-zero value of an asset class (Bergstresser and Poterba, 2004). Following Shin et al. (2017), we measure *asset diversification* between asset classes as the degree of concentration of wealth in each asset class[29]. The statistics in Table 2 show that cash and deposits are more common assets than risky assets in politicians' portfolio. Only 72 percent of political households in our sample hold some form of risky financial assets. In comparison, the fraction is 80 percent among Swedish households (Calvet et al. 2007) and 63 percent among US households (Bergstresser and Poterba, 2004).

To illustrate the extent of differences in asset allocation among political households across percentile ranks, Figures 1.A-1.C plot the composition of three aggregated asset classes by household net wealth percentile. Figure 1.A shows that the share of risky financial assets to gross assets rises as net household wealth increases. The lower percentile households hold around 10 percent of their assets in cash-equivalent assets while allocating the majority of their assets to real estate assets. We observe that median wealth households hold the highest share of real estate, at slightly over 60 percent. Figure 1 also depicts that the asset holding patterns among politicians are highly different from the patterns found in other household finance datasets from advanced economies (see Bertaut and Starr-McCluer, 2002; Guiso et al., 2002). Our data suggests that Thai political households are more land rich. They hold a large fraction of their wealth in more illiquid assets, instead of allocating their wealth to financial assets, for example mutual funds or stocks[30].

Next, Figures 1.B and 1.C show asset compositions separately held in the politician's and the spouse's own asset portfolio (see also Table 3). At this stage, we restrict the sample to married households, and we rank them according to household wealth as before. Along the wealth

[28]To compare, Eggers and Hainmueller (2014) calculate that US members of congress hold financial assets worth $0.093 million in median value and $1.7 million on average. Net wealth of Swedish households, as shown in Calvet et al. (2007) is $0.098 million in 2002.

[29] Shin et al (2017) measure diversification between asset classes in two alternatives: (i) the number of asset classes held and (ii) the degree of concentration of wealth in each asset class, which is $1 - \sum_i^N (\frac{dollar\ in\ asset_i}{Total\ dollar\ in\ all\ assets})^2$.

[30] To understand if this is a pattern unique only to politicians, we also compare the statistics with two external datasets of Thai households. Among households where the head holds a job as senior government officer or as senior manager in the private sector in Thailand's Socio-Economic Survey, 77.5% of their wealth is kept in real estate. However, this survey did not ask for values of cash or deposit assets, so this is rather an upper bound statistic. In the Townsend Thai Data (Monthly Survey), we find that highly-educated households in the sample hold 50% of their wealth in land. Nevertheless, financial risky assets are excluded from gross assets in the survey.

distribution we see a slow increase in the share of risky assets, but a decline in the share of cash-equivalent assets. Compared to her spouse, a politician holds a higher fraction of her own total assets in real estate (65% for the politician and 45% in case of the spouse). To check if the difference may be driven by gender, we calculate the asset fractions for the subsample of female politicians (see Table 3, column 2)[31]. Female politicians do hold a smaller share of real estate than their male counterparts (48% and 56.7%). Wives of politicians hold a smaller fraction in real estate assets than husbands of politicians (panel B). However, in a dual-earning household (both spouses have jobs), we observe a higher fraction of risky asset holding, and a lower fraction of cash-equivalent assets among politician' spouses (Table 3, column 3).

The patterns of intra-household asset allocation are shown in Table 4. Here, we pool together assets held by both spouses and calculate the fraction of member-specific assets in the total household asset value for each aggregated asset class (Table 4). Therefore, one asset class is now decoupled into 2 separate accounts - owned by politician and owned by spouse. In total, we have 6 member-specific asset classes. Table 4 presents the mean of intra-household allocations for three other subsets of married political households: female politician; dual-earning; and appointed politician. In column 1, we see that across all assets, a politician holds higher values of the asset than her spouse. In particular, an average politician holds 12 percentage points more of household assets in real estate than the spouse's share. The differences in shares of member-specific holdings in real estate assets are smaller in households of female politicians, but this is not the case for dual-earning households. Panel C shows the calculated likelihood of spouse holding a higher value of each asset than a politician. Only 38% of political households are those with the spouse holding more real estate assets than the politician. Nonetheless, the likelihood of the spouse holding a higher share is higher in households of female politicians, and similarly when both members work. Panel C also reveals that in most political households, the non-political spouse is often the secondary earner.

Figure 2 plots the intra-household asset composition by household wealth percentile. Within household, the politician holds a higher share of real estate than her spouse (an approximately 10 percentage point difference). Households in the top end of the wealth distribution hold a higher fraction of risky asset than the rest. Figure 2 also shows that the values of risky assets held are equally split among the political couple for those at the top end of household wealth[32].

3.3. Portfolio of land holdings in political households

Our wealth disclosure data contains politicians' holdings of real estate assets (land plots and buildings) at a high level of detail. Politicians with any real estate assets are mandated to provide information on individual land plots and sites, including the unique land deed identification, sub-district of location, the date obtained, land size and the estimated (or appraised) value[33]. The unique

[31] See Figure A.1. in the Appendix.

[32] In Figures 4 and A.2., we draw similar diagrams for each subsample of politicians. Among the married sub-sample, we observe that single-earning households have a much higher fraction of real estate held by politicians themselves. For less well-off households, only one sixth of household total real estate assets are allocated to the spouse. However, this ratio is higher for richer households. For dual-earning households, this is not the case. The fraction of real estate assets are split more equally between the couple.

[33] Other disaggregated assets include individual bank accounts, itemised valuable belongings (jewellery, cars) as well as individual financial securities (stocks and bonds). The latter generally enables us to look closely at returns to

land deed identification allows us to match a reported land plot to the official database of the Land Registry Office. Subsequently, we obtain additional information on the plot's GIS coordinates and its official appraisal (the most recent appraisal is in 2017). That is in case of missing variables (size and monetary value) in the disclosed data, we are able to supplement them with the official data. All together, we are able to match 90 percent of all land plots with the official database[34]. With the unique land deed identification, we can classify each plot into (i) one that a politician maintains in her portfolio throughout her term, (ii) one that is sold off during her term, and (iii) one that is newly acquired during her term.

Subsequently, we use the GIS coordinates to calculate additional variables from various supplemental spatial datasets. At plot-level, we calculate (i) Night Lights index from the NOAA's satellite imagery of nighttime luminosity (1993-2013); (ii) nearest distance to main road (2012-2017) from the Department of Land Transport's road building data; (iii) annualised incident of flooding (2005-2017) from Thailand's Geo-Informatics and Space Technology Development Agency's remote sensing database (GISTDA); (iv) nearest distance to the centre of local economic zone (measured by the centroid of all shops within the 10 kilometre radius). Other spatial datasets to use as proxies for degree of urbanisation of a locality include national parks, rivers (Ministry of National Resources, 2018) and rail lines (Department of Land Transport).

In the right panel of Table 5, we present summary statistics describing the land transactions of politicians in our sample. An average politician holds a considerably large number of land plots (51 plots per person). This is equivalent to $0.13 million in appraised monetary value and 116 hectare in total area size. The distribution of land holdings is highly negatively skewed. Four of the highest numbers of plots held by one politician are 865, 550, 472 and 335 plots, respectively. During a political term, an average politician trades 14 plots (sells 8 plots and acquires 6 plots), equivalent of $0.13 million, which are not insignificant by any benchmark. The bottom rows in Table 5 show a list of objective measures of land values and make comparisons between three types of land plots. Notice that the newly acquired plots are on average more urbanised than the plots that had been sold off.

Figure 3 illustrates the relationship between land portfolio and total household wealth percentiles, separately for politicians elected in an electoral constituency or not. Consistently, for both groups, we observe that wealthier households are indeed land rich in all dimensions: monetary value, area size and total count. The size of the land portfolio increases drastically with total wealth, indicating that very rich political households accumulate real estate assets at a much faster pace. Figure 3 also points towards the differential land portfolio patterns between these two groups of politicians. Politicians with electoral constituency hold much more land than their counterpart, given the same level of total wealth. The statistics indicate a role of political connections in politicians' decisions to invest in real estate.

4. LANDHOLDING STRATEGIES OF POLITICAL HOUSEHOLDS

4.1. Politician-locality connections

individual securities over time (Calvet et al. 2007, 2009). Unfortunately, due to a high volume of missing values in the wealth disclosure database, we decided to omit this style of analysis.

[34] In total, we have 78,778 land plots in the full sample and we are able to match 70,458 plots with the official database.

In this section, we test empirically the relationship between political connections and political households' land investment decisions. We define two types of connections between politicians and locality. First, a politician is connected to a locality because it is her birthplace – *natural connection*. To measure this connection, we derive the GIS coordinate location of each land plot from the land deed identification, and the location of birth from politician's own national identification number. We can identify this type of connection at district, province and region levels. Second, a politician is connected to a locality because it is her electoral constituency – *electoral connection*. For MPs elected through the FPTP system, we can identify their electoral district directly. For MPs elected by PR as well as elected senators, we can only identify their electoral connection with a locality at the region level. In the case of appointed politicians, their electoral connection between politicians and a locality is null.

The data on politicians' holdings of land plots comes from the itemised list in the disclosure form. There, politicians are mandated to provide details of land title deed identification, location, land size, appraised value of land, and the date obtained. Using the longitudinal structure of the disclosure form, we derive an additional account of land transaction activities for each individual plot. As shown in Table 5, across the board, an average politician holds 51 plots of land throughout a political cycle[35].

To motivate our analysis on the role of local connections and land investment decisions of political households, we begin by plotting the share of land, characterised by its local connections (as defined above), along the percentile rank of household wealth. Figure 4.A demonstrates the composition of landholdings between connected and non-connected land plots as defined by birthplace. The first two columns represent the portfolio patterns of the full sample whereby the last two columns are the landholding composition of among politicians who also have own electoral constituency. Column I and III show the land portfolio belong to politicians prior to their first-ever tenure in political office. For comparison, Columns II and IV calculate the pattern of land plots the politicians acquired since their time in office. Figure 4.A indicates the pattern in which politicians look to increase the concentration of landholdings within localities connected to them after they became politicians[36].

Among politicians with own electoral constituency, they can be connected to a land plot in two ways: birthplace, and electoral district. Again, we plot their land portfolio allocation in Figure 4.B for the restricted sample of politicians with own electoral constituency. As before, we compare the landholding compositional changes before and after the politicians took office. Politicians with electoral connection reduce the share of land plots in non-connected localities in favour of holding land in their electoral province[37].

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[35] Figure A.2 displays locations of all land plots held by the politicians in our sample. We further group them by political party: Pheu Thai Party and Democrat Party. In order to illustrate spatial concentration of land plots of each political party, Figure A.2 also shows that land plots of politicians of Pheu Thai Party are heavily concentrated in the upper North and North East parts of Thailand. On the contrary, plots belonging to members of Democrat Party are highly clustered in the South. This North-South division of politicians' land holdings directly reflects the regional dominance of each political party.

[36] Significantly, households at the lower wealth percentiles hold almost their entire land plots in their birthplace. The richest households are more spatially diversified as they hold less than 20% of their land portfolio in their birth province. Nonetheless, over 60% of all their land plots are located with their birth region.

[37] Political households in the lower wealth percentiles hold most of their land in localities that they are connected to by birth and by election. For the wealthiest, their land portfolio is more diversified. 40 percent of land is held in the

To systematically examine the relationship between political connections (natural and electoral) and political household's land investment decisions, we follow the estimation design in Cohen et al. (2008) and Eggers and Hainmueller (2014). That is, we examine the weight that a politician assigns to a locality (in our case, one of the 77 provinces in Thailand) as a function of the connections she has with the locality. Precisely, we estimate a regression as follows:

$$w_{ijp} = \gamma_1 Birth_{ijp} + \gamma_2 Electoral_{ijp} + \theta_i + \theta_j + \theta_p + \varepsilon_{ijp} \quad (1)$$

where w_{ijp} is the weight of land plots held in province *j* in politician *i*'s land portfolio, $Birth_{ijp}$ is an indicator variable that takes the value of 1 if the locality is her birthplace (regional and province levels), and 0 otherwise. $Electoral_{ijp}$ is an indicator variable that takes the value of 1 if the locality is her electoral constituency and 0 otherwise (regional and province levels). For appointed politicians or elected members without local constituency (for instance, the party-list MPs and senators), we assign the value of 0 to this variable. We also include a full set of fixed effects of politician (θ_i), province (θ_j), and political party affiliation (θ_p). Therefore, γ_1 and γ_2, which measure the extent of connections, are identified based on within-politician, within-area and within-party variation. θ_p allows us to control for unobserved party's ideologies or past connection with an area. Similarly, θ_j accounts for time-invariant fundamentals in a province which may not be fully observed in the data. In total, our analysis is conducted at the person-province level. All standard errors are clustered at the calendar year politicians started in their position.

Table 6 reports the main result from our cross-sectional regressions of equation 1, using only the assets data from the information on land ownership disclosed in the entry form. The weight is the share of land holdings in each of 77 provinces within a politician's land portfolio in monetary values. We calculate the dependent variable in monetary value term (columns 1-3); in total count (columns 4-6); and in total area size (columns 7-9). The coefficients are in basis points (bp). The first model includes only variables on local connections via birthplace. The next model includes a set of local connection via electoral constituency, and the last model includes a set of political party interactions as a robustness check. In the bottom panel, we calculate a linear combination of the total effect of all types of local connections.

We find a strong skew in politicians' land portfolios toward localities to which they are connected. In model 1, the average land portfolio weight in a province increases by 35.9 bp when the land plots are in the birthplace of a politician. Being in the same birth region adds 0.152 bp, but this effect is not statistically significant. The magnitude of birthplace effect is smaller in the full specification. Electoral connections increase the portfolio weight by 27 bp. We find the same patterns across alternative measures of portfolio weight. Considering that politicians have more expansive market information and access to unconnected areas than an average individual, the magnitude of this local bias on land investment decisions is rather striking.

