

## THE IMPACT OF POLITICAL DYNASTY TO HUMAN DEVELOPMENT INDEX (HDI) ACROSS PROVINCES IN THE PHILIPPINES

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### Abstract

*Political dynasties remain a defining feature of governance in the Philippines, with families monopolizing political power across provinces. This phenomenon, known as "fat dynasties," involves multiple family members holding positions simultaneously, potentially influencing governance quality and human development. With this characteristic, this study aims to examine the impact of fat dynasty share on the Human Development Index (HDI) across the 81 provinces of the Philippines. A descriptive quantitative research method was utilized, analyzing cross-sectional data from 2019. The study also considers the role of the Cities and Municipalities Competitiveness Index (CMCI), social service expenditures, and population size as factors contributing to human development. Quantile regression at the 50th percentile was applied to explore these relationships. The results reveal that fat dynasties exhibit no statistically significant effect on HDI, while CMCI and social service expenditures positively influence human development outcomes. These findings suggest that governance efficiency, infrastructure, and targeted social investments play a crucial role in enhancing HDI. Population size, however, shows a negligible impact, indicating that demographic factors alone do not determine human development. This study provides insights into the dynamics of governance and human development in a context dominated by political dynasties. It highlights the need for improved competitiveness and effective public spending to address development disparities, while advocating for further research on the indirect effects of political dynasties on governance and resource allocation.*

**Keywords:** Fat Dynasty; Political Dynasties; HDI.

### Introduction

Classical economists assert that economic development hinges on capital accumulation and is profoundly influenced by institutional frameworks. By strategically prioritizing investment in human development, nations can expect enhanced access to novel technologies, heightened production standards for public goods, improved market efficiency, mitigation of entrenched poverty, expanded financial accessibility, environmental preservation, and cultivation of a robust civil society. These components collectively contribute to comprehensive developmental progress.

Within this analytical framework, the Philippines offers a particularly intriguing case study. The nation's democratic system is notably intertwined with familial political dominance, presenting a compelling landscape for examining the intricate interplay between human development indices and political dynasties across its provinces. Rooted in centuries of historical precedent, the proliferation of political dynasties has escalated in recent years, ushering in an era of "fat dynasties" where multiple kinfolks concurrently hold public office (Teng, 2023).

The prevalence of familial political lineages throughout the 81 provinces of the Philippines extends beyond elected positions, permeating various appointed positions as well (Simbulan, 2012). While political dynasties are not unique to the Philippines—being noted in over 144 countries—both theoretical predictions and empirical evidence regarding their economic ramifications remain nebulous (George et al., 2018). A burgeoning consensus suggests that entrenched elites perpetuate weak institutions, impeding economic progress and perpetuating institutional inertia inherited from the past (Malik et al., 2021).

The phenomenon of political dynasties adds a layer of complexity to the dynamics of governance and economic development. Existing research has highlighted the multifaceted nature of the impact of political dynasties, revealing divergent outcomes depending on contextual factors and methodological approaches (Prabowo, 2024). Some studies assert that the prevalence of political dynasties exacerbates poverty levels, while others present contrasting findings suggesting potential beneficial effects on regional economies. For instance, some evidence indicates that a government led by a political dynasty can effectively allocate expenditures under regulations and reduce poverty levels.

Given these conflicting perspectives, the behavior and impact of political dynasties in the Philippines warrant meticulous examination. This is particularly crucial given the pronounced spatial disparities in economic activity across provinces. Human development, as encapsulated by the Human Development Index (HDI), emerges as a critical lens through which to assess the multifaceted impacts of political dynasties on societal well-being and progress.

By scrutinizing the relationship between political dynasties and human development indices, scholars and policymakers can glean valuable insights into the underlying mechanisms shaping provincial disparities. This understanding can inform the formulation of evidence-based strategies aimed at promoting inclusive human development, strengthening democratic institutions, and fostering equitable development trajectories across the Philippines. This study thus seeks to contribute to the broader discourse on governance, economic development, and human well-being in contexts marked by political dynasties, offering a nuanced understanding of how political lineage shapes development outcomes.

