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Abstract

"Political dynasty" refers to the situation wherein members of the same family are occupying elected positions either in sequence for the same position, or simultaneously across different positions. In the Philippines, political dynasties are prevalent in areas with more severe poverty. Two explanations for this situation have been proposed: poverty brings about political dynasties, or political dynasties engender poverty. These arguments suggest that the relationship between political dynasties and poverty can be treated as an empirical question. (So which one is the chicken, and which one is the egg?) In order to examine the direction of causality between political dynasties and poverty, this paper turns to provincial-level data from the Philippines and develops novel metrics on political dynasties: the shares of total positions occupied by dynastic politicians, of the largest dynastic clan as regards total positions, and of dynastic concentration inspired by the industrial concentration literature. To address endogeneity, instrumental variables for poverty are used, consisting of indicators for rainfall and the geographical distance to Manila (the Capital). The results we find are striking: poverty entrenches political dynasties; education appears to have no bearing on political dynasties; and the media affect only the largest political dynasties. There is less evidence that political dynasties bring about poverty.

JEL Codes: D70; I39; O53; P16

Keywords: democracy; political dynasty; inclusive growth; political equality; social inequality

1. Introduction

"Political dynasty" refers to the situation wherein members of the same family are occupying elected positions either in sequence for the same position or simultaneously across different positions. The political science literature maintains that political dynasties are significant in the deterioration of political competition; and, consequently, they contribute to poor socioeconomic outcomes. There are several reasons that can support such a conclusion. For instance, political dynasties can be effective in preventing the people from communicating their real needs to the government. They can weaken existing governance and accountability mechanisms to secure their positions. More specifically, dynastic officials can take advantage of state power for self-serving interests without fear of replacement or administrative sanctions; or, use state power to influence the selection of political leaders, thereby favoring those with political clout, preventing the best and the brightest from serving in the government, and/or biasing policies in favor of certain elite groups.[1]

On the other hand, there is also a view that political dynasties imply extended time horizons for socio-economic reforms and enable adequate planning and implementation of policies with long-term goals. Politicians with short and/or tenuous tenures tend to shun the difficult but necessary reforms that pay-off in the future and yield to populist demands in order to improve their chances of reelection. The extended time horizons of political dynasties afford them the longer reform runways necessary to pursue policies and programs that are critical to sustained, robust, and inclusive economic growth (c.f., Acemoglu and Robinson 2006; Rodrik 2007). It is also possible that the behavior of dynastic politicians is driven by legacy-related goals that are linked with the overall outcomes in their respective jurisdictions. Thus, the longer their tenure is, the more they tend to care about long term outcomes.

Given both sets of arguments above, the net impact of political dynasties on social and economic outcomes remains an empirical question. Do political dynasties exacerbate poverty, or does poverty escalate political dynasties? So which one is the "chicken," and which one is the "egg"?

[1] For a discussion, see Lacey (1993), Cullinane (1994), McCoy (1994a; 1994b) Sidel (1997), Coronel (1998; 2007), Hutchcroft and Rocamora (2003), Manacsa and Tan (2005), Teehankee (2007), Curato (2012), Mendoza (2012), and David (2013).

This paper develops a unique dataset on political dynasties in the Philippines in order to analyze the extent to which dynasties might be linked to poverty. It presents the first, and to our knowledge most comprehensive, data gathering effort to map the landscape of political dynasties at the local government (i.e. provincial) level in the Philippines.[2] Our results provide strong evidence that increases in poverty incidence result in increases in the prevalence of political dynasties using several measures (e.g. all at the provincial level, the share of total positions occupied by dynastic politicians, the share of the largest dynastic clan as regards total positions, and an indicator of dynastic concentration inspired by the industrial concentration literature).

This suggests that patron-client relationships between political elites and the economically weak may tend to reinforce political dynasties. In addition, education (using school attendance rates as proxy) does not appear to produce a significant effect on political dynasties, which suggests that education per se is futile against political dynasties. On the other hand, the presence of media (using the number of AM radio stations as proxy) appears negatively linked to political dynasties, but only when measured in terms of political concentration. This, in turn, suggests that the provision of public information through the media can be instrumental in mitigating the size of political dynasties.

On the other hand, our results on the effect of political dynasties on poverty are less conclusive. Political dynasties do not seem to be associated with either more or less poverty reduction. We interpret this finding as possible evidence that non-dynasties may not be offering viable alternatives for reform. This interpretation is consistent with anecdotal and other evidence that the existing political "rules of the game" are in part perpetuating patron-client relationships and, thus, encouraging the proliferation of new political dynasties—that is, those who replace political dynasties eventually become political dynasties themselves. In a way, the weak support of political parties for genuine political and electoral reform helps perpetuate this system of politics in the country.

[2] Other empirical studies in the Philippines have not yet reflected the full mapping of political dynasties at the level of the local government (i.e. province). See, for example, Balisacan and Fuwa (2004), Querrubin (2010; 2011) and Mendoza et al (2012) that look at political dynasties in the country at the aggregate level.

The rest of the paper is divided into four sections. Following the introduction, Section 2 presents a brief review of the literature on the relationship between political dynasties and socioeconomic outcomes. Section 3 describes the methodology and the data used in the study. Section 4 elaborates on the findings. The last section presents the implications of the findings and then concludes the discussion.

2. Review of Related Literature

There is an extensive literature on political dynasties; yet few studies focus on empirically examining their impact on socio-economic outcomes. The bottom line questions pertain to causality: Are political dynasties responsible for persistent poverty (i.e., perpetuating the status quo, weakening democratic competition and accountability, and undermining meritocracy and competitiveness); or, does poverty generate political dynasties (i.e., strengthening patron-client relations defined by a dependence of the poor on political patrons and preventing the emergence of new leaders from the middle class)? In this section, we briefly discuss three sets of literature, covering political self-perpetuation, the links between political dynasties and socioeconomic outcomes, and the role played by education and media in politics. Taken together, these studies piece together a framework on how to tackle the questions posed earlier.

Self-perpetuation

Political dynasties exist in many democracies, and there appears to be strong evidence on elected officials' ability to self perpetuate. Dal Bo et al. (2009) examined data on the Congress of the United States since it was established in 1789 to uncover the forces that bring about political dynasties. They hypothesize that (1) political dynasties emerge because some families possess certain characteristics (like political ambition and acuity), giving them persistent advantages in the political arena and; (2) political dynasties emerge because political capital and influence can be accumulated and bequeathed to family members. Their study showed a large decline in political dynasties in the US Congress over time: from 12 percent of legislators that were dynastic between 1789 and 1858 to six percent after 1966. Further, given the availability of the General Social Survey for 1972-2004 for the USA, the authors were able to estimate that dynasties for the USA was still higher for legislators compared to many other occupations, including economists and physicians. Using regression discontinuity as an identification strategy,

they found a causal link between longer tenures in the US Congress and the likelihood that relatives also successfully enter the Congress.[3] This finding suggests that a politician's time in office could help build a strong image or trusted "brand" that further contributes to the success of family members who might later also run for office.