In Table 7, we repeat a similar analysis for the married subsample. To extend the measure of local connections, we can now include spouse's birthplace in the estimation. In model 1 and 2 we include all birthplace connections added sequentially. In the full specification (column 3), we see that local connections via spouse's birthplace are also strong and significant. The effect of politician's own birthplace connections are reduced and are equal to those of the spouse (16 bp).

birth province, while 80 percent is held in their electoral province. They hold proportionally more land plots in their electoral area than in their birthplace.

Yet, the local connection effects on portfolio weights are strongest when the land is connected to a politician's own electoral constituency.

4.2. Difference-in-differences estimation on land portfolio decisions

To refine our analysis above, we use a difference-in-differences (DD) approach with a subset of politicians in our sample. All politicians in our sample are initially connected to a locality because of the birthplace tie. A locality will have an additional connection to a politician if it is the locality of her electoral district. That is, this *electoral* connection depends on (i) the method of how each politician is selected for office and (ii) the timing between the date of land acquisition and the date she enters the office. To check if there is a premium to land plots electorally connected to a politician, our empirical strategy is the following: First, we assign land plots held by politicians with an electoral district as the *treatment group*, while land plots held by non-elected politicians or elected politicians without an electoral district form the *control group*. That is, $Electoral_{ijp}$ equals 1 if the plot belongs to politicians with electoral district, and zero otherwise.

Second, we classify each land plot by the timing of its acquisition, compared to the time in office of its political owner. If the land is acquired during or after her entry to the current position, an indicator $After_{ijt}$ is equal to 1 and zero if the land is acquired before she is in office. Therefore, our DD estimation compares the portfolio decisions between the land plots acquired before and after the politician's entry to office, and between political households with political connections to the locality (being her electoral district) and those without such connections. We estimate the DD with the sub-set of political households who had acquired land both before and after the time in office using the following equation:

$$w_{ijpt} = \alpha + \delta_1 Birth_{ijp} + \delta_2 Electoral_{ijp} + \delta_3 After_{it} + \delta_4 (After_{it} \cdot Birth_{ijp}) + \delta_5 (After_{it} \cdot Electoral_{ijp}) + \theta_i + \theta_j + \theta_p + \varepsilon_{ijt} \quad (2)$$

where w_{ijpt} is the weight of land plots held in province *j* in politician *i*'s land portfolio, which is calculated separately for plots acquired before or during her time in office, *t*. δ_3 will capture a potential difference in land portfolio decisions of the same political household in the same area, but at the different timing of acquisition. Regardless of electoral timelines, the politician may have forged certain connections with her electoral district a priori. This connection is captured by δ_2. Our goal is to estimate δ_5, which is the additional effect of having an electoral tie to the politician on land portfolio decisions. Our DD estimates account for household, locality and political party fixed effects.

We begin in Table 8 by estimating the DD only with the variables for birthplace connections. Then we estimate the full set of local connection variables. The portfolio weight is the share of land holdings, calculated separately for the set of land plots acquired before taking office and the set of land plots acquire during or after the political term. We calculate the weights in term of monetary value (columns 1 and 2), area size (columns 3 and 4), and total count (columns 5 and 6), respectively. All in all, δ_3 is positive but insignificant - suggesting that there is no differential time effect.

The estimated δ_4 is 5.6 basis points in the full specification. This shows that there is an additional effect of being in political office on the decision to acquire land in their birthplace. Among politicians with own electoral constituency, being in office increase the portfolio weight by 4.4 bp when the province is also their own constituency. In total, land portfolio decisions of politicians are highly driven by the strength of political connections. Politicians in our sample already invest heavily in land in their birthplace, but their portfolio investments are even more skewed towards lands that fall in their constituency. This behaviour is already highly embedded prior to their time in office. Yet, it is strengthened once the politicians take political office.

5. ARE THERE PRIVATE RETURNS TO PUBLIC OFFICE?

Recent works that examine causal effect of political advantages on the wealth accumulation of political figures rely on empirical strategies, in particular regression discontinuity (RD) design, to properly account for the unobserved skills, tastes and resources between the comparison groups. Using the RD design, Fisman et al. (2014) make a comparison between the disclosed asset growth of election winners and election runner-ups within the same constituency in India. This regression methodology is plausible because India's wealth disclosure laws mandate all standing candidates to disclose their wealth[38]. In the absence of such a dataset, Lenz and Lim (2009) match elected politicians to observably similar individuals from external sources. However, their application of matching method, which pairs politicians with non-political individuals is not without criticism. Unobserved taste for public service may not be balanced between their treatment and the control group (Geys and Muse, 2013). Nevertheless, matching is used to refine the sample in the RD design. Eggers and Hainmueller (2009) and Bhavnani (2011) apply the matching method to their RD sample in order to narrow the observed differences of the winners and losers.

Alternatively, to gauge the prevalence of private returns to public offices among politicians in office in Thailand, our analysis in this section proceeds in two steps. First, we exploit the panel data structure of our wealth data – in which we observe wealth and asset allocation of each political household at least three consecutive time periods - and track if there are positive changes in their wealth during a political cycle. Second, we exploit the rich and detailed information on land holdings of political households in the sample. As we have noted that politicians in Thailand disproportionately hold high volume of land plots in which they have connections, we investigate further if such portfolio strategies also deliver higher returns in the long run.

5.1. Conditional mean differences of wealth and assets across consecutive periods

Exploiting the panel data structure of our wealth data, we run a simple linear regression as in equation 1, but use the data from all three periods that each political household disclose their wealth. We add two indicator variables, θ_{exit} and $\theta_{oneyear}$, as fixed effects in order to capture the marginal effect of wealth reported at the time of exit, and at the time one year after.

[38] Similar analysis on private gains to public office includes Querubin and Snyder (2009) on the US Congress in the 19th century, Eggers and Hainmueller (2009) on the UK's MPs and Bhavnani (2011) on India's politicians.

If the coefficient is zero, this suggests that there is no statistical difference between wealth (and assets) at any point in time. If the coefficient is positive, this is evidence for additional gains in values during a political term. Figure 5 reports the estimated coefficients corresponding to each fixed effect, and the 90% confidence interval. An average political household gains $0.22 million in total wealth when they exit office, but it is also shown that their gross liabilities increase during the same period. We observe a rise in their holdings of different asset classes. Among household members, there is not much change in politicians' own asset holdings (Figure 5). Instead, we observe on average 2.6 million bahts increase in the spouse's value of real estate. Figure 12 suggests that political households accumulate more land during their time in office, with an average of 1.2 plots gained per household. This is equivalent to the area of 14 hectares, or 1.16 million bahts in appraised value.

Overall, we find that most coefficients show a positive sign but none are statistically different from zero. This seems to indicate that among politicians in power there are no gains in wealth or assets from holding political office, at least during their time in office. Yet, strategic politicians could manage their asset portfolio such that it favours holding assets with no immediate capital gains. Table 5 shows that on average, political households in our data buy and sell land plots in equal volumes (approximately 14 plots) during their political term. And that the average value of each land plot sold is less than the plot acquired ($0.13 and $0.15 million, respectively). All in all, this characteristic of land transaction during their time in office would correspond to no observed changes in their asset values at the time. In the next step, we ask if the land portfolio strategies observed among Thai politicians are naïve, or in fact, these strategies are financially beneficial to their total wealth realisation in the long run.

5.2. Land portfolio performance and political ties

In Section IV, we show that politicians disproportionately hold land plots in localities where they have ties.[39] Assuming that politicians in power may have insider information, for example of national planning strategies or public resource allocation, a booming locality should equally attract investments by politicians regardless of their political affiliation. Yet, we observe a pattern of geographical constrained land diversification. One potential explanation is that politicians hold land in localities with political ties because they have better access to the localised land markets and that they are more familiar with the area. If this is the case, investment decisions motivated by familiarity bias, rather than expertise would imply poorer performance of the portfolio (Heath and Tversky, 1991; Eggers and Hainmueller, 2014). Alternatively, higher investments in connected localities can be motivated by politicians' sense of security of tenure over those land plots

[39] In addition, Figure A.2. indicates that there is a pattern of spatial clustering of land holdings within political party. We observe that members of the political party that usually dominates in the North East are more likely to hold land plots in the area, and less likely to have land holdings in the South. Likewise, members of the party that has a strong electoral base in the South are less likely to hold land plots in the North East, even among those who hold a large number of land.

(Goldstein and Udry, 2008). Having a superior political hierarchy in local institutions is found to relate to higher expected future returns from land. Moreover, the decision to hold land plots in areas that a politician is connected to may arise not only because politicians know these areas well, but they are in a position that allows them to direct resources into the locality. In this case, the strong skew toward personally connected areas pays off for politicians politically and financially. Since land assets are highly illiquid, holding land plots in her locally connected area also signals her political loyalty to her own constituency, as well as her party.

To empirically investigate these hypotheses, we set up a regression to evaluate the performance of connected and unconnected land plots. As the first direct measure of land performance, we use the panel-data structure of itemised land holdings and calculate the change in land values (both the value reported in the disclosed form and the appraised value from the Department of Land). Precisely, we calculate the gains (or losses) in land value from the initial period the land plot is observed and the last period.

As alternative measures of land performance, we use the plot-level GIS coordinates and map them to a collection of spatial data over multiple calendar years on (i) nation-wide road infrastructure from the Department of Transport, (ii) satellite data on nighttime light intensity from the US's NOAA, and (iii) data on flooding from Thailand's GISTDA Flood Monitoring System. Subsequently, we derive locations of newly constructed roads, which we then use to calculate the change of the distance to the nearest main road from each land plot. Similarly, we derive the plot-level changes in the night light index between 1993 and 2013 as a proxy for economic activity growth (Henderson, Storeygard, and Weil 2012; Hodler and Raschky, 2014; Chaiwat, 2016; Donaldson and Storeygard, 2016).

Similar to equation 1, we maintain the definition of connections between politicians and each land plot in two ways: birthplace and electoral district. The plot-level regression is defined as:

$$R_{ijpl}^{Final} = \alpha + \delta_1 Birth_{ijpl} + \delta_2 Electoral_{ijpl} + \boldsymbol{X}_{ijpl}^{Initial}\boldsymbol{\delta_X} + \theta_i + \theta_j + \theta_p + \varepsilon_{ijpl} \qquad (3)$$

where R_{ijpl} is the measure of change in value of land plot *l* held in province *j* in politician *i*'s land portfolio, $Birth_{ijpl}$ is an indicator variable that takes the value of 1 if the plot is her place of birth, and 0 otherwise. $Electoral_{ijpl}$ is an indicator variable that takes the value of 1 if the plot is in her electoral constituency, and 0 otherwise. For non-elected politicians or elected members without local constituency (for instance, party-list MPs and senators), we assign the value of 0 to this variable. Again, the regression accounts for a full set of fixed effects of politician (θ_i), province (θ_j), and political party affiliation (θ_p). $\boldsymbol{X}_{ijpl}^{Initial}$ is a set of characteristics of each land plot at the initial period. This includes the initial values of the dependent variables, namely initial road networks and initial night light index (in 1993). Our value-added analysis with fixed effects is estimated at the plot level. All standard errors are clustered at the politician's entry cohort.

The results from equation 3 are documented in Tables 9 and 10. The dependent variables, which capture returns to land, are: log of nighttime light (in 2013); the nearest distance to main roads (in 2017, km); and the nearest distance to centroid of shops in 10km radius (in 2017). Based on a value-added specification (Todd and Wolpin, 2007), all estimates will control for initial values of all outcome variables, and include a set of indicator variables for each household's wealth quintile. The specifications also include the full set of person fixed effects, political party fixed

effects and province of birth fixed effects. Therefore, all coefficients are interpreted as within-person, within-area, and within-political party variations.

We find that connected land plots outperform unconnected plots on all dimensions. A plot located in the region of birth of the owner has a 11.2 percentage points higher night-time light index than others. Being located in the same district as the owner's birthplace adds another 26.9 percentage points compared to other lands in her portfolio. The marginal effect of land being located in the same region as the constituency is a 7.6 percent increase in the nighttime light index by 2013. Similarly, land plots that are politically connected to the politician experiences 0.003 reduction in distance to main roads, compared to other lands in her portfolio and enjoy a reduction of 3.5km in distance to the nearest urban centre (proxied by the centroid of shops in the 10km radius).[40]

To incorporate the roles of spouse's connections, we restrict the sample to only married couples and include in the estimations a set of indicators on whether a land plot is in the spouse's birthplace. We report the extended results in Table 13. In a given portfolio, land plots located in the spouse's birthplace also see a positive marginal effect (3% increase in nighttime light, 0.04 km reduction in distance to main roads, and 0.9 km decrease in distance to an urban centre). The effect of being in a spouse's birthplace is comparable to the effect of being in a politician's birthplace. The total effect of all types of local connections is 27% for nighttime light index and 3.49 km in the reduction of distance to an urban centre. Our findings provide strong evidence for strategical investment behaviour of politicians in power. Each household member seems to have a similar influence on the returns to land value, even if they may not have *de jure* political power.

