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## Empirical Brilliance in Employment Strategies: Orchestrating Firm Stature, Exquisite Labor Proficiency, and Exponential Productivity in Confluence with Discerning Leverage and Enriched FDI Share

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ARTICLE DETAILS	ABSTRACT
<p><b>History:</b>                      Received: October 13, 2023                      Accepted: December 31, 2023</p> <p><b>Keywords:</b>                      Gibrat’s law                      Heterogeneity                      Developing Countries                      Leverage and                      Firm’s Growth</p> <p><b>DOI:</b>                      10.52700/assap.v4i2.324</p>	<p>This study scrutinizes the veracity of Gibrat's law pertaining to the expansion of firms at the micro level and explores the determinants of firms’ growth by employing datasets from emerging nations from 2004 to 2021. The study used panel unit root tests to scrutinize stationarity and system GMM to tackle endogeneity and unobserved heterogeneity. Overall, the findings of this study provide empirical support for Gibrat's law in the context of privatized banks in developing nations. Furthermore, the outcomes indicate that globalization and integration have posed considerable challenges for firms seeking to grow in developing countries that have implemented privatization policies. These conclusions suggest that certain elements, apart from size and sector growth, play significant roles in the evolution of a firm's growth trajectory. Nonetheless, the scope of this study is restricted to the evaluation of privatized banks in developing countries, and it does not delve into the specific methods of privatization used. Future research should explore diverse cohort sizes and expand the literature to address microlevel intricacies.</p> <p style="font-size: small;">© 2023 The Authors, Published by WUM. This is an Open Access Article under the Creative Common Attribution Non-Commercial 4.0</p>

### 1. Introduction

As they compete for customers and earnings, private businesses have an incentive to be more productive and adaptable to changing market conditions than state-owned monopolies do. The need for businesses to constantly innovate to maintain a competitive edge can contribute to a more exciting and creative corporate climate. Proponents of privatization argue that a dramatic change from public to private administration would result in a plethora of positive outcomes, including lower taxes and a smaller government. Cost reductions and a focus on customer satisfaction are certain to result from the profit-driven actions of the new private sector management in privatized activities. Private enterprises can often transport commodities more quickly and effectively than governments; therefore, privatization often helps governments save money and boost efficiency. Proponents of privatization claim that due to financial motives, privately held enterprises are more likely to cut costs when possible (Ilmudeen, 2022b).

In contrast, privatization can also lead to job losses and reduce access to public goods and

services. When state-owned enterprises are privatized, new owners may focus on maximizing profits rather than providing affordable and accessible services to the public. This can result in price hikes, reduced quality of service, and job cuts as new owners seek to reduce costs (Abbas et al., 2019).

Moreover, privatization can be a politically contentious issue, particularly in cases involving the sale of public assets or contracting out of government services. Critics argue that privatization can undermine democratic accountability and transparency, as private companies may not be subject to the same public scrutiny as state-owned enterprises. In addition, it has been argued that privatization can exacerbate social and economic inequality, as wealthier individuals and corporations may be in a better position to purchase or operate privatized assets (Hameed et al., 2021).

Overall, the impact of privatization on firm growth and economic development is complex and multifaceted. While privatization has potential benefits, such as increased competition and innovation, risks and challenges must be carefully considered. Policymakers must weigh the potential benefits and costs of privatization on a case-by-case basis, considering factors such as the regulatory environment of the industry in question and the goals and objectives of privatization (Tiberius et al., 2021).

According to the precepts of Gibrat's law, a firm's magnitude is determined not by its initial state but rather by its pace of growth. Consequently, larger companies may not have an advantage over their smaller counterparts in terms of market expansion and competition. Analysis of the distribution of firm sizes often invokes this principle (Dar & AmirKhalkhali, 2015). When a nation divests its assets and enterprises into the private sector, it is said to have undertaken a privatization process. It may involve the sale of company shares to the general public, contracting out of government services to private entities, or privatization of state-owned businesses (Ilmudeen, 2022a). However, comprehending the relationship between privatization and Gibrat's law can prove to be an arduous task. One advantage of privatization is the potential for increased competition and a more diverse range of firm sizes as new small-scale enterprises enter the marketplace. On the other hand, privatization can also lead to industry consolidation, as larger companies purchase smaller ones, reinforcing the dominant players' positions in the market and undermining Gibrat's hypothesis (Guidi, 2021).