Dal Bo et al. (2009) also found an inverse relationship between the presence of a political dynasty and the degree of political competition within their jurisdictions. One possible explanation, they posited, is that under intense political competition, political parties are forced to field non-dynastic and more talented candidates over dynastic candidates. They observed that dynastic officials predominate in less open, less mobile and less competitive states. Political dynasties were also observed to maintain a presence in more exclusive legislative bodies like that of the US Senate. If longer Congressional tenure increases the probability of an official establishing a dynasty, then the transmission of the office to another member of the family may be due not so much to the newer officials' personal qualities valued by voters (such as experience or human capital) but more due to connections with a stronger party machinery. This course is therefore a possible explanation why dynasties prevail in states where political competition is weaker.

In addition, Rossi (2009) examined the persistence of political dynasties using data on both houses of the Argentine Congress. In this study, a political dynasty is measured as a dummy variable that takes a value of one if the legislator had a relative who also served in the Argentine Senate. In order to deal with the endogeneity issue (i.e. of tenure and elected official's characteristics), Rossi used a natural experimental setting in Argentina in 1983 when shorter and longer tenures in the Senate (as mandated by the new constitution) were randomly assigned.[4] Similar to Dal Bo et al. (2009), this study by Rossi (2009) in Argentina also finds evidence that a

[3] The authors compared legislators who barely won and barely lost their electoral campaigns: those who barely won their first reelection were more likely to have a relative entered Congress than those who barely lost their first reelection.

[4] Previously, Argentine Senators had nine-year terms. The Argentine Constitution required the renewal of a third of the chamber every three years. In order to accomplish this, they randomly allocated one third of the senators elected in 1983 to three-year terms and another one third to six- year terms. This exogenous assignment of terms is not associated with the characteristics of the Senators, hence serving as a viable identification strategy.

longer tenure in office is positively associated with having a relative serving in the same office in the future. Longer tenure increases the probability of a relative in a future Congress, name recognition is an important asset in the perpetuation of a political dynasty and, in fact, a common surname dominates the advantage of a longer tenure in raising the probability of establishing a dynasty.

Furthermore, Asako et al. (2010) developed a theoretical model of the behavior of dynastic politicians with inherited political advantages. They predicted that, first, dynastic candidates possess an electoral advantage over non-dynastic candidates and, second, dynastic politicians pursue distributional programs but do not promote sustained growth because spending on redistribution programs was small.[5] These authors attempted to validate their theoretical model using data on the National Diet of Japan. To deal with the endogeneity problem, Asako et al. used the number of male children of previous lawmakers as an instrumental variable since Japanese lawmakers passed on their political seat only to their male children. Hence, having male children is a good predictor of continued dynastic rule.[6] However, the gender of the lawmakers' children would not be linked to the transfer programs from the central government. Their results indicate that districts electing dynastic legislators tend to benefit from larger intergovernmental transfers, yet they display weaker economic performance. The authors argued that this is largely due to the type of spending these leaders favor—typically focused on much smaller groups, even as they tend to bring more transfers to their districts.

Recent empirical analyses on political dynasties in the Philippine Congress found similar results on self-perpetuation. Defining dynasties in a similar way as the earlier studies above, Querubin (2010a) found that over 50 percent of legislators in the Philippine Congress and governors had a relative who was also in Congress or served as governor in the previous 20 years. He estimated

[5] These results are consistent Solon et al. (2009), who studied the public education and health spending of Philippine Governors elected in 1992, 1995 and 1998. Solon et al. (2009) found evidence that incumbent governors improve their re-election chances with higher spending on economic development services.

[6] During the period between 1996 and 2007, over 90 percent of Japanese politicians are male. Daughters are unlikely to form part of political dynasties. Of over 120 Japanese politicians described as dynastic, only 3 are women (Asako et al. 2010).

that the capacity for self-perpetuation of Filipino legislators is three times higher than that of legislators in the United States (i.e. Dal Bo et al. 2009). Furthermore, Mendoza, et al. (2012) found evidence that political dynasties in the 15th Congress won by much larger margins of victory, and tended to be wealthier. Nevertheless, they found that Philippine provinces with higher levels of political dynasties also displayed higher levels of poverty and weaker indicators of human development.

Like Dal Bo et al. (2009) and Rossi (2006), Solon et al. (2009) estimated the probability of governors being reelected, using a logit framework and panel data on Philippine governors for 1992-1998. Their results argue that an increase in development-oriented projects (specifically expenditures on health care and public works) would tend to increase the probability of re-election, especially in the lower income provinces.[7] Interestingly, provincial per capita income tended to grow lesser in the provinces with a lack of political competition, whether among rival dynasties, or between dynastic and non-dynastic candidates. This latter conclusion seems to confirm a result of Dal Bo et al. (2009).

Schaffer (2002) also studied the practice of vote buying in the Philippines, and his analysis revealed how low-income voters tend to prefer candidates and political groups that show respect and a degree of compassion to the low-income population. Thus, the advocacies of middle class groups and stakeholders that have used advertisements and leaflets to advocate against vote-selling are often regarded as patronizing by low income voters. Indeed, as Schaffer (2002) argues, these voters do not see themselves as selling their votes. It is possible that political dynasties have mastered the art of supporting poor and vulnerable communities, while still showing a measure of respect and compassion that low-income voters appreciate. This view is in

[7] Similarly, Capuno et al. (2012) analyze a panel dataset of municipalities and cities in three election years in the Philippines. They find evidence that yardstick competition in social insurance provision (i.e. more subsidized insurance coverage for the poor in neighboring local governments) leads to an increase in coverage offered by incumbent politicians. They interpret the situation as a strategy to secure political support during elections. Analysts also contend that the use of the so-called "pork barrel" funds is geared towards increasing the chances of re-election and perpetuating the hold on political office (e.g. Parreño 1998; Ravanilla 2012).

sharp contrast to the non-dynastic and progressive groups, which typically advance the messages of empowerment, self-help and voter responsibility.

More recently, Ravanilla (2012) finds evidence that political dynasties may use public funds to support allies and clan members. His analysis of the disbursement of the constituent development fund (CDF) of legislators tends to favor local patrons, particularly mayoral partisan allies in their districts. Such a skewed allocation of resources could also potentially weaken the chances to attain policy objectives such as poverty reduction, as argued by Mendoza, et al. (2012). Hence, self-perpetuation and (less robust) poverty reduction outcomes may actually be linked, even as it appears that political patrons are trying to spend public funds in a "pro-poor" way.

Political dynasties and poverty

There are few rigorous empirical studies on the extent to which political dynasties are causally linked to poverty and other socio-economic outcomes. The notable studies in this regard are Asako et al. (2010) and Balisacan and Fuwa (2004). The latter looked at economic growth and poverty reduction in Philippine provinces between 1988 and 1997, examining a number of possible factors behind this, which included the prevalence of political dynasties at the provincial level. They interpreted political dynasties (measured as the proportion of provincial officials related to each other by blood or affinity) as a proxy for political competition, i.e. there is lack of political competitiveness if there are more dynasties. Among the initial economic conditions in their regression framework, they found that the initial level of human capital stock (as measured by the child mortality rate) was negatively linked to provincial consumption per capita.