5.3. Difference-in-differences estimation on returns to electorally connected land

For a subset of politicians in our sample, we repeat our DD approach in equation 4. The DD estimation makes a comparison between portfolio returns to the land plots acquired *before* and those acquire *during or after* the politician's entry to office and among political households with political connections to the locality (being her electoral district) and those *without* such connections. That is, $Electoral_{ijp}$ equals1 if the plot belongs to a politician with electoral district, and zero otherwise. The indicator $After_{ilt}$ is equal to 1 if the land is acquired during or after she is in office and zero otherwise. The DD estimation focuses on the subset of political households who acquire land both before and during their time in office using the following equation:

$$R_{ijplt} = \alpha + \delta_1 Birth_{ijpl} + \delta_2 Electoral_{ijpl} + \delta_3 After_{ilt} + \delta_4 (After_{ilt} \cdot Birth_{ijpl})$$

$$+ \delta_5 (After_{ilt} \cdot Electoral_{ijlp}) + R_{ijpl}^{Initial} \delta_R + \boldsymbol{X}_{ijpl}^{Initial} \boldsymbol{\delta_X} + \theta_i + \theta_j + \theta_p + \varepsilon_{ijplt} \quad (4)$$

The estimated δ_5 will thus capture the incremental effect of having an electoral tie on land's objectively measured values. Our DD estimates account for household, locality and political party fixed effects, so that the estimate is interpreted as a within-person, within-area and within-political party variation. Here, the observation is at land plot level. Note that the analysis is on the

[40] We also run additional estimations with various subsamples and find similar results. Table A.5 in the Appendix reports the results.

subsample of politicians who not only hold some land prior to their time in political office, but who also acquire some land while they are in office.

Table 11 reports the DD results for each measure of land value: growth of nighttime light, increase in road networks and expansion of urbanisation. The estimated δ_3 in the nighttime light regression is negative, indicating that on average the growth rate of economic activity around land purchased during their political term is less than that of lands acquired prior to taking office. However, the values of δ_4, δ_5 and δ_6 are positive, with the total effect (calculated from summing up the individual coefficients) at 0.3 (or 30%) on the nighttime light regression. This shows that land plots located in a politician's birthplace, but acquired during her political tenure gain more in value than lands in the same locality but purchased previously. Similarly, we find that lands located in politician's electoral constituency gain higher returns when they are acquired after she takes office compare to similar plots with the same connection but acquired before her political term.

Overall, our results present suggestive evidence of local advantages in politicians' land investment strategies. And there are political advantages for politician land owners who have electoral connection with the locality. The empirical findings have shown that there are differential value gains among land plots from the same area and the same owner, but with a different timing of acquisition. Connected land plots acquired after the owner has gained political power enjoy a higher return than others. Politicians seem to be able to redirect more public investment to their localities once they take office.

5.4. Returns to office or local knowledge premium

Estimated results from the previous section strongly point that political premium in term of land valuation increases when the acquired land plot lies within the politician's constituency. Additionally, it shows the timing of each land acquisition is also deterministic of land valuation. That is, the premium gets larger if the acquisition occurs at the same time or after the politician takes office. In the section, we further investigate if the extra premium is a consequence of the politician's local knowledge of the locality, as oppose to her political tenure. To do this, we specifically focus on the annualised nighttime light intensity, which spans the period of 1992 to 2013, as the outcome of interest.

The estimation equation is the following. Define $Post_{ilt}^{acquire}$ as a dummy variable which equals to 1 if a plot of land *l* in the observed land portfolio of individual *i* has already been acquired by the individual *i* at year *t*, and zero otherwise. $Post_{ilt}^{office}$ is a dummy variable equal to 1 if a plot of land *l* has already been acquired by the individual *i* at year *t and* that the individual has already held a political office simultaneously. The dummy variable equals to zero otherwise. In other words, $Post_{ilt}^{office}$ equals to 1 if $Post_{ilt}^{acquire}$ equals to 1 *and* the individual gains political position. NL_{ilt} is the nighttime luminosity of the geo-location of land plot l in year t. Equation 4 follows a value-added specification, with person, province and political party fixed effects in order to account for unobserved characteristics of each single land plot. Therefore equation 4 controls for nighttime luminosity at the earliest available date in year 1992 ($NL_{il,92}$).

$$NL_{ilt} = \alpha + \delta_1 Birth_{ijl} + \delta_2 Electoral_{ijl}$$
$$+\delta_3 Post_{ilt}^{acquire} + \delta_4\left(Post_{ilt}^{acquire} \cdot Birth_{ijl}\right) + \delta_5(Post_{ilt}^{acquire} \cdot Electoral_{ijl})$$
$$+\delta_6 Post_{ilt}^{office} + \delta_7\left(Post_{ilt}^{office} \cdot Birth_{ijl}\right) + \delta_8(Post_{ilt}^{office} \cdot Electoral_{ijl})$$
$$+ NL_{il,92} + \theta_i + \theta_j + \theta_p + year + \varepsilon_{ilt} \quad (4)$$

Table 12 compares the coefficients of interest: local knowledge premium ($\delta_3, \delta_4, \delta_5$) and political office premium ($\delta_6, \delta_7, \delta_8$). We first run a baseline specification which omits the variables corresponding to the $Post_{ilt}^{office}$ dummy, in order to see the effect of local knowledge premium on its own. Column I shows that an average land plot acquired by a person who would soon to become a politician sees an increase of 0.2 level of nighttime luminosity if that plot is also the person's birth locality, in comparison to the value from previous years. Similarly, the acquisition of a land plot in the locality which would subsequently become her electoral constituency raises the value of nighttime luminosity by 0.078.

However, in the full specification (column II) the premium of local knowledge becomes attenuated. On the other hand, the estimates indicate the influence of political power premium in the increase of plot-specific nightlight intensity, in compare to other years prior. Once the owner of the plot takes office, the nightlight intensity increases by 0.05 for the plot located in her birth locality. Strikingly, the light index increases by 0.082 for the plot located in her electoral constituency.

6. DISCUSSIONS AND CONCLUSION

In this study, we have demonstrated in our theoretical framework that wealth disclosure laws with *a credible threat of being detected* can influence asset portfolio choices of politicians. Public declaration of personal wealth deters politicians from accumulating wealth in asset classes that tend to have immediate capital gains realisation. Instead, the model predicts that the laws would incentives rational politicians to relocate their wealth into assets on which capital gains can be deferred. To make sure that they can fully beat the system, some politicians may, in addition, prefer to allocate more household wealth to their non-political spouse, even if both members must disclose their wealth collectively.

We also show empirically that politicians in our sample are far from naïve as investors, especially in real estate markets. On the one hand, not only do they allocate a significant sum of their wealth in to illiquid, immovable assets, but the land portfolio is also highly spatially clustered in very few localities. From a perspective of financial investment, most land holdings by political households appear insufficiently diversified. On the other hand, we have shown that such patterns of land investment actually produce rather high returns. We have shown that politicians' preferences for locally connected lands in fact pay off, in the long run. Connected lands outperform unconnected land on most dimensions.

It is worth noting that, when we run the analysis with disclosed values of land as dependent variables, we do not detect any premium. This is not because politicians misreport the value of their land. Instead, politicians can simply list the land value according to the official estimates, which usually suffer from measurement errors, large time lags and undervaluation. Our analysis benefits immensely from the advantage of remote-sensor satellite data and fine-grid GIS databases in their spatial precision, timeliness and objectivity (Donaldson and Storeygard, 2016).

Works on political accountability have found that the presence of political institutions which can audit, monitor and sanction the wrongdoing of political figures is essential in effort to curb corruption (Ferraz and Finan, 2008, 2011; Bobonis et al. 2015; Avis et al. 2018). Our findings offer complementary insights into ways to enhance the functionality of such institutions. We show that existing wealth disclosure laws with limited periods of monitoring provide powerful incentives to defer the realization of the gains from corrupt behaviour, but may not actually reduce the prevalence of such behaviour. A possible extension of the "credible threat of being detected" can foster the role of institutions as it makes it more challenging for political household to hide increases in wealth.

In addition, we show that – at least given the cultural context within which the politicians in our sample operate - it may not be fruitful if the analysis on political connections is limited to the financial stock market. This is because in this context politician's wealth is highly concentrated in real estate, while less than 10% of their wealth is invested in risky financial instruments. In contrast, analysis of returns to land assets can be restricted in an alternative context whereby investors do not prefer to hold some much land in general. Therefore, we believe that our analysis on land portfolio strategies is suitable in similar settings in which land acquisition is a key channel through which general households utilise so as to manage their wealth and savings. This means it can also be a prominent channel through which politicians can misuse their public office (see Fisman et al. 2014 for India).

All in all, we acknowledge that all results presented in this work rely on the assumption that politicians disclose their wealth accurately and completely. Some politicians may choose to *omit* some of their assets if these are not explicitly asked for in the disclosure form, in particular luxury items, offshore accounts and property ownership in foreign countries. While we cannot rule this out, we have a strong reason to believe that most politicians in our sample do disclose their assets accurately as we are however able to verify over 90 percent of the disclosed land plots with the official database.

REFERENCES

Alan, S., Atalay, K., Crossley, T. F., & Jeon, S. H. (2010). New evidence on taxes and portfolio choice. *Journal of Public Economics*, *94*(11-12), 813-823.

Alesina, A., Michalopoulos, S., & Papaioannou, E. (2016). Ethnic inequality. *Journal of Political Economy*, *124*(2), 428-488.

Allendorf, K. (2007). Do women's land rights promote empowerment and child health in Nepal?. *World development*, *35*(11), 1975-1988.

Asher, S., & Novosad, P. (2017). Politics and local economic growth: Evidence from India. *American Economic Journal: Applied Economics*, *9*(1), 229-73.

Ashraf, N. (2009). Spousal control and intra-household decision making: An experimental study in the Philippines. *American Economic Review*, *99*(4), 1245-77.

Avis, E., Ferraz, C., & Finan, F. (2018). Do Government Audits Reduce Corruption? Estimating the Impacts of Exposing Corrupt Politicians. *Journal of Political Economy*, *126*(5), 1912-1964.

Beegle, K., Frankenberg, E., & Thomas, D. (2001). Bargaining power within couples and use of prenatal and delivery care in Indonesia. *Studies in family planning*, *32*(2), 130-146.

Bergstresser, D., & Pontiff, J. (2013). Investment taxation and portfolio performance. *Journal of Public Economics*, *97*, 245-257.

Bergstresser, D., & Poterba, J. (2004). Asset allocation and asset location: Household evidence from the Survey of Consumer Finances. *Journal of Public Economics*, *88*(9-10), 1893-1915.

Bertaut, C., & Starr-McCluer, M. (2002). Household portfolios in the United States. *Household portfolios*, 181-217.

Besley, T., Pande, R., & Rao, V. (2005). Participatory democracy in action: Survey evidence from South India. *Journal of the European Economic Association*, *3*(2-3), 648-657.

Bhavnani, R. R. (2011). Corruption among India's Politicians: Evidence from Unusual Data. *Unpublished paper*.

Bobonis, G. J., Cámara Fuertes, L. R., & Schwabe, R. (2016). Monitoring corruptible politicians. *American Economic Review*, *106*(8), 2371-2405.

Burgess, R., Jedwab, R., Miguel, E., Morjaria, A., & Padró i Miquel, G. (2015). The value of democracy: evidence from road building in Kenya. *American Economic Review*, *105*(6), 1817-51.

Calvet, L. E., Campbell, J. Y., & Sodini, P. (2007). Down or out: Assessing the welfare costs of household investment mistakes. *Journal of Political Economy*, *115*(5), 707-747.

Calvet, L. E., Campbell, J. Y., & Sodini, P. (2009). Fight or flight? Portfolio rebalancing by individual investors. *The Quarterly journal of economics*, *124*(1), 301-348.

Chaiwat, T. (2017) Growth dispersion of ASEAN countries: Evidence from night lights. *Southeast Asian Journal of Economics*, *5*(1), 23-41.

Chay, J. B., Choi, D., & Pontiff, J. (2006). Market valuation of tax-timing options: Evidence from capital gains distributions. *The Journal of Finance*, *61*(2), 837-865.

Chen, X., & Nordhaus, W. D. (2011). Using luminosity data as a proxy for economic statistics. *Proceedings of the National Academy of Sciences*, *108*(21), 8589-8594.

Cingano, F., & Pinotti, P. (2013). Politicians at work: The private returns and social costs of political connections. *Journal of the European Economic Association*, *11*(2), 433-465.

Cohen, L., Frazzini, A., & Malloy, C. (2008). The small world of investing: Board connections and mutual fund returns. *Journal of Political Economy*, *116*(5), 951-979.

Djankov, S., La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2010). Disclosure by politicians. *American Economic Journal: Applied Economics*, *2*(2), 179-209.

Domínguez-Barrero, F., & López-Laborda, J. (2012). Taxation and the portfolio structure of Spanish households. *Applied Economics*, *44*(23), 3011-3027.

Donaldson, D., & Storeygard, A. (2016). The view from above: Applications of satellite data in economics. *Journal of Economic Perspectives*, *30*(4), 171-98.

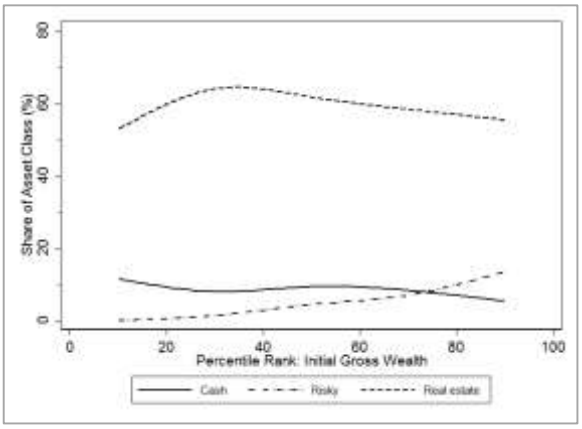
Doss, C. (2013). *Intrahousehold Bargaining and Resource Allocation in Developing Countries*. The World Bank Research Observer, 28(1), 52-78.