### Methods

Regression analysis is a fundamental statistical method used to examine the relationship between a dependent variable and one or more independent variables. In this study, the dependent variable is the Human Development Index (HDI), a composite measure of well-being and development, while the independent variables include fat dynasty share, Cities and Municipalities Competitiveness Index (CMCI), social services expenditures, and population per province. The original analytical plan involved the use of multiple linear regression via the Ordinary Least Squares (OLS) approach to evaluate how these variables influence provincial HDI. However, preliminary diagnostic tests revealed a violation of the normality assumption in the distribution of residuals, one of the key assumptions underlying the OLS method. Such a violation can lead to biased standard errors and inefficient estimates, ultimately compromising the validity of statistical inferences drawn from the model. Given this concern, the study adopted an alternative approach: quantile regression.

Quantile regression offers a more flexible and robust analytical framework by allowing the estimation of conditional quantiles (e.g., the median) of the dependent variable. Unlike OLS, which estimates the mean of the dependent variable conditional on the independent variables, quantile regression captures the relationship between predictors and specific points (quantiles) in the distribution of the outcome variable. In this study, the 50th percentile (median) was selected to provide a more representative measure of central tendency in HDI across provinces. This method is particularly advantageous in the presence of non-normal residuals, heterogeneous effects, or outliers, as it yields more reliable and interpretable estimates under such conditions. By shifting from OLS to quantile regression, the study ensured a more methodologically appropriate analysis that aligns with the empirical properties of the dataset. The research model is,

$$HDI_i = \beta_0 + \beta_1 DYN_i + \beta_2 CMCI_i + \beta_3 SSE + \beta_4 P_i + e_i$$

Where:

$HDI_i$  is the Human Development Index by province  $i$ ,

$\beta_0$  is the value of the constant,

$DYN_i$  is the Fat Dynasty Share by province  $i$ ,

$CMCI_i$  is Cities and Municipalities Competitive Index by province  $i$ ,

$SSE_i$  is Social Services Expenditures by province  $i$ ,

$P_i$  is Population by province  $i$ , and

$e_i$  is the Error by province  $i$ .

### Presentation of Results

The study collected data from provinces across the Philippines, yielding a total of 81 observations for each variable, consistent with the cross-sectional nature of the data. Table 1 presents a summary of the descriptive statistics for the dataset.

**Table 1 Summary of Descriptive Statistics**

Variable	Obs	Mean	Standard Deviation	Min	Max
Human Development Index	81	0.6424691	0.0790495	0.53	0.88
Fat Dynasty Share	81	27.59148	8.773867	6.33	50.54
CMCI	81	36.0502	4.415333	25.1526	51.4969

Social Service Expenditures	81	612.3236	460.4556	25	2205.67
Population	81	912401.8	1742465	948	1.11e+07

Source: Data Processing Result

Table 1 presents that the mean value for Human Development Index was 0.6424691, for Fat Dynasty Share it was 27.59148, for CMCI it was 36.0502, for Social Services Expenditures it was 612.3236, and for Population, it was 912401.8. Among these, the Population had the highest magnitude at 1742465, while the Human Development Index had the lowest at 0.0790495.

Furthermore, when looking at the specific province, the Human Development Index reached its maximum value in the province of Benguet at 0.88 and its minimum in the province of Lanao del Sur at 0.53. The Fat Dynasty Share reached its maximum value in the province of Maguindanao at 50.54 and its minimum in the province of Benguet at 6.33. The CMCI reached its maximum value in the province of Rizal at 51.4969 and its minimum in the province of Zamboanga Sibugay at 25.1526. The Social Service Expenditures reached its maximum value in the province of Negros Occidental at 2205.67 and its minimum in the province of Southern Leyte at 25. The Population reached its maximum value in the province of Cavite at 11,146,999 and its minimum in the province of Camiguin at 948.

