
THE INFLUENCE OF PER CAPITA GDP AND THE INCOME SHARE OF THE TOP 10% ON INCOME INEQUALITY IN THAILAND DURING THE PERIOD 1993 TO 2023

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Abstract

Income inequality remains a structural challenge in Thailand despite the country experiencing relatively stable economic growth over the past three decades. This study aims to analyze the influence of Gross Domestic Product (GDP) per capita and the income share of the top 10% group on income inequality, as measured by the Gini Index, over the period 1993–2023. Utilizing annual time series data from the World Bank and employing multiple linear regression analysis, the study also conducts classical assumption tests and cointegration tests to ensure the validity of long-term relationships among variables. The findings reveal that an increase in GDP per capita has a negative and statistically significant effect on the Gini Index, indicating that economic growth contributes to reducing inequality. Conversely, a rise in the income share held by the top 10% significantly exacerbates income inequality, reflecting the dominant role of the economic elite in widening the welfare gap. The regression model explains 95.04% of the variation in income inequality in Thailand. These results underscore that wealth concentration is a key driver of structural inequality, which cannot be adequately addressed through economic growth alone.

INTRODUCTION

Income inequality remains a structural challenge in many countries (Frericks & Höppner, 2024; Bertotti & Modanese, 2016). Persistently high and stagnant Gini Index values indicate that economic growth, as reflected in rising GDP per capita, has yet to result in comprehensive welfare distribution (Sitthiyot & Holasut, 2024; Malte Luebker, International Labour Office, 2012). This condition highlights that economic growth has not been inclusive, as it has not been accompanied by a more equitable distribution of income for lower-income groups (Vanitcharearnthum, 2017; Maulidi et al., 2022). Meltzer and Richard emphasize that the greater the initial inequality in a country, the stronger the pressure on the government to implement income redistribution policies (Figuroa, 2023; Franetovic & Castillo, 2022; Luebker, 2012). However, economic growth does not automatically reduce inequality, particularly when the majority of economic gains are concentrated among high-income groups (Fernandez, 2024; Manyang, 2017; Hebous, 2024).

On the other hand, economic growth that is not accompanied by improvements in the structure of income distribution can undermine the legitimacy of development itself (Bertola, 2017; Edison et al., 2003). When lower-income groups do not directly benefit from economic growth, public tolerance for inequality tends to decline (Taecharunroj, 2024), leading to social dissatisfaction that may threaten both economic and political stability (Baymul & Sen, 2020; Durongkaverroj, 2025; Asawinpongphan, 2014). In this context, the dynamics of GDP per capita and income distribution must be understood in conjunction, as increased national output does not guarantee equitable outcomes if the benefits are disproportionately captured by specific groups (Ostry,

2014; Anwar, 2023; Carolan, 2024).

An unequal wealth structure reflects the accumulation of assets and income in a concentrated manner, which, over the long term, can be reinforced by an economic system that fails to respond adequately to structural inequality (Ritter, 2024; Ionu, 2018). One manifestation of such inequality emerges in the geographic context, where poorly managed fiscal decentralization can exacerbate interregional disparities and undermine the effectiveness of national redistribution efforts (Bourguignon, 2018; OECD, 2014). These disparities are not only economic in nature but also intensify perceptions of injustice among vulnerable groups (Gordon & Cullen, 2012; Sabitova & Dyudina, 2015). Consequently, public perception of the equitable distribution of development benefits becomes a crucial factor in evaluating the success of economic policies (Starfield & Birn, 2007; Acti et al., 2024; Zungu & Greyling, 2023).

OECD studies indicate that income inequality tends to increase even as GDP per capita rises, particularly when redistribution mechanisms weaken and income concentration among the top earners intensifies (Arkornsakul & Rattanasamakarn, 2024; Du, 2015). These findings underscore that economic growth alone is insufficient to address inequality (De Mello & Tiongson, 2003; Li et al., 2024). In many instances—such as in Latin America and Southeast Asia—the effectiveness of redistributive policies is highly dependent on the social, political, and institutional contexts of each country (Sudswong et al., 2022; Bourguignon et al., 2009; Abdon et al., 2014).

Income inequality remains a major obstacle for developing countries in achieving equitable and sustainable development (Tang et al., 2010; Malia, Manwar Hossein & Pathranarakul, 2022). The fact that the top 10% of the population still controls a significant portion of national wealth explains why inequality persists despite rising GDP per capita (Asawasakulkrai, 2023; Aslamiyah, 2024). This reinforces the importance of studies that go beyond viewing economic growth as a sole indicator and instead assess how the outcomes of growth are distributed within the domestic socio-economic context (Schechtl & Waitkus, 2024; Bhering, 2024; Lustig, 2018).

Within the theoretical framework, income inequality arises due to the significant gap between high-income and lower-income groups (Karim, 2021; Donkor et al., 2022). Micro-macro model-based studies suggest that a decline in income inequality can be achieved when income distribution becomes more equitable (Bertotti & Modanese, 2016). However, the actual effectiveness of redistribution often diverges from what is normatively prescribed. Frericks and Höppner (2024) argue that the discrepancy between redistributive regulations and the factual outcomes on the ground can exacerbate inequality, particularly when there is unequal access to policy benefits across social groups (Frericks & Höppner, 2024).

In the Southeast Asian region, Thailand presents a compelling case in terms of income inequality dynamics (Garrido & Morales, 2023; Khusaini et al., 2023). Despite consistent economic growth over the past two decades, income inequality remains high and has shown resistance to various fiscal policy interventions (Lipsej & Sjolholm, 2001). Meanwhile, cross-country

studies emphasize that the success of redistributive policies is largely influenced by institutional factors, the sustainability of fiscal policies, and the quality of governance (Román-Aso et al., 2024; Durongkaveroj, 2025; Barros & Martins, 2025).