Balisacan and Fuwa (2004) also found that initial inequality in land distribution is positively linked to income growth. Their political dynasty variable also had a statistically significant negative effect on subsequent per capita income growth. This result, they argued, was in line with the literature on Philippine politics, asserting that the Philippines' uncompetitive political system has become one of the major factors behind poor policies and lackluster economic performance. However, these same authors found very little evidence that political dynasties are

linked to poverty at the provincial level.[8] The authors note that there is much scope for improving on their empirical analysis, considering that the political dynasty variable was primarily derived from interviews, rather than being constructed from actual identification of political dynasties based on a clear definition. In part, this study seeks to address this challenge.

Education and media

Finally, the political science literature helps shed light on some of the possible reasons behind these empirical results. Teehankee (2007), for example, argues that the emergence and persistence of political dynasties stems from the highly unequal socio-economic structure of Philippine society and the failure of the country to develop a truly democratic electoral and party system. Weak institutions and their associated outcomes—such as education—also contribute to an environment wherein power is effectively monopolized by a small elite group. The inability of the majority to contest the elite sets the stage for the emergence of numerous political dynasties.

The above view emphasizes how poverty and inequality could help create the demand for patrons. In an environment beset with aggregate shocks and crises, and absent a strong social safety net (e.g. unemployment insurance, health insurance, redistributive transfers), the poor have little recourse but to seek support from local patrons. This situation helps in entrenching personality-based politics and governance. Hence, political dynasties may be a manifestation of economic inequalities in the political sphere (Mendoza 2012).

Meanwhile, Coronel (2007) suggests that a combination of factors like wealth, popularity, political machinery, alliances, myth, and violence contribute to the formation of political dynasties.[9] In addition, Sidel (1997) notes that Philippine politicians have to spend an inordinate

[8] In any case, the poverty data for the Philippines are relatively stagnant across time. Balisacan and Fuwa (2004) note that even during the 1960s to 1970s (when high aggregate income growth ensued), poverty reduction was minimal. When poverty reduction was at its highest from 1980s to 1990s, the rate was still below the international standard (Deolalikar 2001; Ravallion 2001).

[9] The annex of this paper contains selected examples of Philippine political dynasties, and a schematic mapping of one political clan.

amount of money to have an effective campaign because of the need to combat and/or engage in vote buying, electoral fraud, and coercion.[10] In turn, access to elected office opens opportunities and resources to enable political dynasties to consolidate and expand their economic and power bases (McCoy 1994a, 1994b).[11] Coronel notes further that popularity often plays a prominent role in the establishment of political dynasties in the country, especially for the national-level politics.

Media thus plays an important role in promoting certain "personalities", helping to solidify name recall among the electorate. Teehankee (2007) posits that the primacy of the media in elections has enabled a number of politicians to build the foundations of their dynasties upon their projected public images. Name recall and recognition serve to cultivate the image of a candidate, reinforce political viability, and facilitate the emergence of a political dynasty. Most analysts also concede that this has created strong incentives for politicians to promote name recognition through various means, including by seeking to "label" projects and programs, as well as infrastructure (such as schools, health centers and roads).

But the work of Schaffer (2002) also underscores the importance of also understanding the perspective of the poor with regards to the role of elections and voting. In what seems to be an understudied phenomenon, Schaffer utilized focus groups discussions and interviews among low-income voters in a few communities and noted the disparity in attitudes and presuppositions between the poor and the reform-minded, generally non-dynastic political organizations like the *National Citizens' Movement for Free Elections* and the *Parish Pastoral Council for Responsible Voting* in the Philippines. He further noted that many of the information and advertising materials seemed quite patronizing to the poor, many of whom claimed to be offended by the presumption that the poor are willing to sell their votes. Indeed, the study participants insisted that they would like a measure of respect and compassion shown to them, by way of the candidates' manner of dealing with voters, their political slogans and statements, and their demeanor toward the poor.

[10] Indeed, Querubin (2010) finds that dynastic incumbents were about 50 percent richer than non-dynastic ones.

[11] Filipino elite families succeeded in transforming their entrepreneurial success as political success in both the local and national level, or vice versa. See, for example, McCoy (1994a).

Perhaps, these types of political interaction are more easily adopted and developed among the dynastic rather than the non-dynastic political groups.

It is also likely, in our view, that reform-minded politicians will face challenges in changing mindsets as far as patron-client relationships are concerned. Attempts to change these long-engrained relationships could also be misinterpreted as measures to "correct" the behavior of the poor, or as being insensitive to the conditions that they face. Indeed, in our own conversations with reform-oriented politicians, they have expressed some difficulty in changing the patron-client discourse and relationship. From the study of Clarke and Sison (2003: 221), a sample of Philippine politicians surmised that:

> "There are some politicians who wish there were more poor people. The poor are the bailiwick because […] if you are a moneyed politician, it's better to have poor people because you can buy them. Give them P200, P300 in the elections and they will vote for you."
> "I'm just vice mayor but you know I have an average of twenty to thirty people every day in [my] house, in [my] office, asking for support. I have no money and they need money. Even if it's P100, I'm spending P2000 a day. It's good I have other businesses, if not you'll be forced to steal money from the government to give to the poor […]."
> "[…] Once you're a government official, people think you are a rich person, that you can get money from the government. That's not true…My salary is only P21,000 [per month]."

Coronel (2007) also notes that political dynasties often consolidate their power through mergers, while Sidel (1997) adds that several dynasties owe their success to their close affiliation with more powerful political entities. Further, this effort to consolidate power and influence may be seen in efforts by certain political clans to occupy several elected positions simultaneously. These strategies enable prospective political dynasties to draw upon larger pools of resources and broaden their political influence.[12]

[12] Gerring et al. (2005) examine the relationship of economic growth and democracy among several countries over a long period and argue that democracy can be regarded more as a stock variable rather than a flow.

Indeed, recent patterns of non-dynastic leaders seeking to build their own political dynasties reflect this pattern. Take for instance the widely known boxer-turned-legislator, Emmanuel "Manny" Pacquiao, who ran unopposed as Congressman during the May 2013 elections, while his brother Rogelio also ran for Congressman (of another district), and his wife Jinkee ran for Vice-Governor of Sarangani Province.

3. Methodology and Data

We use two regression frameworks to examine the empirical relationship between political dynasties and poverty in the Philippines. The first framework follows the neoclassical growth model and the other uses a reduced form model that is based on the political science literature on what factors might influence the development and persistence of political dynasties. The juxtaposition of these two approaches allows for a more comprehensive test of which direction of causality appears to have stronger evidence.

Factors behind poverty, including indicators of political dynasties

Following Balisacan and Fuwa (2004), we specify the following regression model:

$$POVERTY_i = a + b \log(PCEXPINITIAL_i) + \sum_k c_k X_{ik} + u_i \quad (1)$$

where $POVERTY_i$ is the average annual rate of change in the headcount poverty ratio during the period under analysis; $PCEXPINITIAL_i$ is the level of per capita expenditures for province *i* in 2003 (i.e., initial period under analysis); X_{ik} is a set of determinants of the steady-state income level consisting of initial conditions and time-varying policy variables; and $u_i$is the error term. The initial conditions included measures of human capital (child mortality and literacy), institutions (agricultural area under irrigation, change in agricultural terms of trade, access to electricity, road density, and land covered by agrarian reform), and political competition in the province. The initial political characteristic of each province was indicated by the proportion of provincial officials related to each other by blood relations or affinity, as a proxy for political competitiveness.[13]

[13] Balisacan and Fuwa (2004) used expert opinions to approximate the dynasty indicator per province.