Eggers, A., & Hainmueller, J. (2013). Capitol losses: The mediocre performance of Congressional stock portfolios. *The Journal of Politics*, *75*(2), 535-551.
Faccio, M. (2006). Politically connected firms. *American economic review*, *96*(1), 369-386.
Ferraz, C., & Finan, F. (2008). Exposing corrupt politicians: the effects of Brazil's publicly released audits on electoral outcomes. *The Quarterly Journal of Economics*, *123*(2), 703-745
Ferraz, C., & Finan, F. (2011). Electoral accountability and corruption: Evidence from the audits of local governments. *American Economic Review*, *101*(4), 1274-1311.
Fisman, R. (2001). Estimating the value of political connections. *American economic review*, *91*(4), 1095-1102.
Fisman, R., Schulz, F., & Vig, V. (2014). The private returns to public office. *Journal of Political Economy*, *122*(4), 806-862.
Goldman, E., Rocholl, J., & So, J. (2008). Do politically connected boards affect firm value?. *The Review of Financial Studies*, *22*(6), 2331-2360.
Goldstein, M., & Udry, C. (2008). The profits of power: Land rights and agricultural investment in Ghana. *Journal of political Economy*, *116*(6), 981-1022.
Guiso, L., Haliassos, M., & Jappelli, T. (Eds.). (2002). *Household portfolios*. MIT press.
Gustafsson, S. (1992). Separate taxation and married women's labor supply. *Journal of population economics*, *5*(1), 61-85.
Habershon, A., & Trapnell, S. (2012). *Public office, private interests: accountability through income and asset disclosure*. World Bank Publications.
Hainmueller, J., & Eggers, A. C. (2014). Political capital: corporate connections and stock investments in the US congress, 2004-2008. *Quarterly Journal of Political Science*, *9*(2), 169-202.
Heath, C., & Tversky, A. (1991). Preference and belief: Ambiguity and competence in choice under uncertainty. *Journal of risk and uncertainty*, *4*(1), 5-28.
Henderson, J. V., Storeygard, A., & Weil, D. N. (2012). Measuring economic growth from outer space. American Economic Review, 102(2), 994- 1028.
Hodler, R., & Raschky, P. A. (2014). Regional favoritism. *The Quarterly Journal of Economics*, *129*(2), 995-1033.
Jayachandran, S. (2006). The jeffords effect. *The Journal of Law and Economics*, *49*(2), 397-425.
LaLumia, S. (2008). The effects of joint taxation of married couples on labor supply and non-wage income. *Journal of Public Economics*, *92*(7), 1698-1719.
Lehne, J., Shapiro, J. N., & Eynde, O. V. (2018). Building connections: Political corruption and road construction in India. *Journal of Development Economics*, *131*, 62-78.
Lenz, G. S., & Lim, K. (2009). Getting rich (er) in office? Corruption and wealth accumulation in Congress.
Luke, N., & Munshi, K. (2011). Women as agents of change: Female income and mobility in India. *Journal of Development Economics*, *94*(1), 1-17.
McMillan, J., & Zoido, P. (2004). How to subvert democracy: Montesinos in Peru. *Journal of Economic perspectives*, *18*(4), 69-92.
Michalopoulos, S., & Papaioannou, E. (2013). Pre-colonial ethnic institutions and contemporary African development. *Econometrica*, *81*(1), 113-152.
Olken, B. A., & Pande, R. (2012). Corruption in developing countries. *Annu. Rev. Econ.*, *4*(1), 479-509.
Pande, R. (2007). Understanding political corruption in low income countries. *Handbook of development economics*, *4*, 3155-3184.
Poterba, J. M. (2002). Taxation, risk-taking, and household portfolio behavior. In *Handbook of public economics* (Vol. 3, pp. 1109-1171). Elsevier.
Querubin, P., & Snyder Jr, J. M. (2009). The returns to US congressional seats in the mid-19th century. *The political economy of democracy*, 255-240.
Quisumbing, A. R., & Maluccio, J. A. (2003). Resources at marriage and intrahousehold allocation: Evidence from Bangladesh, Ethiopia, Indonesia, and South Africa. *Oxford Bulletin of Economics and Statistics*, *65*(3), 283-327.

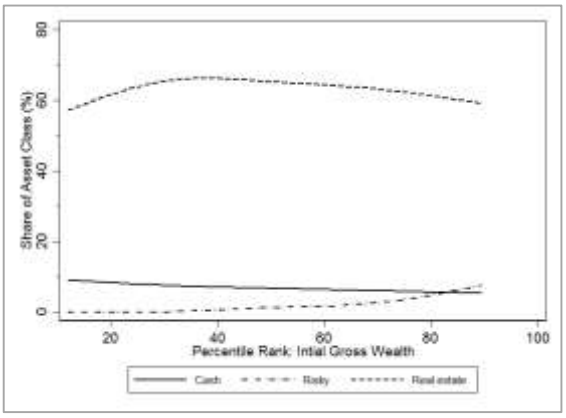
Shin, S. H., Seay, M. C., & Kim, K. T. (2017). Measurement of diversification between asset classes in the Survey of Consumer Finances. *Economics Letters*, *156*, 22-26.
Shoven, J. B., & Sialm, C. (2004). Asset location in tax-deferred and conventional savings accounts. *Journal of Public Economics*, *88*(1-2), 23-38.
Slemrod, J., & Yitzhaki, S. (2002). Tax avoidance, evasion, and administration. In *Handbook of public economics* (Vol. 3, pp. 1423-1470). Elsevier.
Stephens Jr, M., & Ward-Batts, J. (2004). The impact of separate taxation on the intra-household allocation of assets: evidence from the UK. *Journal of Public Economics*, *88*(9-10), 1989-2007.
Vechbanyongratana, J. & Chankrajang, T. (2017) A Brief Economic History of Land Rights in Thailand: From the Sukhothai Period to the End of King Chulalongkorn's Reign, Bangkok: The Economic and Social Transformation of Thailand from Historical Perspective
World Bank, (2013). *Income and asset disclosure: case study illustrations (English)*. Directions in development; finance. (Washington DC)
Zamboni, Y., & Litschig, S. (2018). Audit risk and rent extraction: Evidence from a randomized evaluation in Brazil. *Journal of Development Economics*, *134*, 133-149.
Ziobrowski, A. J., Boyd, J. W., Cheng, P., & Ziobrowski, B. J. (2011). Abnormal returns from the common stock investments of members of the US House of Representatives. *Business and Politics*, *13*(1), 1-22.

FIGURES

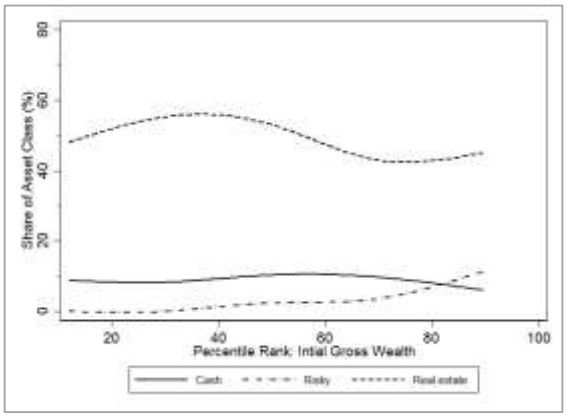
Figure 1. Political household' asset allocation by wealth distribution



A. Household-Level



B. Member-Level (politician)



C. Member-Level (spouse)

Notes: The figures A-C represent the cross-sectional distribution of the asset allocation in the portfolio owned by political households in Thailand (2001-2016). Aggregated asset classes are cash-equivalent; risky and real estate: We subdivide households into gross wealth percentiles and report the average asset share within each wealth group. Figure A shows the asset distribution of the entire sample. Figures B and C show the member-level asset distributions of the married couple sub-sample.

Figure 2. Intra-household fraction in gross household asset of member-specific asset classes

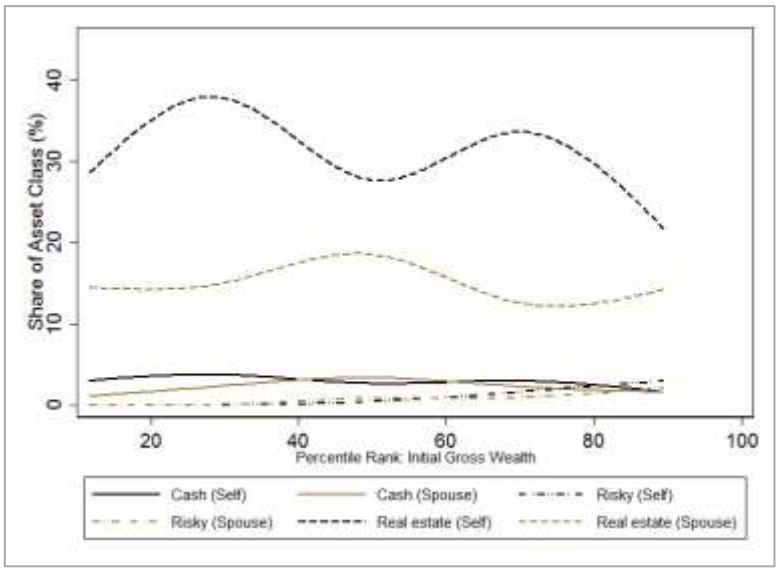
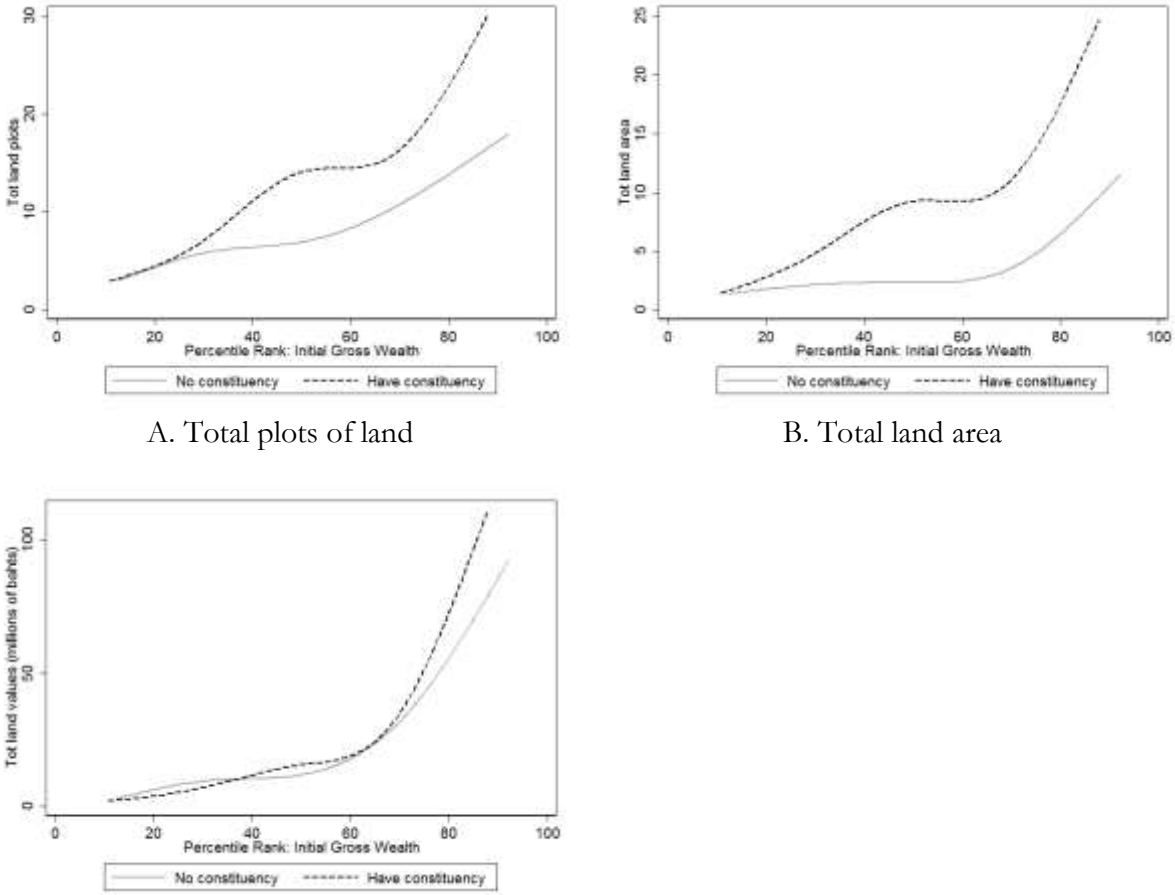


Figure 3. Land ownership by distribution of gross household wealth



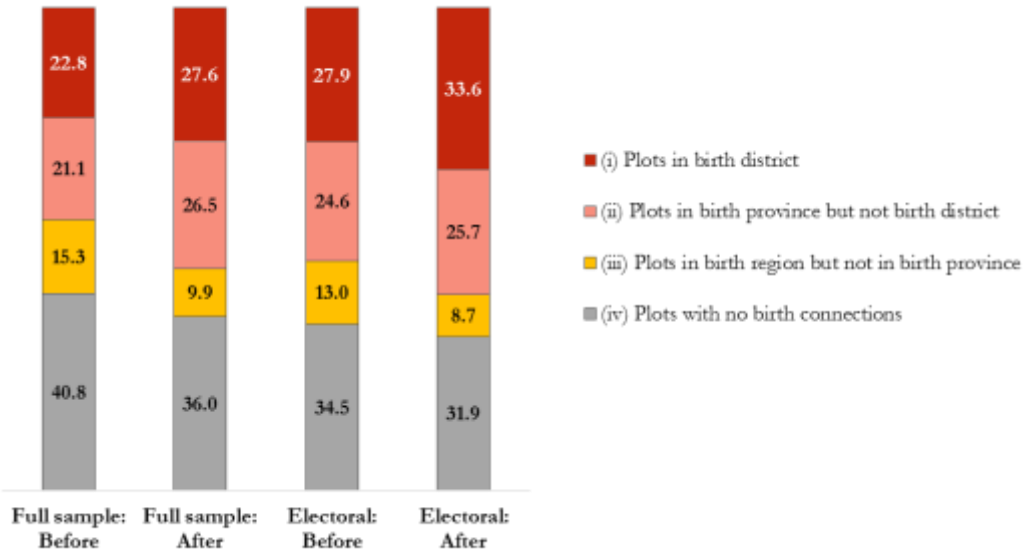
A. Total plots of land

B. Total land area

C. Total land valuation

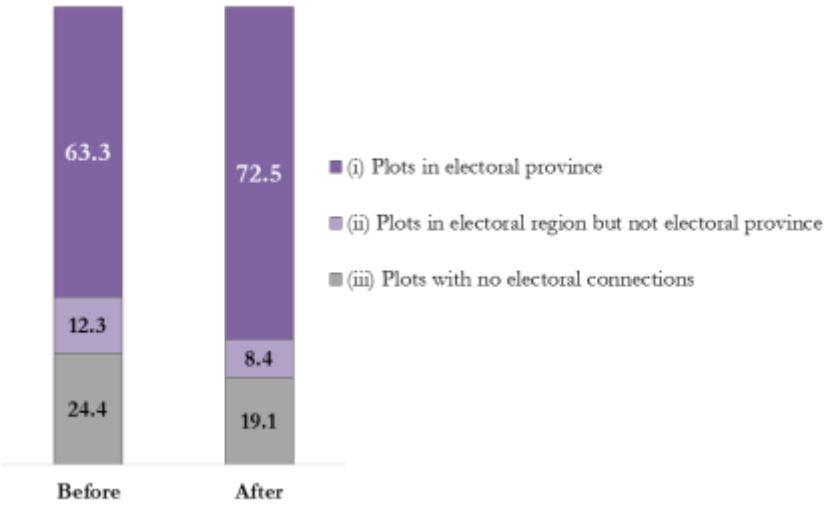
Notes: Have constituency is an indicator value takes the value of 1 if a political member is elected by an electoral constituency and zero otherwise (*No constituency*).