The final model was derived using Quintile Regression at the 50th percentile, providing the regression results of a cross-sectional data analysis. A statistical software program was used to estimate and analyze the regression model. Table 2 presents the results of the quintile regression analysis through the statistical software.

**Table 2 Quintile Regression Result (Final Model)**

Raw sum of deviations = 5.11 (about .63)		
Min sum of deviations = 3.874245		
Pseudo R2 = 0.2418		
Human Development Index	Coefficient	P > t
Fat Dynasty Share	0.0003338	0.790
CMCI	0.0071599	0.008
Social Service Expenditures	0.0000655	0.011
Population	-6.04e-10	0.937
cons	0.3271919	0.003

Source: Data Processing Result

To assess the overall significance of the quintile regression model that has been estimated and determine whether a relationship exists between the dependent and independent variables, the researcher employed a statistical significance test. Specifically, the p-values associated with each coefficient were examined to assess whether the independent variables contributed to explaining variations in the dependent variable (Koenker, 2005). The test operates under the following conditions: When the p-value exceeds the 5% significance level, it implies that the independent variable does not have a statistically significant relationship with the dependent variable, leading to the acceptance of the null hypothesis. On the other hand, when the p-value is less than the 5% significance level, it indicates that the independent variable has a significant effect on the dependent variable. The analysis from the quintile regression results revealed that the p-values for certain variables, such as CMCI and social service expenditures, were below 0.05, suggesting that these variables are statistically significant in explaining variations in the Human Development Index (HDI).

To assess the model's goodness of fit, the researcher also examined the Pseudo R-squared value, which is frequently utilized in quantile regressions. The Pseudo R-squared is a measure of how well the model explains the variation in the dependent variable, similar to the R-squared in ordinary least squares regression. A Pseudo R-squared value closer to 1 indicates a better fit, while values closer to 0 indicate a poor fit. From the quintile regression results, the Pseudo R-squared was found to be 0.2418, meaning that approximately 24.18% of the variance in HDI was explained by the independent variables in the model. Although this is not a very high proportion, it still suggests that the model provides some explanatory power. Furthermore, the model demonstrated significant relationships between key predictors like CMCI and social service expenditures, which contribute to understanding the variability in HDI.

## Results and Discussions

The estimation results through quintile regression at the 50th percentile revealed the model equation, as defined below:

$$HDI_i = 0.3271919 + 0.0003338 DYN_i + 0.0071599 CMCI_i + 0.0000655 SSE - 6.04P_i + e_i$$

The results of the median regression conducted to analyze the Human Development Index (HDI) across provinces in the Philippines reveal several significant relationships among the variables considered. Each coefficient offers valuable insights into how these factors influence HDI, highlighting the complexities of development within the context of governance structures and resource allocation.

In examining the impact of the Fat Dynasty Share (DYN), the regression analysis at the median level shows a positive coefficient of 0.0003338, although it is not statistically significant ( $p = 0.790$ ). This suggests that the presence of political dynasties may have a weak, non-significant association with HDI. While the positive direction aligns with earlier findings in the literature, the lack of statistical significance indicates that political dynasties may not have a strong or consistent influence on human development at this point in the distribution. This result is consistent with the findings of Razzaq et al. (2018), who also reported no significant effect of political dynasties on economic and social development indicators in Indonesia, such as poverty reduction and workforce participation. Their study highlighted those political dynasties, while symbolizing concentrated power, do not directly influence development outcomes.

The Cities and Municipalities Competitive Index (CMCI) reveals a significant positive coefficient of 0.0071599 ( $p = 0.008$ ), indicating that improvements in local competitiveness are associated with enhancements in HDI. This finding aligns with the Solow Neoclassical Growth Model, which emphasizes the importance of capital accumulation, technological progress, and labor force growth in driving long-term economic growth. Competitive municipalities, characterized by strong economic dynamism, efficient governance, and well-developed infrastructure, are better positioned to attract investments and improve public services, which are essential for enhancing education and healthcare outcomes. The CMCI's focus on these factors suggests that local competitiveness is a key driver of human development. This is further supported by Villamejor-Mendoza (2020), who highlights that more competitive localities tend to exhibit higher HDI scores, with their economic growth being fueled by increased capital and technological innovation.