Our regressions use data from around 2003 to 2009, which is the same dataset used in Mendoza et al. (2012), but herein expanded to cover the entire top echelon of local government leadership. In addition, more nuanced indicators for political dynasties are used here, namely:

- DYNSHA: The variable builds on the dynasty indicator used in Balisacan and Fuwa (2004) by defining and encoding the actual number of dynasties (and not just the approximated share based on experts' opinions). First, dynasties are defined as those elected officials in 2010 with relatives in 2010 and 2007; and then the actual number of dynasties encumbering the top local government positions are more precisely measured, and covering the following positions: governor, vice-governor, mayor, vice-mayor, district based representatives and provincial board members. DYNSHA is a measure of the share of dynasties in all these positions for each province.

- DYNLAR: In order to account for the potentially large size of particular clans—or the presence of "fat" dynasties—DYNLAR indicates the number of positions encumbered by the largest political dynasty in each province. Its value added as an indicator could be clarified by this simple thought experiment. In province A, ten elected positions are occupied by eight dynastic officials that are not related to each other–that is, they are from eight distinct political clans, but they each have relatives in past elected positions in the province. In province B, also with ten elected positions available, eight dynastic officials are all related to each other—that is, they are from one political clan and they all have a family member serving in an elected position in the past. The DYNSHA indicator will be the same value of eight, for provinces A and B. However, the DYNLAR indicator will reflect the value one for province A and the value eight for province B. DYNLAR therefore helps to capture the possible effect of more concentrated political power even among political dynasties.

- DYNHERF: Another way to capture the presence of "fat" dynasties is to draw on the industrial regulation literature and use a variant of the Hirschman-Herfindahl

index applied to political dynasties at the provincial level. Essentially, DYNHERF is the sum of squared shares of the total positions of each political clan in each province. Hence, if there are 10 elected positions in province A, and there are three political clans, with family members elected to three positions for clan-1, two positions for clan-2 and one position for clan-3, and the five other elected positions are non-dynasties, then DYNHERF will take the value 14—that is, $3^2+2^2+1^2$. DYNHERF is a more nuanced indicator of the concentration of political power because it will put a corresponding greater weight on those political clans with larger shares of the total positions (while also considering the other "fat" dynasties in the province).

The dependent variable in Equation 1 is the change in headcount poverty between 2003 and 2006 in each province. The initial conditions were drawn from data collected from 2002 and 2003. Most of the measures for institutions were taken from 2002 and 2004. Only the change in road density, one of the measures of time-varying conditions, was taken from 2002 and 2008 because of the absence of data for 2004.

Drawing on the literature, the *a priori* expected results are as follows. First, political dynasties could have a strong positive association with poverty incidence. This view posits that decreased political competition arises because political dynasties, in turn reflecting a tendency for weaker accountability. On the other hand, political dynasties might also possess a long runway for reform, as well as legacy motivations, in turn suggesting a negative relationship with poverty—that is, due to their long runway for policy reforms, political dynasties could be more successful in reducing poverty (e.g., Mendoza et al. 2012).

In addition, the lagged measures of human capital are expected to be negatively associated with poverty incidence. Higher levels of human capital are associated with better access to a wider array of socioeconomic opportunities and outcomes. Further, higher scores on institutional variables are expected to translate to lower levels of poverty incidence.

Factors behind political dynasties, including poverty

Given the dearth in indicators for dynastic politics, few studies have empirically examined the possible factors behind political dynasties. Here, we draw primarily from political science and economic development literatures in order to identify possible factors that may influence the prevalence of political dynasties. Given the potential endogeneity between poverty and political dynasties, we deploy an instrumental variable regression model in lieu of an ordinary least squares regression model. The instrumental variables used to estimate poverty are average annual rainfall and the distance to the Philippine capital city of Manila.[14] Our regression model is thus

$$DYNASTY_i = a + b\ FAMPOVINC09_i(INSTRUMENTS_i) + AMS_i + ARMM_i + \sum_k X + u_i \quad (2)$$

where the dynasty indicators include DYNSHA, DYNLAR and DYNHERF and the right-hand side indicators represent factors that contribute to the prevalence of political dynasties:[15]

- FAMPOVINC09 is family poverty incidence in 2009. It is possible that more families mired in poverty in a province perpetuate the prevailing patron-client relationships that help to protect poor families from income shocks and poverty and thus keep political clans in power.

- AMS refers to the number of AM Radio Stations operating in each province. This indicator is a proxy variable to capture the relative strength of the media, which could help level the playing field by helping to temper excesses of those in power, as well as providing a platform for civil society and non-dynastic leaders to engage the public and electorate.

[14] These instruments have been used in the literature examining poverty and income, as both of these tend to be endogenous with other contextual variables (e.g., Acemoglu and Robinson 2006).

[15] Given the evidence on possible "yardstick competition" in public services provision, it is possible that contiguous provinces exert some influence on the level of political competition in a province (e.g., Capuno et al. 2012). Thus, we estimate Equation 2 with a contiguity matrix to help capture the possible influence of sharing a common border with another province. The findings, however, are not qualitatively different from those that do not include a continuity matrix. The results are available upon request.

- ARMM is a dummy variable for the Autonomous Region of Muslim Mindanao. It takes a value of one for a province belonging in the ARMM and zero otherwise. The ARMM indicator seeks to capture the different leadership pattern in this area given its distinct historical and cultural background.

- Other controls are included in order to test the robustness of the poverty-dynasty relationship. These indicators include a measure of human development (HDI1), education derived from primary and secondary student to teacher ratios (EDUC08), and average per capita income in 2006 (PCI06). With higher average income, human development and education it is possible that the demand for protection and support from a patron may diminish, and new leaders could arise, leading to a more competitive political environment.

Based on the literature elaborating on patron-client relationships, increases in poverty incidence would be expected to increase the prevalence of political dynasties. A greater proportion of the electorate living below the poverty line provides political dynasties more opportunities to engage in transactional politics, possibly exploiting the absence of a social safety net and the poor people's need for protection and support. In addition, more AM Radio Stations would imply a stronger media presence in a province, so they are expected to help in leveling the political playing field and thus decrease political dynasties. A stronger media would afford the electorate (1) more opportunities to promote transparency and (2) provide a viable means to hold errant officials accountable. Moreover, provinces in the ARMM are expected to have many political dynasties because of its sociopolitical structures and history that include non-democratic and hierarchical leadership structures (e.g. sultanates). Finally, the measures of human development such as education, HDI, and per capita income are expected to diminish political dynasties because increases in these variables can be argued to weaken patron-client relationships and systems of transactional politics.

Table 1 briefly summarizes the variables used in our empirical analyses, their definitions and sources.

[INSERT TABLE 1 HERE…]

4. Results

Given the methodology of this paper, we obtain two sets of regression results and, in turn, we present them sequentially.