Figure 4.A: Birth location and land ownership



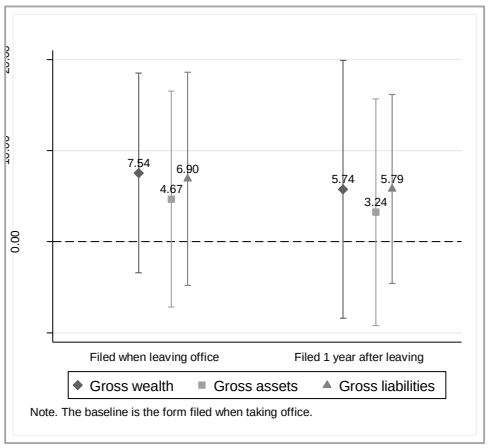
Notes: The figure reports the average share of land being held in localities which are (i) district of birth, (ii) province of birth or (iii) region of birth, as a percentage to total area of all land in the portfolio (measured in hectare). "Before" columns are the land plots the politicians acquired prior to taking office, and "After" columns are the land plots the politicians acquired after taking office. The first two columns report landholding patterns of the full sample whilst the last two columns report landholding patterns among politicians who have own electoral constituency.

Figure 4.B: Electoral location and land ownership

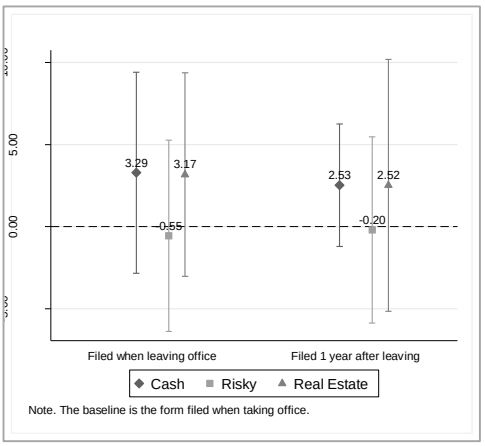


Notes: The figure reports the average share of land being held in localities which are (i) electoral province or (ii) electoral region as a percentage to total area of all land in the portfolio (measured in hectare). "Before" columns are the land plots the politicians acquired prior to taking office, and "After" columns are the land plots the politicians acquired after taking office. The first two columns report landholding patterns of the full sample whilst the last two columns report landholding patterns among politicians who have own electoral constituency.

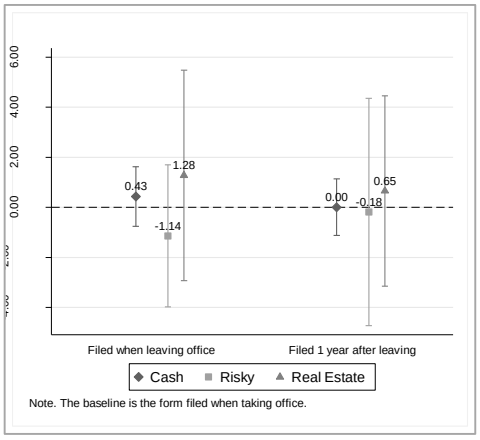
Figure 5. Conditional mean differences of values of wealth and assets between each filing period of wealth disclosure



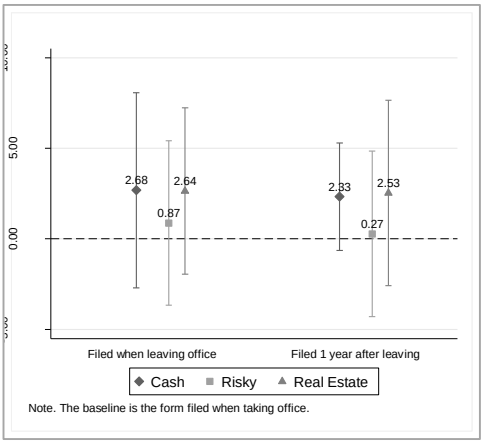
(A) Value HH held in wealth



(B) Value HH held in each asset class



(C) Member's value held in each asset

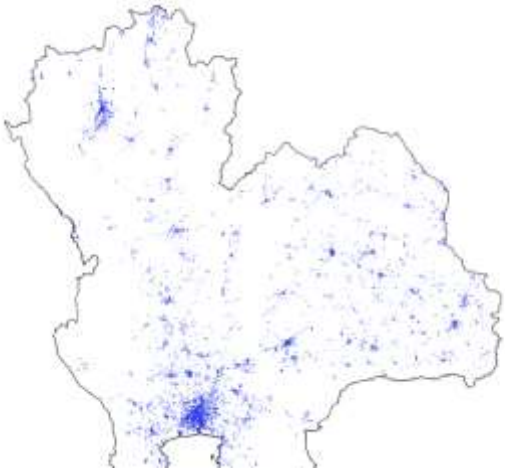


(D) Spouse's value held in each asset

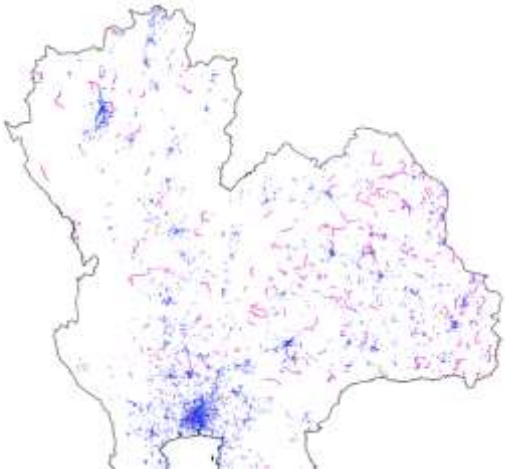
Notes: Each mark represents conditional mean difference of the indicators of timing of wealth disclosure- associated to each separate pooled-sample regression for each dependent variable (as indicated in the label boxes). "Filed when leaving office" is a dummy variable equals to 1 if the observation is from the form disclosed at the time of politicians leave office, and zero otherwise. "Filed at 1 year after leaving" is a dummy variable equals to 1 if the observation is from the form disclosed one year after leaving office, and zero otherwise.

Figure 6. GIS coordinates of land plots, road networks and nighttime light index

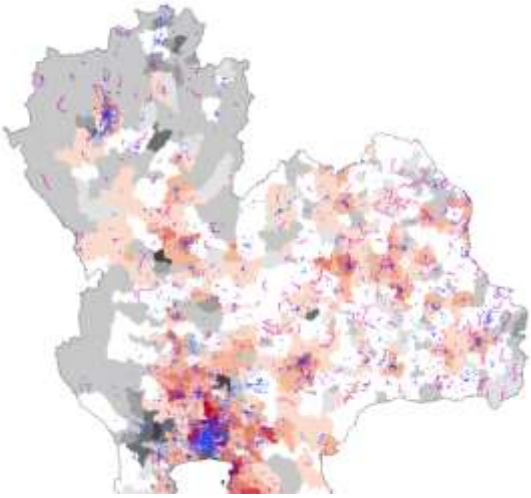
(A) North and the North East of Thailand



(i) All land plots



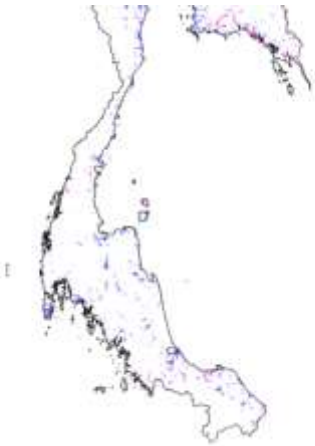
(ii) Including new road network (2012-2016)



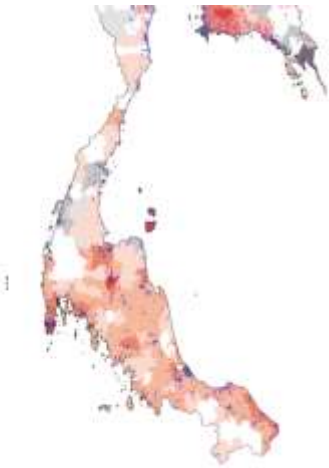
(iii) Including district-level changes in nighttime light index (1993-2013)

(B) South of Thailand

(i) All land plots



(ii) Including new road network (2012-2016)



(iii) Including district-level change in nighttime light index (1993-2013)

TABLES

Table 1. Aggregate wealth and assets statistics (disclosed when taking office)

	Full sample		By political office		
	Mean	**(sd.)**	**MP**	**Cabinet**	**Senator**
Panel A: Values (in millions of bahts)					
Gross income (1)	3.8	(14.9)	1.5	1.7	2.2
Gross liabilities	23.2	(238.3)	1.6	0.5	1.4
Net assets (2)	111.1	(329.9)	28.1	68.4	45.1
Net wealth (3) = (1) + (2)	138.0	(368.2)	34.9	80.8	53.8
Cash equivalent assets	14.1	(59.2)	2.3	9.5	4.3
Risky assets	35.2	(168.1)	0.7	4.8	3.2
Real estate assets	65.1	(161.1)	19.1	31.5	26.4
Other assets	19.8	(199.5)	3.3	7.0	4.2
Movable assets	69.1	(286.2)	10.3	29.2	18.7
Immovable assets	65.1	(161.1)	19.1	31.5	26.4
Panel B: Participation (%)					
Held cash equivalent assets	0.98		0.99	1.00	0.99
Held risky assets	0.72		0.70	0.80	0.77
Held real estate assets	0.96		0.96	0.98	0.97
Held other assets	0.93		0.93	0.96	0.94
Asset Diversification Index	0.65	(0.7)	0.7	0.78	0.7
Panel C: Fraction in gross assets					
Fraction in cash equivalent assets	14.8	(17.9)	7.5	13.4	8.0
Fraction in risky assets	13.2	(19.6)	2.3	7.4	7.6
Fraction in real estate assets	56.2	(27.4)	61.5	50.6	57.4
Observation	1,692		1,342	377	248

Notes: All values are reported in unit of million Thai baht. ($1 is 32 baht). Participate is the extensive margin of asset holding. It takes a value of 1 if a politician holds non-zero value of each asset. Asset Diversification Index is calculated according to Shin et. al. (2017). Movable assets include cash-equivalent assets, risky asset and other assets. Immovable assets are land and property assets.

Table 2. Summary statistics of politician's characteristics

	Single		Married	
	Mean	**SD**	**Mean**	**SD**
Panel A: Personal characteristics				
Female	0.22	(0.41)	0.10	(0.3)
Age	50.39	(11.55)	55.65	(9.64)
Have children	0.53	(0.5)	0.90	(0.3)
Edu: postgraduate	0.63	(0.48)	0.55	(0.5)
Edu: PhD	0.09	(0.28)	0.08	(0.27)
Armed forces	0.05	(0.23)	0.09	(0.29)
Current cabinet member	0.14	(0.34)	0.27	(0.45)
Ever held political office	0.47	(0.5)	0.54	(0.5)
Ever a cabinet member	0.08	(0.27)	0.17	(0.37)
Ever an MP	0.46	(0.5)	0.51	(0.5)
Number of terms as MP	1.34	(2.29)	1.74	(2.45)
Number of terms as cabinet member	0.15	(0.67)	0.37	(1.06)
Fraction of vote won	32.72	(23.63)	30.95	(24.85)
Disclosed wealth in previously	0.07	(0.25)	0.12	(0.32)
Panel B: Family characteristics				
Number of dependents			2.1	(0.98)
Spouse has a job			0.47	(0.5)
Spouse ever held political office			0.05	(0.22)
Spouse ever a cabinet member			0.02	(0.13)
Spouse ever an MP			0.05	(0.22)
Spouse's terms as MP			0.17	(0.91)
Spouse's terms as cabinet member			0.04	(0.37)
Total politicians	420		1314	
Total unique individuals	306		879	

Notes: Edu: postgraduate is a dummy variable equal to 1 if she has a post-graduate qualification. Edu: PhD is 1 if she has a doctoral degree; Have children equals to 1 if there is at least one dependent children reported in the disclosure form; Armed Forces is an indicator variable, with value of 1 if a politician has a prefix of military or police officials, Number of terms as MP and as cabinet is the number of political cycle the politician ever held a position prior to the present position. Fraction of vote won is calculated as the vote won by the politician in a general election.