Thailand has faced persistent income inequality over the past several decades, with a consistently high Gini Index and stagnant income distribution since 1993 (Suphanachart, 2019; Pitidol, 2018).

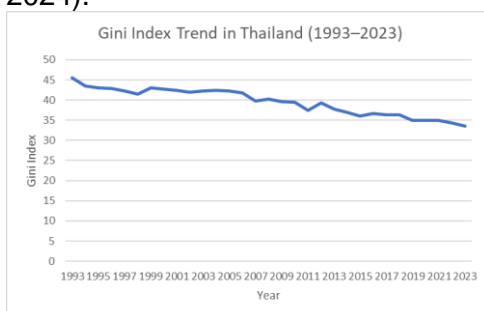
Table 1
Gini Index Negara Thailand Tahun 1993-2023

| Tahun | Gini Indeks |
|-------|-------------|
| 1993 | 45.6 |
| 1994 | 43.5 |
| 1995 | 43 |
| 1996 | 42.9 |
| 1997 | 42.2 |
| 1998 | 41.5 |
| 1999 | 43.1 |
| 2000 | 42.8 |
| 2001 | 42.35 |
| 2002 | 41.9 |
| 2003 | 42.2 |
| 2004 | 42.5 |
| 2005 | 42.3 |
| 2006 | 41.8 |
| 2007 | 39.8 |
| 2008 | 40.3 |
| 2009 | 39.6 |
| 2010 | 39.4 |
| 2011 | 37.5 |
| 2012 | 39.3 |
| 2013 | 37.8 |
| 2014 | 37 |
| 2015 | 36 |
| 2016 | 36.7 |
| 2017 | 36.4 |
| 2018 | 36.4 |
| 2019 | 34.9 |
| 2020 | 35 |
| 2021 | 34.9 |
| 2022 | 34.3 |
| 2023 | 33.5 |

Source : World Development Indicators, 2023

According to data from the World Development Indicators (2023), Thailand's Gini Index has shown a gradual downward trend over the period from 1993 to 2023. In 1993, the Gini Index was recorded at 45.6, indicating a relatively high level of income inequality. Since then, the index has steadily declined, reaching 33.5 in 2023. However, this decline has not been consistent from year to year. There were periods of temporary increases, such as in 1999 when the index rose to 43.1 after previously registering at a lower level. Similar fluctuations occurred between 2011 and 2012, when the Gini Index increased from 37.5 to 39.3 before resuming its downward trajectory.

Overall, despite improvements in income distribution, Thailand's Gini Index—remaining above 33 as of 2023—indicates that income inequality continues to be a significant issue (Franetovic & Castillo, 2022; Suwanan & Sulistiani, 2009; Vechsuruck & Pratoomchat, 2024). Wealth remains concentrated among the higher-income groups, suggesting that the economic growth experienced has not been fully inclusive nor has it effectively addressed the underlying structural drivers of inequality (Lierse et al., 2022; Malia, Manwar Hossein & Pathranarakul, 2022).Isiaka et al., 2024).



Source : World Development Indicators, 2023

Figure 1
Gini index of Thailand From 1993-2023

The figure above illustrates the trajectory of the Gini Index in Thailand over the period from 1993 to 2023. Overall, there is a discernible downward trend in income inequality during this time, with the Gini Index declining from approximately 45.6 in 1993 to 33.5 in 2023. Focusing specifically on the period from 2006 to 2021, a more pronounced decrease can be observed—from 41.8 in 2006 to around 35 in 2021. This decline reflects a gradual improvement in income distribution in Thailand. One contributing factor to this trend may be the implementation of fiscal policies, such as the strengthening of social security programs, increased access to education, and targeted subsidies aimed at low-income groups.

Although this downward trend signals progress, income inequality in Thailand remains relatively high compared to several other countries in Southeast Asia (Voto & Ngepah, 2024; Selim & Küçükçifçi, 2024; Lekfuangfu et al., 2020). The inconsistency of the downward pattern is also evident, as fluctuations occurred during certain periods—for instance, from 2011 to 2012, when the index rose from 37.5 to 39.3 before continuing its decline (Mulugeta Woldegiorgis, 2022; Tepe et al., 2021; Mooij et al., 2017).

The long-term decline in the Gini Index remains a positive signal that income redistribution efforts are beginning to yield tangible results. Nevertheless, these efforts must continue to be strengthened through the expansion of social protection programs and the promotion of more inclusive economic development that benefits all segments of society (Meričková & Halásková, 2014; Thu & Truong, 2024; Nittayakamolphon et al., 2024).

To better understand the economic growth context accompanying the decline in

inequality, it is essential to examine the dynamics of Thailand's Gross Domestic Product (GDP) per capita over the past three decades. The following table presents Thailand's GDP in constant 2015 values from 1993 to 2023, serving as a basis for assessing the extent to which economic growth has contributed to improvements in income distribution.