Do political dynasties cause more poverty?

The results for the models that build on Balisacan and Fuwa (2004) are presented in tables 2-4. Similar to their findings, we also find evidence that the initial per capita expenditures is positive with regard to its link to the change in average poverty headcount ($p < 0.05$). Notice, though, that the coefficient on the initial per capita expenditure is increasing as additional variables are added to the regression model. This pattern thus reveals a strong poverty hysteresis in the Philippines despite the introduction of economic reforms, and it bolsters our findings on the reverse causality of political dynasty (below). As with Balisacan and Fuwa (2004), agrarian reform has positive link to the change in average poverty headcount ($p < 0.01$). This result confirms the argument that land distribution is fundamental for poverty reduction in the country. The coefficient on agricultural terms of trade turns out to have no statistical effect on poverty reduction, a finding that diverges from that of Balisacan and Fuwa (2004).

[INSERT TABLES 2-4 HERE…]

The other results for DYNSHA, DYNLAR, and HYNHERF indicate no statistical significance, albeit their estimated coefficients have negative signs. We argue that political dynasties are not necessarily associated with any more (or any less) poverty reduction when compared to non-dynasties. Specifically, the results suggest that non-dynasties, on average, may be failing to offer better governance that lead to significant reduction in poverty. Indeed, this interpretation coheres with the observation that political parties in the country are not really offering nor supporting polices that benefit the poor but instead are introducing policies that entrench political dynasties. Even some non-traditional and non-dynastic politicians that are elected into office appear to be pulled to engage in the traditional politics and form new dynastic clans of their own.[16] We further argue that our results suggest that a long runway view of larger and stronger political

[16] See among others Coronel (1998; 2007), Manacsa and Tan (2005), McCoy (1994a; 1994b) and Teehankee (2007).

dynasties for reform and legacy motivations may be behind the success in poverty reduction as evidenced by an observed negative relationship between DYNLAR and headcount poverty as well as between DYNHERF and headcount poverty, albeit the results indicate no statistical significance.

Does poverty create more dynasties?

Tables 5-7 summarize the regression results for Equation 2 using an instrumental variables technique to address the possible endogeneity of poverty with dynastic patterns.[17] Regressions 1-4 (respectively, columns 1-4) in each table represent the equations using per capita income as an additional right-hand-side variable with poverty. Regressions 5-8 use the human development indicator per province instead (columns 5-8). Then, regressions 9-12 use an education quality indicator (columns 9-12).

[INSERT TABLES 5-7 HERE…]

The results indicate that both poverty incidence and per capita income are not determinants of DYNSHA (both p = n.s.) but both variables are determinants of DYNLAR and of DYNHERF (both $p < 0.05$). These findings suggest that increased income poverty does not induce political dynasties to emerge but it contributes to the expansion of the largest and strongest political dynasties. Given that the poor are most vulnerable to political patronage and manipulation as well as practical to sell their votes, a worsening, if not unchanging, poverty would be beneficial to political dynasties. Since the largest political dynasties would, in most situations, be the families that have cultivated the most extensive networks of patronage, accumulated the most political and financial capital, and have the access to the largest political machineries, they would also be in the best position to take advantage of vulnerable economically disadvantaged voters.

Underpinning this patron-client relationship is a complex set of interactions that appear to favor dynastic politicians and their progeny (over non-dynastic newcomers, for example). We surmise

[17] The regressions reported in tables 5-7 use the IVREG command in STATA. Durbin-Wu-Hausman tests confirm the necessity of using the instruments to help deal with the endogeneity between poverty and political dynasties as measured by DYNLAR and DYNHERF. Consistent OLS estimates are possible for DYNSHA. However, table 5 present IVREG results given that OLS estimates yield very similar findings.

that political dynasties have mastered both the art of dealing with voters respectfully and compassionately and the art of assuming a facade of identification with the poor. In our own assessment, such knowledge and skill are then taught to the next generation of politicians. In addition, a demonstrated history of violence and intimidation could result in long-held beliefs that patrons are needed to keep peace and order in the locality, or prevent even more injustice and poverty from taking place. It is, of course, usual to see for voters in conflict-prone areas of the Philippines to favor "strongmen" and their progeny in order to prevent more "competitive" but potentially more violent elections from taking place (c.f., Sidel, 1994; Beckett 1994; Bentley 1994).

It can be argued then that improvements in the economic conditions of Filipinos do not necessarily result in the dissolution of political dynasties or the prevention of the emergence of new political dynasties. The economic improvement could nevertheless help weaken political dynasties in the long run by preventing them from further entrenching themselves in elective positions and subordinating government institutions to political agendas of their families.

While poverty incidence and per capita income explain DYNLAR and DYNHERF, the size of the coefficients is small to indicate significant impact. We thus argue that economic interventions have to generate dramatic increases in incomes in order to obtain meaningful decreases in the influence of the largest and strongest political dynasties. In fact, this view is consistent with the notion that, in the short run, the economic interventions designed to reduce the level of control exerted by the largest and strongest political dynasties have to be directed at improving political democracy—that is, strengthening democratic institutions and encouraging more active citizen participation in democratic processes.

Moreover, we find AM Radio Stations as a determinant of DYNSHA, DYNLAR, DYNHERF (at least $p < 0.10$ for all). While the coefficient is positive with DYNSHA, it is nonetheless negative with DYNLAR and DYNHERF. We argue that AM Radio Stations cultivate an environment that is conducive to the emergence of new political dynasties that represent alternatives to the larger and stronger political dynasties. Increases in the number of AM Radio Stations, therefore, promote political competition but only amongst the political dynasties, we further argue that this

situation may be an artifact of the poor development of political party system in the Philippines, as noted by Manacsa and Tan (2005) and Teehankee (2007).

Education is significant but only in regressions that include AMS ($p < 0.10$). The coefficients are positive involving DYNLAR and DYNHERF but negative involving DYNSHA. An explanation for this pattern involves the influence of political dynasties in the local public education system, which offers numerous opportunities to cultivate patronage relationships through scholarship grants and infrastructure expenditure support. Indeed, as noted by Solon et al. (2009), the social spending in the Philippines has become a means for securing political support and votes. The dominant political dynasty can thus channel resources into education projects and programs that identify their members as politicians with only the interest of the locals in their hearts. As noted earlier, Ravanilla (2012) finds evidence of such pattern—that is, legislators use their pork barrel to benefit political allies and to those that can readily assign credit to the source of funds. Moreover, given strong norms for reciprocity and personal indebtedness, the increased investments in the local public education system would help strengthen further the dominant political dynasties. Indeed, this view runs counter to the position that improved education among the electorate would lead to more informed choices and less political dynasties elected into office.

Finally, the coefficients of ARMM are positive and significant across all the regressions ($p < 0.05$). The findings are consistent with view that the distinct configuration of leadership and social dynamics within the region allows for the emergence and success of large and strong political dynasties (Beckett, 1994; Bentley, 1994).