Table 3. Fraction in member-level aggregate assets of each asset class

	(I) All married		(II) Female		(III) Dual-earning	
	Mean	**SD**	**Mean**	**SD**	**Mean**	**SD**
Panel A. Fraction of politician's total assets in own holdings						
Cash-equivalent assets	14.86	(19.82)	18.4	(21.8)	14.91	(20.85)
Risky assets	11.35	(19.59)	12.54	(18.5)	12.53	(20.83)
Real estate assets	56.65	(31.03)	48.75	(29)	56.36	(31.05)
Movable	43.35	(31.03)	51.25	(29)	43.64	(31.05)
Immovable	56.65	(31.03)	48.75	(29)	56.36	(31.05)
Panel B. Fraction of spouse's total assets in spouse's holdings						
Cash-equivalent assets	18.6	(23.69)	17.14	(26.06)	17.71	(22.12)
Risky assets	13.92	(22.14)	18.29	(27.25)	16.06	(24.16)
Real estate assets	47.64	(33.35)	54.29	(33.43)	47.35	(32.26)
Movable	52.35	(33.36)	45.63	(33.47)	52.64	(32.27)
Immovable	47.64	(33.35)	54.29	(33.43)	47.35	(32.26)
Panel C. Participation						
Self: held cash-equivalent assets	0.98	(0.13)	1	(0)	0.98	(0.13)
Self: held risky assets	0.6	(0.49)	0.68	(0.47)	0.62	(0.49)
Self: held real estate assets	0.92	(0.27)	0.94	(0.24)	0.92	(0.28)
Spouse: held cash-equivalent assets	0.89	(0.31)	0.93	(0.25)	0.93	(0.25)
Spouse: held risky assets	0.59	(0.49)	0.58	(0.5)	0.65	(0.48)
Spouse: held real estate assets	0.78	(0.41)	0.82	(0.38)	0.83	(0.38)
Panel D. Asset Diversification Index						
Self	0.4	(0.2)	0.47	(0.19)	0.4	(0.2)
Spouse	0.41	(0.21)	0.36	(0.21)	0.42	(0.2)
Observations	1,278		131		614	

Notes: See Table 2. The sample in this table is the married political household. Female is the married household of female politicians. Dual-earning household is household with both spouses at work.

Table 4. Intra-household asset portfolio allocation

	All married		Female		Dual earning		Appointed		New entrant		Incumbent	
	Mean	**(sd.)**	**Mean**	**(sd.)**	**Mean**	**(sd.)**	**Mean**	**(sd.)**	**Mean**	**(sd.)**	**Mean**	**(sd.)**
Panel A. Fraction of household aggregate assets in politician's holdings												
Cash-equivalent assets	7.61	(11.85)	8.4	(12.93)	7.05	(11.81)	10.64	(11.38)	8.45	(12.99)	6.88	(10.73)
Risky assets	6.82	(13.58)	6.4	(11.22)	6.83	(12.79)	13.49	(17.12)	8.43	(14.22)	5.42	(12.85)
Real estate assets	34.79	(27.06)	26.82	(23.58)	32.87	(25.8)	28.17	(24.28)	33.27	(26.78)	36.09	(27.26)
Panel B. Fraction of household aggregate assets in spouse's holdings												
Cash-equivalent assets	5.87	(9.05)	4.94	(7.67)	6.47	(9.71)	7.02	(8.42)	6.02	(9.51)	5.74	(8.64)
Risky assets	6.05	(12.74)	9.72	(18.75)	7.29	(14.21)	7.9	(10.57)	6.16	(12.4)	5.95	(13.04)
Real estate assets	22.52	(24.23)	28.34	(26.43)	23.67	(23.61)	19.89	(23.04)	21.49	(24.18)	23.42	(24.25)
Panel C. Likelihood that spouse owns higher than self												
Income	0.16	(0.37)	0.26	(0.44)	0.23	(0.42)	0.11	(0.31)	0.15	(0.35)	0.17	(0.38)
Cash-equivalent assets	0.45	(0.5)	0.36	(0.48)	0.51	(0.5)	0.38	(0.49)	0.44	(0.5)	0.46	(0.5)
Risky assets	0.35	(0.48)	0.4	(0.49)	0.4	(0.49)	0.35	(0.48)	0.32	(0.47)	0.38	(0.49)
Real estate assets	0.38	(0.49)	0.51	(0.5)	0.41	(0.49)	0.38	(0.49)	0.38	(0.48)	0.38	(0.49)
Observations	1,278		131		614		165		592		686	

Notes: See Table 3. The sample in this table is the married political household; Female is the married household of female politicians; Dual-earning household is household with both spouses at work; Appointed is households with appointed politicians; New Entrant is households of politician who holds nation-level position for the first time; Incumbent is households of politicians who have previous political experiences.

Table 5. Land holdings and transactions of political members

	Holdings	Transaction	
Type of land plots:		**Sells**	**Buys**
Land plot area (in hectare)	1.16	3.34	0.95
Land value (millions of bahts)	4.36	4.22	4.95
Land value per ha	29.69	30.26	39.16
Percentile in ranking of all plots			
Measured by plot area	50.093	54.43	46.62
Measured by plot value	51.188	51.64	47.28
Measure by value per ha	50.47	47.43	50.92
Plot in district of birth	0.25	0.18	0.16
Plot in province of birth	0.46	0.42	0.45
Plot in region of birth	0.58	0.62	0.72
Plot in province of constituency (sub-sample)	0.72	0.73	0.80
Plot in region of constituency (sub-sample)	0.78	0.78	0.79
Num. convenience stores in 2 km radius	8.27	7.40	9.08
Num. super stores in 10 km radius	5.76	4.95	5.89
Distance to nearest river (km)	13.60	13.25	16.51
Distance to nearest forest (km)	7.48	9.55	11.55
Distance to nearest national park (km)	17.96	17.45	18.33
Average frequency of annual flood	0.48	0.85	0.58
Whether plot was flooded in 2011	0.19	0.24	0.32
Night light index (1993)	19.72	17.61	20.30
Change in night light (2003 and 1993)	3.31	2.83	3.77
Change in night light (2013 and 2003)	12.20	11.69	9.72
Distance to nearest main road (2012)	0.55	0.59	0.52
Reduction in distance to main road (2012,2016)	0.026	0.01	0.014
Total count*	55167	8730	6561
Per member with land assets*	51.22	8.11	6.09
Per member active in land transactions*	51.22	14.33	14.52
Number of members	1077	609	452

Notes: Holdings refer to land plots politicians always have in their land portfolio throughout their tenure. Sells refers to plots have been sold during her tenure, and Buys refers to plots acquire during her present political tenure. *The counts include the same land plots held in different disclosure forms.

Table 6. Land portfolio weight and politician's locality connection

	A. Fraction in total value			B. Fraction in total area			C. Fraction in total num. plots		
	(I)	(II)	(III)	(IV)	(V)	(VI)	(VII)	(VIII)	(IX)
In region of birth	0.152	0.077	0.177	0.190*	0.094	0.163	0.363**	0.233	0.236
	[0.114]	[0.107]	[0.124]	[0.105]	[0.101]	[0.109]	[0.153]	[0.160]	[0.161]
In province of birth	35.992***	26.238***	24.980***	32.067***	17.941***	19.101***	34.721***	22.130***	22.126***
	[3.004]	[2.176]	[1.726]	[5.034]	[2.316]	[2.870]	[4.180]	[1.270]	[2.448]
In region of constituency		0.155	0.133		0.218*	0.211		0.25	0.245
		[0.183]	[0.193]		[0.130]	[0.131]		[0.152]	[0.154]
In province of constituency		27.047***	27.805***		30.262***	30.897***		28.699***	29.510***
		[2.261]	[3.241]		[1.978]	[3.369]		[1.992]	[3.350]
In province of birth x Party T			-2.288			0.367			0.242
			[2.364]			[2.797]			[3.126]
In province of birth x Party D			-5.781			-4.112			-5.001
			[4.106]			[4.114]			[3.578]
In province of constituency x Party T			-0.05			-2.655			-1.908
			[4.771]			[5.046]			[4.751]
In province of constituency x Party D			4.642			0.925			2.101
			[5.394]			[5.682]			[5.437]
Political Party Fixed Effects	Y	Y	Y	Y	Y	Y	Y	Y	Y
Member Fixed Effects	Y	Y	Y	Y	Y	Y	Y	Y	Y
Province Fixed Effects	Y	Y	Y	Y	Y	Y	Y	Y	Y
N	325,017	325,017	325,017	326,634	326,634	326,634	306,383	306,383	306,383
Adj R2	0.255	0.306	0.321	0.21	0.294	0.297	0.252	0.329	0.334
Total effect of local connections			53.1			50.37			52.12
			[3.818]			[4.095]			[3.896]

Notes: ***, **, * 1%, 5%, 10% significant level. Dependent variable is land portfolio weight held in each province, calculated in three ways: (i) fraction of plot area in total area, (ii) fraction in total value, and (iii) fraction in total number of plots held in politician's land portfolio.

Table 7. Land portfolio weight, with spouse's local connections (married sample)

	(I) All	(II) All	(III) All	(IV) Electoral	(V) Appointed
In region of birth	0.281	0.326**	0.231	0.011	0.004
	[0.173]	[0.132]	[0.142]	[0.195]	[0.957]
In province of birth	25.440***	25.500***	16.801***	15.565***	8.877***
	[2.316]	[3.138]	[2.331]	[3.194]	[2.600]
In spouse's region of birth		0.102	0.09	0.038	0.013
		[0.167]	[0.172]	[0.193]	[1.058]
In spouse's province of birth		16.967***	16.079***	13.878***	19.996***
		[2.230]	[1.964]	[2.286]	[4.194]
In region of constituency	0.202		0.212	0.719**	
	[0.222]		[0.220]	[0.355]	
In province of constituency	25.959***		24.009***	25.886***	
	[3.660]		[3.464]	[3.402]	
In province of constituency x Party T	-0.149	23.107***	-0.429	0.62	
	[5.738]	[4.373]	[5.505]	[5.473]	
In province of constituency x Party D	0.879	23.020***	-0.623	-0.98	
	[6.331]	[4.809]	[6.216]	[5.483]	
In province of birth x Party T	-1.937	-9.640**	-1.092	-2.359	
	[2.963]	[4.493]	[2.680]	[4.976]	
In province of birth x Party D	-6.633	-13.227***	-4.827	-3.796	
	[5.121]	[3.892]	[4.794]	[5.029]	
Political Party Fixed Effects	Y	Y	Y	Y	Y
Member Fixed Effects	Y	Y	Y	Y	Y
Province Fixed Effects	Y	Y	Y	Y	Y
N	249,249	249,249	249,249	173,866	27,951
Adj R2	0.325	0.333	0.351	0.373	0.367
Total effect of local connections	51.88	42.89	57.42	56.1	28.89
	[4.225]	[4.207]	[4.23]	[4.81]	[4.148]

Notes: See Table 10 for details.

Table 8. Difference-in-differences estimates for land portfolio weight

	(I)	(II)	(III)	(IV)	(V)	(VI)
	% Value		% Area		% Number of plots	
In region of birth	0.301	0.268	0.278	0.189	0.284	0.204
	[0.223]	[0.262]	[0.192]	[0.196]	[0.210]	[0.220]
In province of birth	26.551***	12.932***	24.699***	10.545***	25.939***	12.324***
	[2.967]	[2.613]	[3.911]	[2.695]	[3.409]	[2.581]
In region of constituency		0.072		0.201		0.179
		[0.212]		[0.174]		[0.183]
In province of constituency		24.352***		25.307***		24.310***
		[3.435]		[3.402]		[3.309]
After	0.14	0.126	0.107	0.096	0.164	0.147
	[0.119]	[0.129]	[0.079]	[0.089]	[0.110]	[0.119]
After x In region of birth	-0.017	-0.018	0.006	0.017	-0.05	-0.049
	[0.122]	[0.096]	[0.076]	[0.058]	[0.107]	[0.085]
After x In province of birth	8.026***	5.826***	8.826***	6.514***	8.035***	5.239***
	[1.693]	[1.398]	[1.585]	[1.389]	[1.663]	[1.321]
After x In region of constituency		0.006		-0.02		0.003
		[0.077]		[0.072]		[0.071]
After x In province of constituency		4.202**		4.416**		5.341***
		[1.839]		[1.695]		[1.939]
Political Party Fixed Effects	Y	Y	Y	Y	Y	Y
Member Fixed Effects	Y	Y	Y	Y	Y	Y
Province Fixed Effects	Y	Y	Y	Y	Y	Y
N	157,388	157,388	157,388	157,388	157,388	157,388
Adj R2	0.219	0.289	0.208	0.293	0.222	0.302

Notes: ***, **, * 1%, 5%, 10% significant level. The dependent variable is the weight (in fraction term) of land plots held in each province, for land acquired before and during the tenure. After is an indicator value takes value of 1if the land plot is acquired during or after taking office. Columns I and II calculate the weight out of total value of land, columns III and IV calculate the weight from total size (hectare) to the whole land portfolio, and columns V and VI calculate weight from total number of plots acquire before and during the present tenure.