Table 2
GDP (constant 2015 US\$)
Thailand 1993-2023

| Year | GDP (constant 2015 US\$) |
|------|--------------------------|
| 1993 | 1.8296 |
| 1994 | 1.9759 |
| 1995 | 2.1364 |
| 1996 | 2.2571 |
| 1997 | 2.1950 |
| 1998 | 2.0274 |
| 1999 | 2.1201 |
| 2000 | 2.2145 |
| 2001 | 2.2908 |
| 2002 | 2.4317 |
| 2003 | 2.6065 |
| 2004 | 2.7704 |
| 2005 | 2.8865 |
| 2006 | 3.0298 |
| 2007 | 3.1945 |
| 2008 | 3.2496 |
| 2009 | 3.2272 |
| 2010 | 3.4697 |
| 2011 | 3.4988 |
| 2012 | 3.7522 |
| 2013 | 3.8531 |
| 2014 | 3.8910 |
| 2015 | 4.0130 |
| 2016 | 4.1508 |
| 2017 | 4.3242 |
| 2018 | 4.5068 |
| 2019 | 4.6021 |
| 2020 | 4.3237 |
| 2021 | 4.3915 |
| 2022 | 4.4997 |
| 2023 | 4.5846 |

Source : World Development Indicators, 2023

Based on the data presented in Table 2, Thailand's Gross Domestic Product (GDP), measured in constant 2015 US dollars, exhibited a positive growth trend over the period from 1993 to 2023. In 1993, Thailand's GDP was recorded at USD 182.96 billion (1.8296E+11). Since then, the Thai economy has experienced relatively stable growth, albeit with some fluctuations due to both domestic and global factors. During the Asian Financial Crisis (1997–1998), Thailand's GDP declined from USD 225.71 billion in 1996 to USD 202.74 billion in 1998. However, in the post-crisis period, the economy gradually recovered and continued to demonstrate steady growth. By 2006, Thailand's GDP had reached USD 302.98 billion and continued to grow, peaking at USD 460.21 billion in 2019, just before the onset of the COVID-19 pandemic. As a result of the global pandemic in 2020, the Thai economy contracted, leading to a decline in GDP to USD 432.37 billion. Despite the economic shock of 2020, Thailand's economy began to recover gradually. By 2023, GDP rebounded to USD 458.46 billion, reflecting the resilience of Thailand's economic fundamentals in the face of global crises (Neri, 2009; Doan & Giang, 2024).

Thailand's GDP growth over the past three decades reflects ongoing industrialization, the strengthening of the tourism sector, increased exports, and improvements in the investment climate (Alamanda, 2021; Fialová & Mysíková, 2021). Nonetheless, structural challenges such as income inequality, labor productivity, and dependency on external sectors remain critical issues for the sustainability of future economic growth (Marrone, 2013; Shafique & Haq, 2006; Orsetta & Mikkel, 2017).

Beyond economic growth, it is also essential to examine how income

distribution among the economic elite has evolved over time. One key indicator that reflects structural inequality is the income share held by the richest 10% of the population. The following table presents data on the income share of the top 10% in Thailand from 1993 to 2023, serving as a key variable in analyzing the extent to which wealth concentration influences national income inequality.

Table 3
Income Share Held by Highest 10% Thailand 1993-2023

| Tahun | Income Share Held |
|-------|-------------------|
| 1993 | 38.6 |
| 1994 | 36.7 |
| 1995 | 34.9 |
| 1996 | 34.6 |
| 1997 | 34.3 |
| 1998 | 33.3 |
| 1999 | 32.3 |
| 2000 | 34 |
| 2001 | 33.7 |
| 2002 | 33.5 |
| 2003 | 33.2 |
| 2004 | 33.5 |
| 2005 | 33.8 |
| 2006 | 33.1 |
| 2007 | 32.5 |
| 2008 | 30.8 |
| 2009 | 31.1 |
| 2010 | 30.6 |
| 2011 | 30.7 |
| 2012 | 29.9 |
| 2013 | 30.4 |
| 2014 | 29.2 |
| 2015 | 28.7 |
| 2016 | 28.4 |
| 2017 | 28.7 |
| 2018 | 28.3 |
| 2019 | 28.1 |
| 2020 | 27.2 |
| 2021 | 27 |
| 2022 | 27.1 |
| 2023 | 26.5 |

Source : World Development Indicators, 2023

Based on the data presented in Table 3, the share of national income enjoyed by the top 10% of income earners in Thailand has shown a gradual downward trend over the period from 1993 to 2023. In 1993, this top decile controlled approximately 38.6% of total national income. This figure steadily declined almost every year. Between 1993 and 2005, the income share of the economic elite remained relatively high, ranging from 38.6% to 33.8%. However, starting in 2006, the share began to decline more steadily—from 33.1% in 2006 to 27% in 2021. In subsequent years, the decline continued gradually, reaching 26.5% in 2023, marking the lowest level observed during the entire study period.

This reduction in the income share held by the wealthiest segment indicates a gradual improvement in income distribution in Thailand (Nguyen, 2011), likely influenced by more inclusive economic growth, the expansion of social programs, and redistributive policies that have begun to show measurable impacts (Orsetta & Mikkell, 2017; Jouini et al., 2018).

Nevertheless, the fact that the top 10% still command more than a quarter of total national income underscores that income inequality remains a deeply entrenched structural issue (Steve Hatfield-Dodds, 2007; Benitez & Vellutini, 2021). This suggests that, despite progress, wealth accumulation remains significantly concentrated within a narrow economic elite (Keely & Tan, 2008; Jouini et al., 2018; Vo et al., 2024). Income inequality continues to be a central challenge in Thailand's national economy, even though economic growth has followed a positive trajectory over the past few decades (Patmasiriwat & Orsuwan, 2024).

The substantial increase in GDP per capita since the economic reform era has not been fully accompanied by equitable income distribution (Akol, 2023). Persisting inequality presents serious challenges to maintaining social stability, strengthening domestic purchasing power, and expanding equitable access to economic opportunities. The core issue addressed in this study lies in the paradox of Thailand's economic growth: on the one hand, GDP per capita has risen significantly, yet on the other, income concentration among the top 10% remains high and continues to be a major contributor to overall inequality. The economy's structural reliance on capital-intensive sectors, coupled with weak income redistribution mechanisms, has further deepened this imbalance. As a result, low-income groups face substantial barriers to improving their well-being, while wealth accumulation becomes increasingly concentrated among a small elite.