6. Conclusion

Political dynasties are linked to weak political competition, poor accountability, concentration of political power, and perpetuation of patron-client relations and traditional politics. Under these conditions, political dynasties contribute in sustaining poverty in a country. On the other hand, it is also acknowledged that poor people often constitute large segments of the voting population who are likely to be easily swayed into supporting political patrons who provide benefits that are quickly attributed to the patron. This pattern takes place under conditions of poverty and extreme

vulnerability, further exacerbated by the lack of a social safety net. The self-perpetuation of political dynasties is therefore understandable when politics is defined by patron-client relationships. This complex relationship suggests that political dynasties could exacerbate poverty, or poverty itself could enable the self-perpetuation of political dynasties. This paper examined the more dominant direction of causality between political dynasties and poverty.

Using novel and comprehensive metrics on political dynasties, we uncovered strong evidence that the more severe poverty is, the higher is the prevalence of political dynasties. We argued that patron-client relationships are the recourse of the poor, and these in turn reinforce the self-perpetuation of political dynasties. In fact, the evidence suggests that areas with more poor people tend to have many political dynasties.

Yet, we also found evidence that political dynasties may not necessarily be affecting poverty. That is, political dynasties neither reduce nor increase poverty. We argued that this pattern is an indication that the non-dynasties (i.e. the benchmark against which dynasties are compared) may not be presenting themselves as viable alternatives to political dynasties. In other words, it is difficult to recognize whether the approach of political dynasties to reform would benefit the poor in the end. Indeed, anecdotal and other evidence indicate that the political "rules of the game" continue to perpetuate patron-client relationships (or at least fail to correct these with alternative models) and thus what occurs in some cases is the proliferation of new political dynasties. It is also highly likely that reform-minded non-dynastic politicians are unable to make a dent on poverty (on average) considering that the political status quo remains unchanged.

The empirical findings in this paper therefore suggest that a comprehensive poverty reduction and social protection program could be crucial for building an inclusive democratic leadership. Addressing the structural dependence of the electorate could begin to change the patron-client environment in to one wherein voters are less dependent on patrons. Nevertheless, sub-national efforts to push these reforms may produce highly uneven results, and may not necessarily be compatible with the incentives of political dynasties that seek to tighten their grip on local politics. This view is also consistent with studies that have shown the share of dynastic leaders to decline over time as a country becomes much more economically developed (e.g. Dal Bo et al. 2009). Such a strategy for reform, however, presumes that the largest and strongest political

dynasties have not also begun to control the national reform agenda. Furthermore, these reforms must also leverage media, to the extent that they could also help level the playing field while promoting stronger accountability and better governance.

In addition, political reforms will be critical in helping families and communities break out of the dynasty-poverty trap. Alternative political candidates will need the support of political parties to convey their message of reform and non-traditional politics, built on empowerment, participation and accountability against patron-client relationships that thrive on poverty and inequality. Once elected, the same leaders will also need genuine political parties behind them in order to deliver on these reforms, if they are to win hearts and minds on lasting reform.

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TABLES

Table 1.1 Variables in the Regressions to Explain Poverty

VARIABLE CODE	VARIABLE DESCRIPTION	SOURCE
child05	Under Five Mortality Rate 2003	Compiled from National Demographic Health Survey (NDHS) 2003
child05p1000	Under Five Mortality Rate 2003	Computed from National Demographic Health Survey (NDHS) 2003
liter03	Literacy Rate 2003	Functional Literacy, Education, and Mass Media Survey (FLEMMS) 2003
propirrig	Proportion of Irrigated Area 2002	Compiled from Census of Agriculture Data
ginifarea	Farm Area GINI Ratio 2002	Computed Census of Agriculture Data
dagritt0204	Change in Agricultural Terms of Trade	Computed from National Statistics Coordination Board (NSCB) Data
delec0204	Change in Access to Electricity from 2002 to 2004	Computed from National Statistics Coordination Board (NSCB) Data
drd0708	Change in Road Density to 2007 to 2008	Computed from Department of Public Works and Highways (DPWH) Data
carp0204	Change in Amount of Land Covered by CARP-LAD Program from 2002 to 2004	Compiled from Dep. of Agrarian Reform Data
pcexp03	Per Capita Expenditure 2003	Computed from National Statistics Coordination Board (NSCB) Data
lnpcexp03	Natural Logarithm of Per Capita Expenditure 2003	Computed from National Statistics Coordination Board (NSCB) Data
DYNSHA04	Dynastic Share of Elective Posts 2004	Computed from Commission on Elections (COMELEC) Data
DYNLAR04	Share of Largest Dynastic Clan 2004	Computed from Commission on Elections (COMELEC) Data
DYNHERF04	Hirschman-Herfindahl Index for Dynastic Clans 2004	Computed from Commission on Elections (COMELEC) Data
DPOPPOV0306	Change in Poverty from 2003 to 2006	Computed from National Statistics Coordination Board (NSCB) DATA

Table 1.2 Variables in the Regressions Examining Factors behind Political Dynasties

VARIABLE CODE	VARIABLE DESCRIPTION	SOURCE
FAMPOVINC09	Family Poverty Incidence 2009	National Statistics Coordination Board (NSCB)
PCI06	Per capita income 2006	National Statistics Coordination Board (NSCB)
AMS	AM Stations	Complied by authors based on data from media networks
ARMM	ARMM Indicator	Compiled by authors
HDI1	Human Development Index	Human Development Network
EDUC08	Education Index 2008 (Derived from Primary and Secondary Student to Teacher Ratios, Classroom to Student Ratios)	National Statistics Coordination Board (NSCB)

Table 2. Focus on Dynastic Share
Dependent Variable: Change in Headcount Poverty Incidence from 2003 to 2006

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Dynastic Share 2004	0.47351	0.39194	0.26883	0.06162	-0.25305	-0.38059	-0.37884	-0.40236	-0.35122	-0.43290
	[0.85520]	[0.82968]	[0.83215]	[0.87391]	[0.92386]	[0.93565]	[0.93776]	[0.94060]	[0.93726]	[0.96541]
Natural Log of 2003 Per Capita Income		0.68870**	0.72863**	0.75961***	0.76809**	0.80679***	0.68537**	0.84530**	1.08881**	1.02778**
		[0.28251]	[0.28317]	[0.28652]	[0.29558]	[0.30184]	[0.33482]	[0.38743]	[0.43236]	[0.46101]
Change in Agricultural Terms of Trade 2002 to 2004			1.88082	1.81390	2.10606	2.34214	2.81929*	3.04939*	1.86843	1.88649
			[1.48728]	[1.49331]	[1.52413]	[1.54330]	[1.64633]	[1.67385]	[1.91695]	[1.93100]
Farm Area GINI Coefficient				-1.07434	-0.84935	-0.93525	-0.71789	-0.53170	-0.45691	-0.51885
				[1.35043]	[1.48593]	[1.50152]	[1.52667]	[1.54706]	[1.54127]	[1.55974]
Change in CARP Land Distribution 2002 to 2004					7.81649**	9.56154***	9.91928***	9.52095***	10.17369***	10.18409***
					[3.15862]	[3.40903]	[3.44278]	[3.48507]	[3.50870]	[3.53355]
Change in Access to Electricity 2002 to 2004						-1.04005	-1.11343	-1.42770	-1.75315	-1.65243
						[1.24214]	[1.24797]	[1.30764]	[1.32769]	[1.36023]
Proportion of Irrigated Land 2002							0.38148	0.48722	0.52267	0.52659
							[0.45074]	[0.46965]	[0.46840]	[0.47180]
Under Five Mortality Per 1000 Children 2003								7.85809	-0.16707	0.34935
								[9.50515]	[11.44592]	[11.59773]
Functional Literacy 2003									-3.08880	-2.79456
									[2.47866]	[2.60081]
Change in Road Density 2007 to 2008										0.16041
										[0.39818]
Constant	0.03279	-5.23993**	-5.54735**	-5.13904**	-5.54945**	-5.85913**	-5.23762**	-6.96752**	-5.90030*	-5.64265
	[0.21075]	[2.17255]	[2.17765]	[2.24252]	[2.29244]	[2.35928]	[2.47602]	[3.24663]	[3.34356]	[3.42735]
Observations	79	79	79	79	72	70	70	70	70	70
R-squared	0.00397	0.07620	0.09549	0.10316	0.17550	0.20046	0.20960	0.21835	0.23807	0.24016
Standard errors in brackets										
*** p<0.01, ** p<0.05, * p<0.1										