Table 9. Returns to locally connected land

	(I)	(II)	(III)	(IV)	(V)	(VI)
	Log of night lights index (2013)		**Distance to main roads (2017)**		**Distance to shops (2017)**	
In region of birth	0.108***	0.112***	0.019***	0.037***	-0.088	-0.563***
	[0.013]	[0.015]	[0.005]	[0.005]	[0.117]	[0.132]
In province of birth	-0.152***	-0.181***	-0.040***	-0.052***	1.535***	1.999***
	[0.015]	[0.017]	[0.005]	[0.006]	[0.132]	[0.151]
In district of birth	0.264***	0.269***	0.018***	0.018***	-4.650***	-4.673***
	[0.010]	[0.010]	[0.003]	[0.004]	[0.089]	[0.091]
In region of constituency		0.076***		-0.026***		0.810***
		[0.016]		[0.006]		[0.145]
In province of constituency		0.02		0.021***		-1.120***
		[0.017]		[0.006]		[0.149]
Distance to main roads (2012)	-0.010***	-0.010***	0.997***	0.997***	1.024***	1.024***
	[0.001]	[0.001]	[0.000]	[0.000]	[0.005]	[0.005]
Initial night lights (1993)	0.035***	0.035***	0.001***	0.001***	-0.200***	-0.200***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.002]	[0.002]
N	70,458	70,458	70,458	66,334	70,458	66,334
Adj R2	0.66	0.663	0.998	0.998	0.793	0.796
Total effect of local connections	0.219	0.295	-0.00295	-0.00172	-3.203	-3.547
	[0.012]	[0.015]	[0.004]	[0.0053]	[0.107]	[0.133]
Political Party Fixed Effects	Y	Y	Y	Y	Y	Y
Member Fixed Effects	Y	Y	Y	Y	Y	Y
Location Province Fixed Effects	Y	Y	Y	Y	Y	Y

Notes: ***, **, * 1%, 5%, 10% significant level. All regression include distance to nearest main road in 2012, night light index in 1993, quintiles of total household wealth. All regressions control for individual fixed effects and province location of plot fixed effects. Total effect of local connections is a linear combination of all estimated local connection variables.

Table 10. Returns to locally connected land and spouse's local connections.

Dependent variables:	(I)	(II)	(III)	(IV)	(V)	(VI)
	Log of night lights index (2013)		Distance to main roads (2017)		Distance to shops (2017)	
In region of birth	0.099***	0.127***	0.031***	0.049***	-0.492***	-0.781***
	[0.016]	[0.017]	[0.006]	[0.006]	[0.140]	[0.151]
In province of birth	-0.133***	-0.177***	-0.053***	-0.061***	1.887***	2.244***
	[0.018]	[0.020]	[0.006]	[0.007]	[0.162]	[0.178]
In district of birth	0.184***	0.184***	0.023***	0.027***	-4.157***	-3.814***
	[0.011]	[0.012]	[0.004]	[0.004]	[0.099]	[0.109]
In spouse's region of birth		-0.075***		-0.054***		0.700***
		[0.018]		[0.006]		[0.158]
In spouse's province of birth		0.104***		0.014**		-0.855***
		[0.020]		[0.007]		[0.176]
In spouse's district of birth		-0.01		-0.010**		-0.824***
		[0.014]		[0.005]		[0.123]
In region of constituency	0.077***	0.079***	-0.025***	-0.021***	1.079***	1.060***
	[0.017]	[0.017]	[0.006]	[0.006]	[0.152]	[0.153]
In province of constituency	0.046**	0.047***	0.017***	0.018***	-1.235***	-1.227***
	[0.018]	[0.018]	[0.006]	[0.006]	[0.159]	[0.159]
Distance to main roads (2012)	-0.009***	-0.009***	0.997***	0.997***	1.026***	1.026***
	[0.001]	[0.001]	[0.000]	[0.000]	[0.005]	[0.005]
Initial night lights (1993)	0.035***	0.035***	0.001***	0.001***	-0.204***	-0.203***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.002]	[0.002]
N	54,407	54,407	54,407	54,407	54,407	54,407
Adj R2	0.656	0.656	0.998	0.998	0.812	0.812
Total effect of local connections	0.273	0.278	-0.00575	-0.0384	-2.919	-3.496
	[0.016]	[0.019]	[0.0057]	[0.0068]	[0.144]	[0.173]
Political Party Fixed Effects	Y	Y	Y	Y	Y	Y
Member Fixed Effects	Y	Y	Y	Y	Y	Y
Location Province Fixed Effects	Y	Y	Y	Y	Y	Y

Table 11. Difference-in-difference estimates on returns to connected land

Dependent variables:	(I)	(II)	(III)	(IV)	(V)	(VI)
	Log of night lights index (2013)		Distance to main roads (2017)		Distance to shops (2017)	
In region of birth	0.110***	0.092***	0.037***	0.045***	-0.134	-0.418***
	[0.014]	[0.015]	[0.005]	[0.005]	[0.128]	[0.136]
In province of birth	-0.104***	-0.131***	-0.055***	-0.064***	1.105***	1.626***
	[0.016]	[0.017]	[0.006]	[0.006]	[0.143]	[0.156]
In district of birth	0.186***	0.183***	0.028***	0.027***	-4.081***	-4.033***
	[0.011]	[0.011]	[0.004]	[0.004]	[0.098]	[0.098]
In region of constituency		0.060***		-0.017***		0.719***
		[0.017]		[0.006]		[0.150]
In province of constituency		0.062***		0.024***		-1.325***
		[0.017]		[0.006]		[0.153]
After	-0.129***	-0.070***	0.026***	0.052***	0.351**	-0.331*
	[0.018]	[0.020]	[0.006]	[0.007]	[0.159]	[0.179]
After x In region of birth	0.160***	0.083**	-0.056***	-0.059***	-0.981***	-0.963***
	[0.032]	[0.036]	[0.011]	[0.012]	[0.290]	[0.318]
After x In province of birth	-0.364***	-0.213***	0.056***	0.080***	2.718***	2.139***
	[0.032]	[0.037]	[0.011]	[0.013]	[0.290]	[0.335]
After x In district of birth	0.416***	0.436***	-0.038***	-0.029***	-3.079***	-3.340***
	[0.022]	[0.022]	[0.008]	[0.008]	[0.198]	[0.200]
After x In region of constituency		0.156***		-0.026		0.707*
		[0.045]		[0.016]		[0.406]
After x In province of constituency		0.338***		-0.043***		1.141***
		[0.046]		[0.016]		[0.410]
N	66334	66334	66334	66334	66334	66334
Adj R2	0.665	0.665	0.998	0.998	0.797	0.797
Total effect of local connections *after in power*	0.212	0.123	-0.038	-0.0772	-1.343	-0.316
	[0.024]	[0.027]	[0.008]	[0.009]	[0.211]	[0.241]
Political Party Fixed Effects	Y	Y	Y	Y	Y	Y
Member Fixed Effects	Y	Y	Y	Y	Y	Y
Location Province Fixed Effects	Y	Y	Y	Y	Y	Y

Notes: ***, **, * 1%, 5%, 10% significant level. The regression is estimated at plot-level. The dependent variables are land value (plot-level), measured by (i) log of night lights index in 2013; (ii) distance to nearest main road (2017) and (iii) distance to the nearest urban centre, for land acquired before and during the tenure. After is an indicator value takes value of 1if the land plot is acquired during or after taking office. Total effect of local connections *after in power* is a linear combination of all estimated local connection variables.

Table 12. Local knowledge and political power premiums

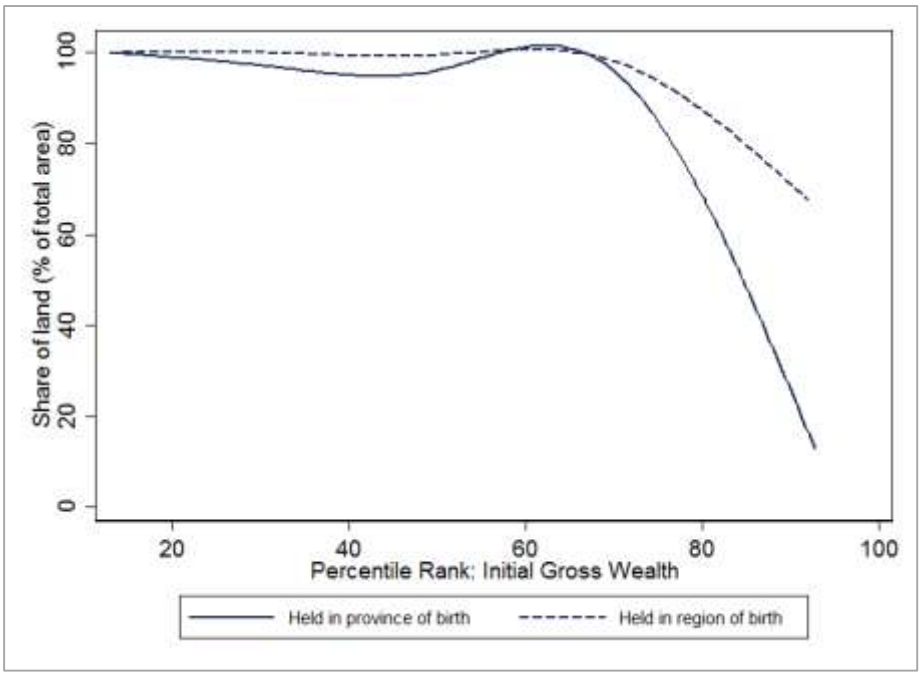
Dependent: Log of nightlight intensity (annualised)	**(I)**	**(II)**
Birth district x Post_acquire	0.106***	0.065***
	[0.008]	[0.011]
Birth district x Post_office		0.072***
		[0.012]
Birth province x Post_acquire	0.042***	0.063***
	[0.010]	[0.012]
Birth province x Post_office		-0.059***
		[0.015]
Birth region x Post_acquire	-0.125***	-0.128***
	[0.009]	[0.011]
Birth region x Post_office		0.027**
		[0.014]
Electoral province x Post_acquire	-0.033***	-0.009
	[0.012]	[0.015]
Electoral province x Post_office		-0.028*
		[0.017]
Electoral region x Post_acquire	0.101***	0.029*
	[0.012]	[0.015]
Electoral region x Post_office		0.114***
		[0.017]
Interaction effect of local connections after in power	0.216	0.145
	[0.011]	[0.009]

Notes: ***, **, * 1%, 5%, 10% significant level. The regression is estimated at plot-level. The dependent variable is log of annual night lights index. Post_acquire is an indicator variable that equals to 1 if the land plot has been acquired by an individual in a given year, and zero otherwise. Post_office is an indicator variable equals to 1 if the plot owed by an individual who has been in political power in a given year, and zero otherwise. Total effect of local connections *after in power* is a linear combination of all estimated local connection variables.

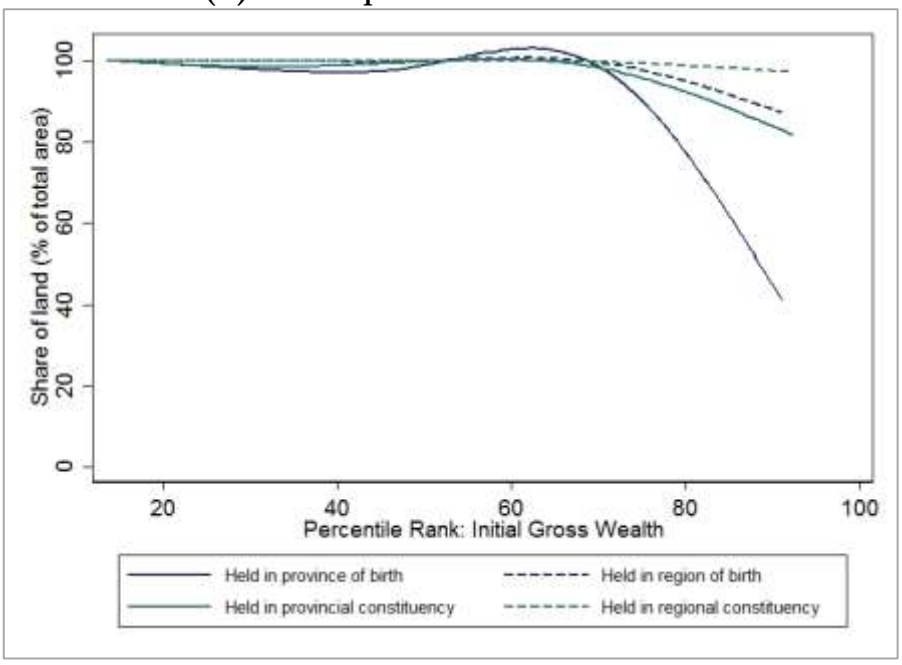
APPENDIX FIGURES

Appendix Figure A.1: Locality and land ownership by wealth distributional rank

(A) Full sample

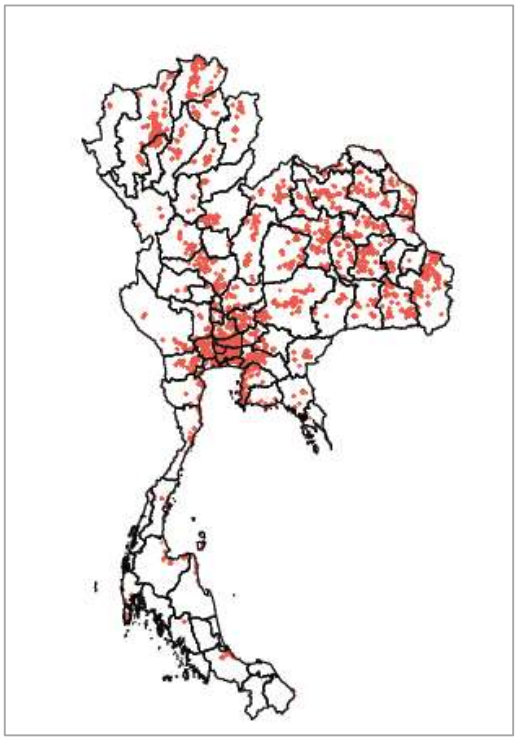


(B) Subsample with electoral district

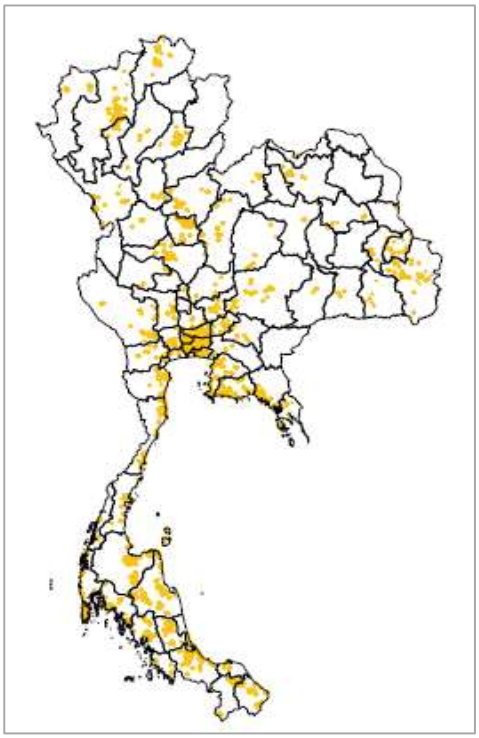


Notes: In A, we subdivide households into gross wealth percentiles and report the average share of land within each wealth group being held in localities which are (i) province of birth or (ii) region of birth, as a percentage to total area of all land in the portfolio (measured in hectare). Figure B reports the land holding patterns among politicians who have own electoral district. It reports the average share of land within each wealth group being held in localities which are (i) province of birth; (ii) region of birth; (iii) province of their electoral constituency; and (iv) region of their electoral constituency.