Most prior studies have focused primarily on the effects of fiscal policy or macroeconomic indicators such as inflation, unemployment, or investment on income inequality in Thailand. However, few analyses have simultaneously examined the roles of GDP per capita and the income share of the top 10% as interrelated factors influencing long-term inequality.

Moreover, limitations in longitudinal data have often hindered a more comprehensive analysis of the dynamic relationships between variables. This study seeks to fill that gap by utilizing time series data spanning from 1993 to 2023 to empirically evaluate how economic growth (measured through GDP per capita) and income concentration among the top 10% jointly affect the level of

income inequality in Thailand. Through a long-term quantitative approach, the study aims to provide a more accurate picture of the underlying drivers of inequality and offer evidence-based recommendations for formulating more inclusive and equitable economic policies.

Specifically, this research aims to examine the impact of GDP per capita on income inequality in Thailand and to analyze the extent to which the income share held by the top 10% influences the level of inequality.

Literature Review

Theories of Income Inequality

According to Simon Kuznets in his seminal work *Economic Growth and Income Inequality* (1955), income inequality tends to increase during the early stages of industrialization due to a structural shift from the agricultural sector to the industrial sector. However, after reaching a turning point in the economic growth process, income distribution is expected to improve as the benefits of development become more widely shared. This theory is known as the Kuznets Curve, which illustrates an inverted-U relationship between economic growth and income inequality. The issue of income inequality has become a central concern in the discourse on economic development due to its implications for social justice and the efficient allocation of resources. Rising income disparities can undermine social cohesion, diminish trust among social groups, and heighten the risk of political and economic instability (Tucker & Xu, 2023).

Following the turning point in the growth process, income distribution tends to improve as the gains from development begin to reach a broader segment of the population (Ma, 1985). This notion is supported by studies in Thailand, which show

that the relationship between GDP per capita and inequality follows an inverted-U shape. That is, early stages of economic growth do not immediately reduce inequality and may initially exacerbate it before a downward trend emerges in later stages (Kilenthong, 2016). Meanwhile, analysis by Durongkaveroj (2017) highlights that the effect of economic growth on income distribution is highly dependent on sectoral structure and the economy's resilience to external shocks.

In addition to economic growth, the concentration of income among the wealthiest groups is a significant factor contributing to rising inequality. According to Piyakun (2019), conventional approaches using household surveys often fail to adequately capture the income of top earners, leading to downward-biased estimates of inequality. When tax data is incorporated to complement survey findings, the resulting picture reveals a far more unequal distribution of income. This reinforces the argument by Kilenthong (2016), who emphasizes the dominance of capital income over labor income as the primary driver of wealth accumulation among a small economic elite. A study by Patmasiriwat & Orsuwan (2024) further confirms this, demonstrating that the educational attainment and social status of the household head significantly influence the likelihood of earning higher income and accumulating wealth. Inequality is further exacerbated by geographic disparities, as urban households have a considerably higher likelihood of accumulating assets compared to those in rural areas.

In-depth empirical studies on Thailand also indicate that income inequality is not solely determined by average GDP or individual wealth, but also by structural imbalances across sectors and occupations. For

example, Durongkaveroj (2017) developed an input-output-based model showing that even with economic growth, income distribution can remain unequal if the benefits are confined to specific sectors or regions. A similar point is made by Sudswong et al. (2022), who examined inter-occupational inequality across various regions in Thailand. They applied a network-based income dominance approach to distinguish between overall inequality and inequality driven by occupational structure. Additional findings from Kilenthong (2016) highlight that uneven urbanization and limited access to capital and education further widen the gap between population groups, both sectorally and spatially. These two variables have consistently proven to be critical indicators in explaining the patterns and dynamics of inequality in developing countries such as Thailand over the past three decades.

Endogenous Growth Theory

According to Paul Romer in his seminal article "Increasing Returns and Long-Run Growth" (1986), long-term economic growth is not solely determined by external factors such as technological advancement, but is fundamentally driven by internal factors within the economy, including the accumulation of human capital, the expansion of knowledge, and investment in research and development (R&D). Romer emphasized that scientific progress and the quality of human resources are essential for sustaining long-term growth. Similarly, Robert Lucas Jr., in his influential work "On the Mechanics of Economic Development" (1988), argued that human capital generates positive externalities for aggregate productivity. Consequently, education becomes a central mechanism for reducing inequality and accelerating development. The concept of endogenous growth

emerged as a response to the limitations of neoclassical growth theory, which treats technological progress as an exogenous factor.

In this regard, research by Rueangyod (2015) suggests that economic growth and more equitable income distribution can be achieved through a synergy between state-funded education and private sector investment in education. This approach is further supported by Rueangyod's findings, which assert that the effectiveness of education policies in reducing inequality greatly depends on the combined contributions of governments and individuals. Meanwhile, Uddin (2019) found that unequal access to education across regions in Thailand exacerbates disparities in human capital accumulation, thereby constraining national economic growth as a whole.

Cross-country studies by Budsayaplakorn & Sompornserm (2021) demonstrate that advancements in education across ASEAN nations, including Thailand, are significantly correlated with improvements in economic output, as measured by indicators such as average years of schooling and education quality indices. In the Thai domestic context, Suphanachart (2019) posits that increasing total factor productivity (TFP) has the potential to reduce income inequality—particularly if supported by strengthened human capital and a diversified economic structure. However, Panprayad & Citation (2020) argue that higher productivity does not necessarily lead to equitable outcomes unless it is accompanied by progressive tax reform. In the case of Thailand, the gains from increased productivity have disproportionately benefited wealthier households, especially within the agricultural sector.