Table 3. Focus on Largest Dynasty
Dependent Variable : Change in Headcount Poverty Incidence from 2003 to 2006

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Largest Dynastic Share	-3.86399	-2.64403	-2.41456	-2.77440	-2.34180	-2.04221	-1.92682	-1.84647	-1.94401	-2.02685
	[2.99510]	[2.96713]	[2.96111]	[2.98548]	[3.12868]	[3.18393]	[3.19528]	[3.20632]	[3.19056]	[3.22217]
Natural Log of 2003 Per Capita Income		0.64783**	0.68973**	0.71496**	0.72634**	0.76337**	0.64777*	0.80267**	1.05157**	0.99587**
		[0.28598]	[0.28679]	[0.28808]	[0.29869]	[0.30660]	[0.33809]	[0.39088]	[0.43473]	[0.46441]
Change in Agricultural Terms of Trade 2002 to 2004			1.86331	1.72384	1.99030	2.20217	2.66865	2.88842*	1.68559	1.67890
			[1.47436]	[1.48196]	[1.51070]	[1.53080]	[1.63651]	[1.66437]	[1.90366]	[1.91771]
Farm Area GINI Coefficient				-1.25198	-0.97931	-1.00619	-0.78503	-0.59065	-0.54028	-0.58015
				[1.29167]	[1.47780]	[1.49884]	[1.52666]	[1.55050]	[1.54294]	[1.55818]
Change in CARP Land Distribution 2002 to 2004					7.65487**	9.29043***	9.64510***	9.25852***	9.94049***	9.92044***
					[3.13700]	[3.38936]	[3.42548]	[3.46972]	[3.49253]	[3.51858]
Change in Access to Electricity 2002 to 2004						-0.88740	-0.96493	-1.26924	-1.60364	-1.50272
						[1.24692]	[1.25372]	[1.31417]	[1.33317]	[1.37184]
Proportion of Irrigated Land 2002							0.36994	0.47223	0.50799	0.51070
							[0.45045]	[0.46968]	[0.46807]	[0.47156]
Under Five Mortality Per 1000 Children 2003								7.56310	-0.65424	-0.25725
								[9.49397]	[11.41882]	[11.55518]
Functional Literacy 2003									-3.16544	-2.91771
									[2.47225]	[2.58354]
Change in Road Density 2007 to 2008										0.14040
										[0.38966]
Constant	0.35370*	-4.69103**	-5.05376**	-4.52805*	-5.07477**	-5.44194**	-4.86817*	-6.55889*	-5.42874	-5.19227
	[0.18627]	[2.23435]	[2.24405]	[2.30955]	[2.38366]	[2.47765]	[2.58045]	[3.34703]	[3.44463]	[3.53141]
Observations	79	79	79	79	72	70	70	70	70	70
R-squared	0.02116	0.08307	0.10219	0.11344	0.18151	0.20357	0.21214	0.22025	0.24099	0.24265
Standard errors in brackets										
*** p<0.01, ** p<0.05, * p<0.1										

Table 4. Focus on Dynastic Concentration (Dynastic Hirschman-Herfindahl Indicator); Dependent Variable : Change in Headcount Poverty Incidence from 2003 to 2006

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Dynastic Herfindahl Index	-9.75255	-6.90226	-6.78473	-6.68864	-5.69336	-4.59936	-4.47789	-4.20368	-5.42048	-5.66820
	[6.70408]	[6.66205]	[6.63199]	[6.64573]	[6.78240]	[6.93246]	[6.95067]	[6.98113]	[6.99108]	[7.06999]
Natural Log of 2003 Per Capita Income		0.63716**	0.67710**	0.70531**	0.71610**	0.75666**	0.63823*	0.79201**	1.04654**	0.98636**
		[0.28605]	[0.28637]	[0.28886]	[0.29959]	[0.30820]	[0.33992]	[0.39335]	[0.43332]	[0.46317]
Change in Agricultural Terms of Trade 2002 to 2004			1.91665	1.80604	2.04469	2.24639	2.71724	2.93216*	1.64447	1.63540
			[1.46803]	[1.47668]	[1.50651]	[1.52775]	[1.63188]	[1.65976]	[1.90183]	[1.91558]
Farm Area GINI Coefficient				-1.08063	-0.81539	-0.85541	-0.64071	-0.45430	-0.40434	-0.44100
				[1.28055]	[1.45010]	[1.46930]	[1.49510]	[1.51849]	[1.50856]	[1.52228]
Change in CARP Land Distribution 2002 to 2004					7.57576**	9.16956***	9.52916***	9.15815**	9.82965***	9.80303***
					[3.13766]	[3.40328]	[3.43853]	[3.48156]	[3.49295]	[3.51861]
Change in Access to Electricity 2002 to 2004						-0.90907	-0.98387	-1.28454	-1.62052	-1.51270
						[1.24198]	[1.24819]	[1.30947]	[1.32386]	[1.36198]
Proportion of Irrigated Land 2002							0.37582	0.47644	0.51260	0.51573
							[0.44993]	[0.46922]	[0.46677]	[0.47018]
Under Five Mortality Per 1000 Children 2003								7.44858	-1.39051	-0.99686
								[9.49881]	[11.46262]	[11.58914]
Functional Literacy 2003									-3.37673	-3.11977
									[2.48738]	[2.59124]
Change in Road Density 2007 to 2008										0.15110
										[0.38945]
Constant	0.40842**	-4.56530**	-4.90430**	-4.51991*	-5.05723**	-5.45651**	-4.85712*	-6.53242*	-5.20499	-4.94033
	[0.20314]	[2.24168]	[2.24641]	[2.29637]	[2.36399]	[2.46156]	[2.56971]	[3.34799]	[3.46589]	[3.55671]
Observations	79	79	79	79	72	70	70	70	70	70
R-squared	0.02675	0.08639	0.10669	0.11521	0.18329	0.20393	0.21279	0.22064	0.24387	0.24579
Standard errors in brackets										
*** p<0.01, ** p<0.05, * p<0.1										