In terms of Social Services Expenditures (SSE), the regression yields a positive coefficient of 0.0000655 ( $p = 0.011$ ), indicating that higher expenditures in social services are significantly associated with improved HDI. This finding highlights the essential role of public investment in sectors such as healthcare and education in driving human development. The Fiscal Gap framework offers a useful lens to understand this relationship, as it evaluates the long-term sustainability of government finances by analyzing the balance between revenues and expenditures. By examining the fiscal gap, policymakers can determine the necessary adjustments in revenue and spending to ensure the continued availability of resources for vital public services, which directly influence HDI. Political dynasties, through their control over provincial resources, can shape fiscal policies and impact the effectiveness of public investment in social services. In provinces with dominant political families, fiscal mismanagement may occur, leading to underinvestment in essential services. This dynamic is further supported by the work of Manullang (2024), which emphasizes that well-planned government spending significantly improves HDI by enhancing education, healthcare, and other crucial areas. The study found that when government expenditure is coupled with stable economic conditions (such as GDP), its positive effect on HDI is strengthened. This reinforces the importance of prioritizing social service expenditures to foster better human development outcomes, particularly in the context of governance systems shaped by political dynasties. The results suggest that provinces with strong public investment in social services are more likely to experience improvements in HDI, highlighting the critical need for effective resource allocation to achieve sustainable development.

Lastly, Population (P) shows a negligible and non-significant relationship with HDI, as indicated by a coefficient of  $-6.04e-10$  ( $p = 0.937$ ). This suggests that population size does not significantly affect HDI. While population growth can stimulate economic activity and demand for public services, the lack of a significant association indicates that within the context of this study, population size alone does not appear to have a substantial impact on HDI. Kelley and Schmidt's (1999) study offers crucial insights into the complex relationship between population dynamics and human development, demonstrating that the impacts of population size or growth are often context dependent. Their findings indicate that while population increases can impose short-term dependency burdens, long-term benefits often offset these as earlier cohorts enter the labor force, contributing to economic productivity. They argue that these effects are mediated by institutional and economic factors, which can amplify or mitigate demographic influences. This perspective aligns with the premise of my study by emphasizing that human development outcomes cannot be solely attributed to population size; instead, they are shaped by a combination of demographic, economic, and policy-driven variables.

Based on the findings of this study, several recommendations are advanced to support efforts in enhancing human development outcomes across Philippine provinces. First, there is a need to promote local competitiveness by strengthening initiatives under the Cities and Municipalities Competitiveness Index (CMCI), particularly those that focus on improving governance, infrastructure, and innovation. Provinces that

exhibit higher competitiveness tend to demonstrate better performance in human development, emphasizing the importance of sustained support for programs that build local capacity and resilience.

In addition, it is crucial for governments—both at the national and provincial levels—to prioritize and expand investments in social services. Increased allocation for education, healthcare, and welfare programs has been shown to significantly contribute to improved quality of life and development indicators. These sectors should remain central in development planning to ensure that gains in human development are inclusive and far-reaching.

Although the study found no statistically significant effect of political dynasties on HDI, it is recommended that policymakers and researchers reassess the broader role of political dynasties in governance. Future inquiries may explore the indirect effects of dynastic leadership on public service delivery, budgetary priorities, and institutional performance, which may in turn affect development outcomes. Moreover, while population size did not significantly impact HDI in this study, densely populated provinces may still face substantial challenges in resource distribution and service provision. Therefore, policies that address population-related concerns—particularly those focused on planning, health, and infrastructure—should be proactively developed.

Lastly, future studies are encouraged to extend the scope of analysis by incorporating longitudinal data and exploring additional variables such as employment levels, infrastructure quality, and economic diversification. Such approaches may offer a more comprehensive understanding of the complex dynamics that shape human development and enable more targeted, evidence-based policymaking.

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