Regarding the composition of income sources, Akgün & Özsögüt (2025) emphasize that a rising share of capital income significantly contributes to the income growth of the wealthiest segments of the population. Their findings reveal that a 1% increase in capital share can substantially raise the incomes of the top 5–10% of earners. Supporting this, Sudsawasd (2018) states that the positive effects of trade liberalization on reducing inequality can only materialize if domestic sectors are capable of responding efficiently to changes in global markets. Finally, Durongkaveroj (2025) notes that although economic growth continues, public tolerance for inequality has declined, thereby reinforcing the need for more comprehensive and inclusive redistributive policies. Collectively, these studies affirm that the framework of endogenous growth is highly relevant in explaining the dynamics of income inequality in Thailand from 1993 to 2023.

Capital Accumulation Theory

One of the key theoretical frameworks explaining the importance of redistributive policy is the theory of accumulation and stagnation proposed by Thomas Piketty (2014) in *Capital in the Twenty-First Century*, which asserts that when the rate of return on capital (r) systematically exceeds the rate of economic growth (g), wealth becomes increasingly concentrated in the hands of the top income groups. Joseph Stiglitz (2012), in his book *The Price of Inequality*, similarly argues that unchecked inequality can erode the very foundations of the market economy, as aggregate demand weakens when wealth is concentrated in the hands of a few. He emphasizes that well-designed redistribution is not an obstacle to growth, but rather a prerequisite for achieving it.

In this regard, progressive taxation and social expenditures targeted toward education, healthcare, and social protection serve as vital instruments for fostering inclusive growth. Extreme inequality has been shown to contribute to macroeconomic instability and reduce the purchasing power of the broader population, thus necessitating robust fiscal interventions to correct such imbalances (OECD, 2014). In Thailand, the skewed structure of income distribution reflects the dominance of a small group over national wealth, aligning with the predictions of accumulation theory (Abdon et al., 2014).

Such a condition not only disadvantages the poor but also hinders long-term growth potential by undermining stability and broad-based economic participation (Ostry, 2014). Conversely, a tax-and-transfer system built on principles of progressivity can improve income distribution without sacrificing economic efficiency (Lipsey & Sjöholm, 2001). Within the Southeast Asian context, the implementation of equitable fiscal policies has become increasingly urgent, given the deepening inequality driven by economic globalization and the persistent disparities in access to education and employment opportunities (Anwar, 2023).

Previous Studies

Several prior studies have extensively explored the relationship between economic growth—particularly GDP per capita—and income inequality, both in the context of the ASEAN region and specifically in Thailand. Vo et al. (2024) examined the influence of human capital on income inequality in ASEAN countries, including Thailand. Their findings revealed a non-linear relationship between GDP per capita and income inequality, characterized by an inverted U-

shape at early stages of development, which then transforms into a U-shape in countries with higher levels of GDP. Meanwhile, Durongkaveroj (2025) observed that Thailand remains one of the most unequal countries in Asia, where rising GDP per capita has not been accompanied by equitable income distribution, particularly within the top 10% income group. These findings are reinforced by the study of Van and Pham (Doan & Giang, 2024), which showed that increases in per capita income without equitable redistribution tend to widen the gap between different social groups. A similar trend was found in Indonesia, as reported by Rambey (2018), where economic growth was associated with increased inequality, consistent with the Kuznets hypothesis.

Building on these insights, research by Sibatuara & Hutabarat (2025) indicates that while economic growth in Thailand influences income inequality, rising GDP per capita does not automatically lead to its reduction. Vechnsuruck & Pratoomchat (2024) highlighted that the decline in income inequality in Thailand occurred due to labor shifts from the informal to stagnant sectors, rather than from more equitable income distribution. Notably, this shift took place during periods of economic slowdown. Durongkaveroj (2025) further noted that despite data indicating a decline in inequality, public tolerance toward inequality has deteriorated, especially because the top 10% continues to control the majority of national income. In a related study, Nittayakamolphon et al. (2024) explained that financial sector development follows an inverted U-shaped relationship with inequality—initially reducing inequality, but beyond a certain threshold, unequal access to finance intensifies the income dominance of the elite class.

The increase in Thailand's GDP per capita has not had a significant impact on reducing income inequality, as the gains from economic growth have largely benefited wealthier groups rather than the population at large (Nittayakamolphon et al., 2024). This is clarified by Vanitcharearnthum (2019), who argued that inequality measurements based on household surveys tend to underestimate actual inequality, as they fail to capture the top 1% to 10% income groups, which tax records indicate control a substantial share of national income (Piyakun, 2019). Suphanachart (2019) also found that in the short term, increases in GDP per capita and globalization tend to exacerbate inequality, as the benefits are more quickly absorbed by the educated and capital-owning upper-income groups. Furthermore, the weak implementation of a progressive tax system has hindered the effectiveness of redistributive policies, thereby allowing the top 10% to maintain their dominance in income distribution despite ongoing economic growth (Vechsuruck & Pratoomchat, 2024).

METHODOLOGY

Type and Approach of Research

This study employs a quantitative approach using the multiple linear regression analysis method. This approach is selected to examine the causal relationship and influence of the independent variables on income inequality, which is measured using the Gini Index as the dependent variable.

Data and Data Sources

The data used in this research are secondary annual time-series data covering the period from 1993 to 2023. All data are sourced from the official World Development Indicators. The variables analyzed include:

Y (Dependent Variable): Gini Index,

serving as a measure of income inequality.

X1: GDP per capita (constant 2015 US\$), representing economic growth.

X2: Income share held by the highest 10%, serving as an indicator of income distribution among the top income group.