Appendix Figure A.2. Locations of land plots (of two major political parties)



(A) Pheu Thai Party



(B) Democrats Party

Appendix Figure A.2. Location of land plots among the top four land owners

(A) Politician No. 1: 865 plots

(B) Politician No. 2: 550 plots

(C) Politician No. 3: 472 plots

(D) Politician No. 4: 335 plots

Source: Disclosed land ownership and Department of Land, calculated by the authors.

APPENDIX TABLES

Table A.1. Political cycles in Thailand since the 2001 Wealth Disclosure Law

Political cycles	Date	Term duration (months)	Total members	Disclosed wealth	Fraction in total (%)
Panel: Members of Parliament					
The 23rd Parliament	Feb 2005 - Feb 2006	12	500	N/A	
The 24th Parliament	April 2006	Nullified	N/A	N/A	
The 25th Parliament (Party List)	Jan 2008 - May 2011	40	115	115	100.0
The 25th Parliament (Constituency)	Jan 2008 - May 2011	40	450	433	96.2
The 26th Parliament (Party List)	July 2011 - Dec 2013	29	151	136	90.1
The 26th Parliament (Constituency)	July 2011 - Dec 2013	29	380	380	100.0
The 27th Parliament	Feb 2014	Nullified	N/A	N/A	N/A
Panel: Members of Cabinet					
The 54th Cabinet (Thaksin I)	Feb 2001 - March 2005	48	100	16	16.0
The 55th Cabinet (Thaksin II)	March 2005 - Sep 2006	18	57	54	94.7
The 56th Cabinet (Surayut)*	Sep 2006 - Jan 2008	16	44	41	93.2
The 57th Cabinet (Samak)	Jan 2008 - Sep 2008	7	58	44	75.9
The 58th Cabinet (Somchai)	Sep 2008 - Dec 2008	3	44	38	86.4
The 59th Cabinet (Abhisit)	Dec 2008 - Aug 2011	32	54	54	100.0
The 60th Cabinet (Yingluck)	Aug 2011 - May 2014	33	100	99	99.0
The 61st Cabinet (Prayut)*	Aug 2014 - To Date	48	69	69	100.0
Panel: Members of Senate					
The 2008 Elected Senate	Jan 2008 - March 2014	72	76	75	98.7
The 2008 Appointed Senate	Jan 2008 - March 2014	72	74	74	100.0
The 2014 Elected Senate	March 2014 - Aug 2014	5	77	77	100.0

Notes: * denotes the cabinet that is appointed to position after a coup d'état. Party list refers to MPs elected by a proportional representation method, with a closed party list. Constituency refers to MPs elected by a FPTP voting method, which voters cast their votes to a candidate in their constituency.

Table A.2. Summary statistics of politician's characteristic by political office

	MPs		Cabinet		Senators		Never held office		Ever held office	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Female	0.12	(0.33)	0.08	(0.27)	0.17	(0.38)	0.16	(0.37)	0.10	(0.29)
Age	52.59	(10.32)	57.28	(8.4)	60.62	(8.06)	54.35	(10.96)	54.40	(9.83)
Married	0.75	(0.43)	0.86	(0.34)	0.76	(0.43)	0.73	(0.44)	0.78	(0.41)
Have children	0.80	(0.4)	0.78	(0.42)	0.89	(0.31)	0.81	(0.4)	0.81	(0.39)
Edu: postgraduate	0.58	(0.49)	0.65	(0.48)	0.51	(0.5)	0.50	(0.5)	0.62	(0.49)
Edu: PhD	0.07	(0.26)	0.09	(0.28)	0.08	(0.27)	0.07	(0.26)	0.08	(0.27)
Academic title	0.01	(0.1)	0.02	(0.15)	0.01	(0.09)	0.01	(0.1)	0.01	(0.1)
Armed force	0.06	(0.23)	0.09	(0.29)	0.01	(0.09)	0.08	(0.28)	0.08	(0.27)
Current cabinet member	0.22	(0.42)	N/A	N/A	N/A	N/A	0.22	(0.41)	0.26	(0.44)
Ever held political office	0.64	(0.48)	0.56	(0.5)	0.06	(0.24)	N/A	N/A	N/A	N/A
Ever a cabinet member	0.17	(0.38)	0.35	(0.48)	0.01	(0.11)	N/A	N/A	0.28	(0.45)
Ever an MP	0.62	(0.49)	0.47	(0.5)	0.06	(0.23)	N/A	N/A	0.95	(0.21)
Num. terms as MP	2.03	(2.55)	1.91	(2.57)	0.14	(0.85)	N/A	N/A	3.14	(2.55)
Num. terms as cabinet member	0.38	(1.08)	0.75	(1.39)	0.01	(0.11)	N/A	N/A	0.60	(1.29)
Fraction of vote won	33.97	(23.06)	16.69	(22.77)	30.92	(28.22)	23.56	(23.67)	38.52	(23.15)
Disclosed wealth in previously	0.1	(0.3)	0.38	(0.49)	0.02	(0.15)	N/A	N/A	0.10	(0.31)
Total number:	1,375		415		249		828		906	
Total unique individuals	856		221		246		759		561	

Table A.3. Aggregate wealth by personal characteristics in the Wealth Disclosure data and external dataset (in median values)

					External Datasets	
	P25	**P50**	**P75**	**P99**	**TH-SES**	**Townsend**
Panel: Median of values (in millions of bahts)						
Gross income (1)	1.3	1.6	2.6	15.0	0.32	0.31
Gross liabilities	0.0	1.4	6.1	238.3	0.59	0.36
Net assets (2)	9.8	32.3	95.1	329.9	3.50	5.50
Net wealth (3) = (1) + (2)	15.3	40.0	112.7	368.2	3.83	5.81
Cash equivalent assets	0.6	2.9	10.3	148.9	N/A	1.99
Risky assets	0.0	1.0	10.1	633.3	0.32	N/A
Real estate assets	6.5	20.5	59.6	847.3	2.71	2.74
Other assets	1.2	3.4	9.0	149.4	0.27	0.02
Movable assets	3.8	12.4	39.7	1153.2	N/A	N/A
Immovable assets	6.5	20.4	59.6	847.3	N/A	N/A
Panel: Participation (%)						
Held cash equivalent assets					N/A	1.00
Held risky assets					0.99	N/A
Held real estate assets					0.98	0.99
Held other assets					1.00	1.00
Asset Diversification Index	0.48	0.69	0.87	1.00	N/A	N/A
Panel: Fraction in gross assets						
Fraction in cash equivalent assets	2.4	8.0	21.2	96.2	N/A	36.19
Fraction in risky assets	0.0	3.8	18.7	82.6	9.07	N/A
Fraction in real estate assets	36.9	58.9	79.1	99.5	77.46	49.75
N					21,221	3051

Notes: TH-SES is the subsample of households in Thailand's Socio-Economic Surveys (pooled data from the surveys of 2006-2015) with household head in ISCO-1 (senior government official or senior managers or CEO in private sector). Townsend sample is from the subsample of households in the Townsend Thai Monthly Survey (waves 2005-2007), restricted to households with the highest education qualification is college or above.

Table A.4.Land portfolio weight, with spouse's local connections (heterogeneous)

	(I) Top Wealth	(II) Low Wealth	(III) Single	(IV) Married	(V) Electoral	(VI) Appointed
In region of birth	0.159	0.261	0.007	0.281	-0.027	0.013
	[0.126]	[0.241]	[0.413]	[0.173]	[0.207]	[0.495]
In province of birth	19.722***	27.988***	24.168***	25.440***	19.543***	20.227***
	[2.542]	[3.270]	[5.229]	[2.316]	[3.704]	[2.990]
In region of constituency	0.153	0.182	0.131	0.202	0.708**	
	[0.182]	[0.270]	[0.240]	[0.222]	[0.342]	
In province of constituency	16.494***	39.904***	33.747***	25.959***	31.249***	
	[4.127]	[4.088]	[7.959]	[3.660]	[3.587]	
In province of birth x Party T	5.645**	-8.452**	-3.369	-1.937	-1.699	
	[2.798]	[4.200]	[7.086]	[2.963]	[4.798]	
In province of birth x Party D	-2.534	-7.518	-4.205	-6.633	-3.804	
	[6.227]	[4.566]	[7.609]	[5.121]	[5.077]	
In province of constituency x Party T	-0.724	-4.265	-1.108	-0.149	-0.014	
	[6.845]	[5.856]	[10.489]	[5.738]	[5.255]	
In province of constituency x Party D	2.486	1.817	20.72	0.879	3.749	
	[8.555]	[6.108]	[13.760]	[6.331]	[5.857]	
Political Party Fixed Effects	Y	Y	Y	Y	Y	Y
Member Fixed Effects	Y	Y	Y	Y	Y	Y
Province Fixed Effects	Y	Y	Y	Y	Y	Y
N	167,013	158,004	69,146	249,249	225,148	32,494
Adj R2	0.274	0.387	0.359	0.325	0.361	0.337
Total effect of local connections	36.53	68.33	58.05	51.88	51.47	20.227
	[4.206]	[4.244]	[7.682]	[4.225]	[4.267]	[2.99]

Notes: ***, **, * 1%, 5%, 10% significant level. Dependent variable is land portfolio weight held in each province, calculated in fraction in total value of plots held in politician's land portfolio. Each column is a separate regression for each subsample: Top wealth is the households at the two highest gross wealth quintiles (Q4 and Q5); Low wealth is the households at the three lowest gross wealth quintiles (Q1, Q2 and Q3); Single households, married households; households of politicians elected by local electoral; and household of politicians who are appointed in to the office.

Table A.5. Returns to connected land (heterogeneous).

	(I) Top Wealth	(II) Low Wealth	(III) Electorate	(IV) Appointed	(III) Before office	(IV) After office
In region of birth	0.145***	-0.046	0.119***	-0.082**	0.064*	0.294***
	[0.017]	[0.031]	[0.021]	[0.038]	[0.035]	[0.055]
In province of birth	-0.193***	-0.076**	-0.181***	0.239***	-0.185***	-0.493***
	[0.020]	[0.034]	[0.022]	[0.047]	[0.041]	[0.060]
In district of birth	0.285***	0.259***	0.299***	-0.058	0.053**	0.771***
	[0.012]	[0.018]	[0.011]	[0.045]	[0.022]	[0.022]
In region of constituency	0.042**	0.039	0.029		0.121***	0.159**
	[0.018]	[0.037]	[0.020]		[0.042]	[0.071]
In province of constituency	0.107***	-0.084**	0		0.011	-0.058
	[0.020]	[0.035]	[0.019]		[0.044]	[0.068]
Distance to main roads (2012)	-0.098***	-0.006***	-0.110***	-0.003***	-0.398***	-0.336***
	[0.003]	[0.001]	[0.003]	[0.001]	[0.010]	[0.010]
Initial night lights (1993)	0.031***	0.041***	0.035***	0.029***	0.030***	0.033***
	[0.000]	[0.000]	[0.000]	[0.001]	[0.000]	[0.001]
N	43989	22345	46391	7091	11378	9723
Adj R2	0.691	0.636	0.669	0.788	0.698	0.806
Total effect of local connections	0.386	0.0916	0.237	0.0989	0.0638	0.673
	[0.018]	[0.03]	[0.019]	[0.051]	[0.041]	[0.049]
Political Party Fixed Effects	Y	Y	Y	Y	Y	Y
Member Fixed Effects	Y	Y	Y	Y	Y	Y
Location Province Fixed Effects	Y	Y	Y	Y	Y	Y

Notes: ***, **, * 1%, 5%, 10% significant level. The regression is estimated at plot-level. The dependent variables are land value (plot-level), measured by (i) log of night lights index in 2013; (ii) distance to nearest main road (2017) and (iii) distance to the nearest urban centre, for land acquired before and during the tenure. After is an indicator value takes value of 1if the land plot is acquired during or after taking office. Total effect of local connections *after in power* is a linear combination of all estimated local connection variables.