Table 5. Dependent Variable: DYNSHA (Share of Dynasties in Total Positions in the Province)												
VARIABLES	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
FAMPOVINC09	0.00129	0.00031	0.00088	0.01187***	0.00091	-0.00067	0.00143	0.01623***	0.00154	0.00129	0.00052	0.0382
	[0.00304]	[0.00290]	[0.00277]	[0.00374]	[0.00358]	[0.00351]	[0.00368]	[0.00394]	[0.00195]	[0.00190]	[0.00190]	[0.02886]
PCI06	0	0	0	0.00001								
	[0.00001]	[0.00001]	[0.00001]	[0.00001]								
AMS		0.00681*	0.00682**	0.01706***		0.00749**	0.00640*	0.01695***		0.00512	0.00623*	0.03648*
		[0.00353]	[0.00339]	[0.00263]		[0.00366]	[0.00356]	[0.00296]		[0.00356]	[0.00350]	[0.01897]
ARMM			0.18371**	0.30227***			0.20506**	0.39629***			0.15506**	0.57977*
			[0.07730]	[0.06839]			[0.09571]	[0.09184]			[0.07157]	[0.30602]
HDI1					-0.10923	-0.37265	0.19909	0.90359*				
					[0.41759]	[0.41812]	[0.53751]	[0.47936]				
EDUC08									-0.00191**	-0.00165*	-0.00069	0.00869
									[0.00090]	[0.00091]	[0.00098]	[0.00744]
Constant	0.41715**	0.46157**	0.32925*	-0.21036	0.45465	0.61253*	0.22194	-0.71412**	0.59125***	0.54427***	0.44170***	-2.04028
	[0.19193]	[0.18412]	[0.19466]	[0.21381]	[0.32654]	[0.32178]	[0.39852]	[0.36163]	[0.11605]	[0.12276]	[0.12718]	[1.85785]
Observations	78	78	78	78	77	77	77	77	78	78	78	78
R-squared	0.01199	0.06282	0.1339	0.88861	0.01309	0.06188	0.14069	0.85711	0.0613	0.0872	0.13802	0.35428
Standard errors in brackets												

***** p<0.01, ** p<0.05, * p<0.1**											

Note: Regressions 4, 8 and 12 contain the contiguity matrix which accounts for provinces with contiguous borders. Due to space constraints, the results are no longer reported here; but these are available from the authors upon request.

Table 6. Dependent Variable: DYNLAR (Share of Largest Dynastic Family in Total Positions in the Province)

VARIABLES	1	2	3	4	5	6	7	8	9	10	11	12
FAMPOVINC09	0.00130*	0.00162**	0.00156***	0.00218*	0.00106	0.00156*	0.00205**	0.00285**	0.00112**	0.00118***	0.00094**	0.01771
	[0.00069]	[0.00066]	[0.00058]	[0.00118]	[0.00081]	[0.00080]	[0.00081]	[0.00133]	[0.00046]	[0.00043]	[0.00041]	[0.01649]
PCI06	0	0	0.00000***	0.00001***								
	[0.00000]	[0.00000]	[0.00000]	[0.00000]								
AMS		-0.00230***	-0.00231***	-0.00470***		-0.00234***	-0.00271***	-0.00491***		-0.00207**	-0.00171**	0.008
		[0.00080]	[0.00071]	[0.00083]		[0.00084]	[0.00079]	[0.00100]		[0.00081]	[0.00075]	[0.01084]
ARMM			0.06907***	0.09593***			0.07917***	0.10408***			0.04999***	0.19592
			[0.01614]	[0.02157]			[0.02113]	[0.03092]			[0.01543]	[0.17481]
HDI1					0.00159	0.08523	0.27209**	0.68699***				
					[0.09451]	[0.09581]	[0.11869]	[0.16137]				
EDUC08									0.00015	0.00005	0.00036*	0.00536
									[0.00021]	[0.00021]	[0.00021]	[0.00425]
Constant	0.00664	-0.00781	-0.04138	-0.17597***	0.03558	-0.01491	-0.13788	-0.36020***	0.01666	0.03672	0.00331	-1.15217
	[0.04384]	[0.04192]	[0.04064]	[0.06743]	[0.07390]	[0.07373]	[0.08800]	[0.12174]	[0.02713]	[0.02807]	[0.02742]	[1.06125]
Observations	78	78	78	78	77	77	77	77	78	78	78	78
R-squared	0.00627	0.06342	0.27247	0.78648	0.02507	0.05002	0.192	0.68772	0.01108	0.08018	0.22768	

Standard errors in brackets											
***** p<0.01, ** p<0.05, * p<0.1**											

Note: Regressions 4, 8 and 12 contain the contiguity matrix which accounts for provinces with contiguous borders. Due to space constraints, the results are no longer reported here; but these are available from the authors upon request.

Table 7. Dependent Variable: DYNHERF (Dynastic Hirschman-Herfindahl Indicator for Each Province)

VARIABLES	1	2	3	4	5	6	7	8	9	10	11	12
FAMPOVINC09	0.00033	0.00041**	0.00042**	0.00100***	0.00019	0.0003	0.00053**	0.00129***	0.00035**	0.00036***	0.00025**	0.00518
	[0.00021]	[0.00021]	[0.00017]	[0.00038]	[0.00024]	[0.00024]	[0.00023]	[0.00042]	[0.00014]	[0.00014]	[0.00012]	[0.00445]
PCI06	0	0	0.00000***	0.00000***								
	[0.00000]	[0.00000]	[0.00000]	[0.00000]								
AMS		-0.00056**	-0.00056***	-0.00080***		-0.00052**	-0.00066***	-0.00083***		-0.00056**	-0.00040*	0.00266
		[0.00025]	[0.00020]	[0.00027]		[0.00025]	[0.00022]	[0.00032]		[0.00025]	[0.00021]	[0.00292]
ARMM			0.02768***	0.03584***			0.02976***	0.03976***			0.02260***	0.06908
			[0.00462]	[0.00698]			[0.00599]	[0.00983]			[0.00439]	[0.04715]
HDI1					-0.02388	-0.00521	0.06983**	0.17593***				
					[0.02817]	[0.02882]	[0.03366]	[0.05129]				
EDUC08									-0.00001	-0.00004	0.00010*	0.00153
									[0.00007]	[0.00006]	[0.00006]	[0.00115]
Constant	0.0054	0.00194	-0.01394	-0.06099***	0.02456	0.01324	-0.03692	-0.11518***	0.00759	0.01317	-0.00186	-0.34013

	[0.01347]	[0.01306]	[0.01162]	[0.02183]	[0.02203]	[0.02218]	[0.02496]	[0.03869]	[0.00839]	[0.00875]	[0.00780]	[0.28625]
Observations	78	78	78	78	77	77	77	77	78	78	78	78
R-squared	0.01807	0.04835	0.37652	0.76557	0.09122	0.09868	0.31815	0.66914	0.00859	0.06361	0.34552	
Standard errors in brackets												
***** p<0.01, ** p<0.05, * p<0.1**												

Note: Regressions 4, 8 and 12 contain the contiguity matrix which accounts for provinces with contiguous borders. Due to space constraints, the results are no longer reported here; but these are available from the authors upon request. +AMDG