Data Analysis Technique

The data are analyzed using a Multiple Linear Regression Model. The purpose of this analysis is to estimate how one or more independent factors influence the dependent variable. The multiple regression equation is as follows:

$$\text{Gini}_t = \alpha + \beta_1 \text{GDP}_t + \beta_2 \text{IncomeShare10\%}_t + e$$

Where:

Y: Income inequality (Gini Index)

α : Constant term (intercept)

β : Regression coefficient

X₁: GDP per capita (constant 2015 US\$)

X₂: Income share held by the highest 10%

e: Error term

Research Tests

Before conducting the multiple linear regression analysis, this study first performs the following diagnostic tests:

1. Normality Test

The residual normality test is conducted to determine whether the residuals from the regression model are normally distributed. The Shapiro-Wilk Test is employed for this purpose. The model is considered to have passed the normality test if the p-value is greater than 0.05, indicating that the residuals follow a normal distribution.

2. Autocorrelation Test

To ensure the absence of autocorrelation (correlation among residuals within the model), the Durbin-Watson Test is utilized. A Durbin-Watson value close to 2 indicates that there is no autocorrelation present in the residuals.

3. Stationarity Test (Unit Root Test)

A stationarity test is conducted to verify that the time series data do not contain a unit root, thereby confirming the suitability of the data for regression modeling. The Augmented Dickey-Fuller (ADF) test is used. A variable is considered stationary if the p-value from the ADF test is less than the significance level (e.g., 5%), indicating rejection of the null hypothesis that the data contain a unit root.

4. Cointegration Test

Once all variables are confirmed to be stationary, a cointegration test is carried out to examine whether a long-run equilibrium relationship exists among the variables in the model. This study employs the Johansen Cointegration Test. The presence of cointegration suggests that, despite potential differences in the levels of stationarity, the variables exhibit a stable long-term relationship.

5. Multiple Linear Regression Analysis

After all classical assumptions have been met, a multiple linear regression analysis is performed to examine the influence of GDP per capita and the income share of the top 10% on income inequality (as measured by the Gini Index) in Thailand.

Analytical Tools

All data processing and analysis procedures were conducted using the statistical software Stata version 17.

RESULTS AND DISCUSSION

Results

Preliminary Diagnostic Tests

Prior to hypothesis testing through multiple linear regression using time-series data, a series of classical assumption tests and long-term integration analyses were performed to ensure the validity and reliability of the model. These tests include: the stationarity test (unit root test) to confirm that the data are not non-

stationary, the cointegration test to determine the presence of long-run equilibrium relationships among variables, the residual normality test to assess whether the residuals are normally distributed, and the autocorrelation test to detect any serial correlation in the residuals.

The results of each test are interpreted as follows:

1. Normality Test

The normality test was conducted using the Shapiro–Wilk method. The results indicated that all variables—both dependent and independent—had Prob > z values greater than 0.05. This confirms that the residuals are normally distributed.

Table 4. Shapiro–Wilk Normality Test Results (W) test for normal data

| Variable | Obs | W | V | z | Prob>z |
|----------|-----|---------|-------|-------|---------|
| y | 31 | 0.93121 | 2.241 | 1.671 | 0.35010 |
| x1 | 31 | 0.91435 | 2.790 | 2.126 | 0.41189 |
| x2 | 31 | 0.96065 | 1.687 | 0.515 | 0.30345 |

Source: Stata 17 Output

Based on Table 1, it is evident that the Prob > z values for all variables—y (0.35010), x1 (0.41189), and x2 (0.30345)—are greater than 0.05. This indicates that all three variables in this study are normally distributed. Therefore, the data meet the assumption of normality, which is a key prerequisite for conducting multiple linear regression analysis.

1. Autocorrelation Test

The autocorrelation test was conducted using the Durbin–Watson statistic to detect the presence of serial correlation among residuals in the regression model.

Table 5. Autocorrelation Test Results

| | |
|---------------|----------|
| Durbin–Watson | 1.917237 |
|---------------|----------|

d-statistic(3,
31)

Source: Stata 17 Output

Based on the test results, the Durbin–Watson statistic is 1.917237. This value is close to 2, indicating that there is no autocorrelation present in the regression model. Therefore, the model satisfies the assumption of no autocorrelation and is suitable for use in multiple linear regression analysis.

2. Stationarity Test

The stationarity test was conducted using the Augmented Dickey-Fuller (ADF) Test to ensure that the time series data do not contain a unit root. Stationary data indicate that the mean, variance, and covariance across periods remain constant over time. If the data are non-stationary, the regression model may produce spurious results.

Table 6.
Results of the Stationarity Test (ADF Test) at Level

| Variabel | Probabilitas | Hasil |
|----------|--------------|-------|
| Gini | 0.8348 | p > |
| Indeks | | 0,05 |
| GDP | 0.8983 | p > |
| | | 0,05 |
| Income | 0.3214 | p > |
| Highest | | 0,05 |

Based on the stationarity test results presented in Table 1, it was found that the data for the Gini Index, GDP, and Income Share of the Top 10% are not stationary at level, as all p-values are greater than 0.05. Therefore, the variables exchange rate, interest rate, and inflation were re-tested for stationarity at their first differences Table 1.3 presents the results of the Augmented Dickey-Fuller (ADF) test for stationarity at the first difference level.

Table 7.
Stationarity Test Using ADF at First Difference

| Variabel | Probabilitas | Hasil |
|----------|--------------|-------|
| Gini | 0.0000 | p < |
| Indeks | | 0,05 |
| GDP | 0.0001 | p < |
| | | 0,05 |
| Income | 0.0000 | p < |
| Highest | | 0,05 |

Source: Processed using Stata 17

Based on the stationarity test results presented in Table 7, it was found that the Gini Index, GDP, and Top 10% Income Share variables are stationary at first difference, as all p-values are less than 0.05. Therefore, the analysis proceeds to the next step, which is the determination of the optimal lag length.

1. Cointegration Test

After confirming that all variables are stationary, the next step is to conduct a cointegration test to determine whether there is a long-term relationship among the variables. This test is performed using the Johansen Cointegration Test.

Table 8.
Cointegration Test Results (Johansen Test)

| Rank (r) | Trace Statistic | 5% Critical Value |
|----------|-----------------|-------------------|
| 0 | 75.5446 | 29.68 |
| 1 | 17.5341 | 15.41 |
| 2 | 0.2688 | 3.76 |

Source: Processed using Stata 17

Based on the results of the Johansen cointegration test presented in Table 8, the trace statistics for each rank are as follows: At rank 0, the trace statistic is 75.5446, which is greater than the 5% critical value of 29.68. At rank 1, the trace statistic is 17.5341, also greater than the 5% critical value of 15.41. At rank 2, the trace statistic is 0.2688, which is smaller than the 5% critical value of 3.76. Since the trace statistics at rank 0 and rank 1 exceed the corresponding critical

values, but at rank 2 fall below the critical value, it can be concluded that at least two cointegrating relationships exist within the model. This implies the presence of a long-run equilibrium relationship between income inequality (Y), GDP per capita (X1), and the income share of the top 10% (X2) during the period 1993–2023 in Thailand.

1. Multiple Linear Regression

The multiple linear regression analysis in this study is employed to assess the influence of GDP per capita on the level of income inequality (Y) in Thailand, as measured by the Gini Index over the period 1993–2023.

The regression results are presented in the following table:

Table 9.
Multiple Linear Regression Results

| | | |
|---------------|---|--------|
| Number of obs | = | 31 |
| F (3,12) | = | 268.28 |
| Prob > F | = | 0.0000 |
| R-squared | = | 0.9504 |
| Adj R-squared | = | 0.9469 |
| Root MSE | = | .76938 |

| y | Coefficient | Std. err. | t | P> t |
|-----|-------------|-----------|-------|-------|
| x1 | -1.68e-11 | 4.573-12 | -3.67 | 0.001 |
| x2 | -.5654678 | .1389443 | 4.07 | 0.000 |
| _co | 27.21004 | 5.7864 | 4.70 | 0.000 |
| ns | | 28 | | |

Source: Processed using Stata 17

Overall Model Significance

The F-test result shows an F-statistic value of 268.28 with a p-value of 0.0000. Since the p-value is far below the significance threshold of 0.05, it can be concluded that the regression model is statistically significant overall. This indicates that, collectively, GDP per capita (X₁) and the income share held by the top 10% (X₂) have a significant impact on income inequality (Y) in Thailand over the period 1993–2023.

The coefficient of determination (R-squared) of 0.9504 implies that 95.04% of the variation in income inequality can be explained by the independent variables in the model, while the remaining 4.96% is attributable to other factors outside the model. The Adjusted R-squared value of 0.9469 also indicates a strong predictive ability, even with only 31 observations. These findings confirm that the regression model used in this study is highly effective in explaining the phenomenon of income inequality in Thailand during the study period.

Analysis of GDP per Capita (X₁) on Income Inequality (Y)

Based on the regression analysis, GDP per capita (X₁) is found to have a negative and statistically significant effect on income inequality in Thailand. The regression coefficient is -1.68e-11, with a p-value of 0.001, indicating that an increase in GDP per capita contributes significantly to reducing income inequality.

Thus, in the context of Thailand from 1993 to 2023, economic growth—reflected by rising GDP per capita—has played a key role in mitigating income inequality. However, the effectiveness of economic growth in reducing inequality is also influenced by other supporting factors such as redistributive policies, equitable access to economic opportunities, and social stability.

Analysis of Income Share Held by the Highest 10% (X₂) on Income Inequality (Y)

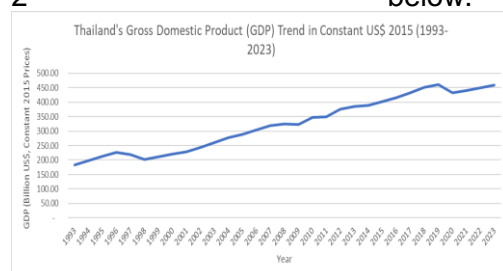
The variable income share held by the highest 10% has a regression coefficient of 0.5655 with a p-value of 0.000, indicating a positive and statistically significant relationship with income inequality. This means that a 1% increase in the income share controlled by the top 10% of

earners leads to a 0.5655-point increase in the Gini Index. This result is highly significant and aligns with structural inequality theory, which posits that income inequality is often driven by the excessive concentration of wealth among elite groups (Stephens, 2016). In the case of Thailand, this result underscores that a key driver of income inequality is the disproportionate distribution of income, particularly favoring the elite segment of the population. Therefore, efforts to reduce inequality should focus on curbing wealth accumulation among the top 10%, as well as formulating fiscal policies that enable a more equitable redistribution of income.

Discussions

The Effect of GDP per Capita (GDP Constant 2015 US\$) on Income Inequality in Thailand

One of the key variables analyzed in this study is Thailand's GDP per capita, which is presented in Graph 2 below.



Source : World Development Indicators, 2023

Figure 2
GDP Constant 2015 US\$ of Thailand in 1993-2023

As illustrated in Graph 1, Thailand's GDP per capita (in constant 2015 US\$) has demonstrated a relatively consistent upward trend throughout the period from 1993 to 2023. At the beginning of the period, in 1993, GDP per capita stood at USD 182.96 billion. This figure continued to increase gradually in line with Thailand's economic growth. Although the overall trend was positive, several fluctuations occurred during certain periods. One notable instance was between

1997 and 1998, when GDP per capita declined from USD 225.71 billion in 1996 to USD 202.74 billion in 1998. This decline was closely associated with the impact of the 1997 Asian Financial Crisis, which significantly affected Thailand's economy.

Following the crisis, GDP per capita gradually recovered. During 2008–2009, growth slowed again, likely due to the 2008 Global Financial Crisis, with GDP per capita slightly falling in 2009 to USD 322.72 billion. Nevertheless, economic recovery resumed thereafter, and GDP per capita continued to increase, reaching its pre-pandemic peak of USD 460.21 billion in 2019. In 2020, GDP per capita declined again to USD 432.37 billion, driven by the impact of the COVID-19 pandemic. However, as the pandemic subsided, Thailand's economy began to recover, with GDP per capita in 2023 rising to USD 458.46 billion—nearly matching its pre-pandemic peak.

These trends are supported by Kilenthong (2016), who argues that the relationship between GDP per capita and income inequality in Thailand follows an inverted U-shaped curve, as posited in the Kuznets hypothesis. Meanwhile, Sudswong et al. (2022) emphasize that the reduction in inequality in Thailand was not solely the result of economic growth, but also structural transformations such as labor shifts from the informal to the formal sector. They caution, however, that the effectiveness of economic growth in reducing inequality is highly dependent on institutional quality and the equitable distribution of development benefits.

From a theoretical standpoint, the influence of GDP per capita on income inequality in Thailand can

be understood through the Kuznets Curve. As Kuznets (Ma, 1985) posited, in the early stages of economic growth, income inequality tends to increase as a result of industrialization and structural transformation. However, after reaching a turning point, sustained economic growth is expected to foster greater income equality, driven by expanded employment opportunities, improvements in labor productivity, and more equitable access to education.

This theoretical framework aligns with the Thai context, where rising GDP per capita during the period of 1993–2023 was accompanied by a declining Gini Index. This suggests that economic growth is gradually being shared more widely among the population, in line with Kilenthong’s (2016) conclusion that the relationship between economic growth and inequality in Thailand follows the Kuznets trajectory..

To what extent does income distribution—particularly the share of income held by the top 10%—influence income inequality in Thailand?

The second variable examined in this study is the income share held by the richest 10% of the population in Thailand, which reflects the degree of inequality in income distribution within the society. Figure 3 below illustrates the changes in the income share held by the top 10% income earners in Thailand over the period from 1993 to 2023.



Source : World Development Indicators, 2023

Figure 3
Income Share Held by Highest 10 % of Thailand in 1993-2023

Based on Figure 3, the proportion of income held by the richest 10% of individuals in Thailand experienced a gradual and consistent decline throughout the period from 1993 to 2023. At the beginning of the period, in 1993, the top 10% controlled approximately 38.6% of total national income. This figure steadily declined over time. For instance, in 2000, the income share of this group fell to 34%, and by 2010, it had decreased to 30.6%. This downward trend continued until the end of the study period, reaching approximately 26.5% in 2023.

The decline was relatively stable and occurred incrementally each year, without any drastic fluctuations. There were minor fluctuations observed in 2000, 2013, and 2017, during which the income share temporarily increased before resuming its downward trajectory. Nevertheless, by the end of the period, the top 10% still held more than one-quarter of the nation’s total income. This indicates that income inequality remains relatively high and structurally entrenched, despite showing modest improvement. These conditions suggest that while income distribution in Thailand has gradually become slightly more equitable, the concentration of wealth among the elite continues to be a major factor influencing income inequality.

This phenomenon can be explained through the Capital Accumulation Theory proposed by Thomas Piketty (2014) in Capital in the Twenty-First Century. Piketty argues that when the rate of return on capital (r) consistently exceeds the rate of economic growth (g), wealth will become increasingly concentrated among the upper echelons of society, leading to persistent inequality that cannot be corrected solely through

market mechanisms. Although the data from Thailand indicates a declining trend in the income share of the wealthiest group, the fact that their share remains significantly large demonstrates that wealth is still heavily concentrated in the upper class.

These findings support the study conducted by Sitthiyot & Holasut (2024), who revealed that the income structure in Thailand is highly unequal due to the dominance of income by the elite. On a broader scale, Schechtl & Waitkus (2024) also observed that excessive wealth accumulation among the rich impedes efforts toward equitable economic distribution in developing countries. In Thailand, weak redistributive policies are cited as a key reason why this imbalance persists.

Other studies, such as Lustig (2017), highlight that extreme inequality not only diminishes the prospects for social mobility but also threatens inclusive economic growth and increases the risk of political and social instability. Therefore, to comprehensively address inequality, Thailand requires structural reforms, such as enhancing the effectiveness of wealth and inheritance taxation, and reorganizing the distribution of asset ownership.

CONCLUSION

This study finds that economic growth, as reflected by the increase in per capita GDP in Thailand, has contributed to reducing income inequality. However, its effect is not sufficiently strong without the equitable distribution of the gains from growth. On the other hand, the high income share held by the top 10% has been shown to be a key driver of structural inequality. These findings highlight that wealth concentration among the elite remains a major obstacle to achieving income equity, the policy

implications of these findings underscore the importance of implementing more progressive fiscal reforms, expanding access to education and capital for vulnerable groups, and strengthening social protection systems. Such measures are essential for building a more inclusive, equitable, and sustainable economic foundation. Therefore, achieving a fairer distribution of wealth is crucial to effectively reducing inequality amid ongoing economic growth.

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