The distribution of firm size is influenced by factors such as regulatory climate, industry, and privatization goals and plans. The concept of privatization dates to Ancient Greece, when the government transferred ownership of assets to the private sector. However, privatization gained significant momentum in the 1980s, when many developed, developing, industrial, and transitional economies adopted this approach (Partelow et al., 2019). Under Eisenhower, the Federal Republic made its first significant drive toward privatization in 1957. Later, France under Chirac privatized its largest banks, and Britain under Thatcher privatized its telecommunications industry in the 1980s. To this end, several underdeveloped nations have adopted privatization policies. When a government sells or otherwise transfers control of a public institution, program or asset to a private for-profit or non-profit corporation, this is known as privatization (Ugyel & Daugbjerg, 2020; Yasmin et al., 2016).

The trend towards deregulation and privatization has been observed across all growing nations, with state ownership dominating various enterprises and sectors. Privatization is implemented in emerging economies, with an estimated value of \$250 billion. However, "privatization" has been used to disguise various practices. The privatization strategy is critical in achieving efficiency benefits in the business sector. The primary goals are to broaden the base of equity capital ownership, provide new revenue streams, and break monopolies (Zhang et al., 2020).

Firms in microeconomics have a strong ability to survive and achieve continuous business

growth. Therefore, understanding the factors that influence business growth is crucial for all economies. Business size can be one solution (El-Mallah et al., 2019), which suggests that proportionate change in all industries, regardless of size, leads to growth. However, Darovskii ((Darovskii, 2020) argues that combining elements, such as education, investment, technology, inventions, and structural changes, such as privatization, can contribute to economic development.

Privatization is a relatively new reform undertaken by developing nations. This has received little attention in the literature. This study examines the interplay between firm growth and economic growth, as measured by a micro-level index of privatization in emerging countries (Behrer et al., 2019). Prior studies have not determined whether Gibrat's rule applies to privatized banks in developing countries. This study's primary contribution is to analyze the role of privatization in economic development, especially in underdeveloped nations (Paschal, 2015; Masood & Bhutto, 2020).

Furthermore, this study examines the various business determinants of firm growth drivers, including integration, financial structure, capital intensity, and employee quality. No previous research has focused on this aspect; moreover, dataset richness allows for such an analysis. Overall, this study aims to shed light on the impact of privatization and various business determinants on firm growth and economic development in emerging countries.

Privatizing policies are considered crucial at the micro and macro levels to achieve economic growth. At the micro level, firms can survive, resulting in higher continuous business growth (Murwindarti, 2021). Therefore, understanding the factors influencing business growth is essential for any economy. Although business size can be a solution to this issue, a proportional change in the size of all industries, regardless of size, is likely to lead to growth (Zarrouk et al., 2021). However, (Qi et al., 2021) argue that economic development can be achieved by combining various elements such as education, investment, technology, inventions, and critical structural changes such as privatization.

Privatization is a relatively recent reform adopted by developing nations and has received little attention in the literature (Abdeldayem & Al Dulaimi, 2022). Therefore, this study examines the dynamics of company and economic growth in the micro-level privatization index in emerging countries. This study tests whether Gibrat's rule holds for privatized banks in underdeveloped nations, as previous research has not addressed this issue. This study's main contribution is to evaluate and analyze the concept of privatization as a vital characteristic of economic progress, particularly in developing nations. The study also explores a wide range of business determinants, such as integration, financial structure, capital intensity, and employee quality, on the drivers of firm growth. This study is unique, as it is the first to focus on this aspect, and the richness of the dataset allows for a comprehensive analysis.

This study employs a multiple dynamic panel model to examine the sensitivity of the correlation between private bank size and growth to numerous firm features. The work developed several vibrant models by adapting the techniques proposed by Georgieva ((Georgieva, 2021) and to a generalized model rooted in the classic regression model posited by Gibrat (1931). This investigation bridges a gap in the extant literature by scrutinizing the effects of privatization, integration, financial structure, capital intensity, and workforce quality on firm growth. The profusion of the available data enabled a comprehensive analysis of these factors, providing valuable insights into the drivers of business expansion.

## **2. Review of Literature**

Since the 1980s, there has been a global trend towards deregulation and privatization, which has also been reflected in emerging nations where state ownership has historically dominated a broad spectrum of firms and sectors. Privatization refers to transferring or selling state-owned companies and entities to privately owned management and entities

(Abdeldayem & Al Dulaimi, 2022). Achieving efficiency advantages is a vital strategy in the enterprise sector.

State-owned enterprises (SOEs) are often criticized for being inefficient due to government interference and the dominance of large labor unions. However, by reducing the financial burden on the government, privatization can provide new sources of revenue and help break up monopolies by limiting the power of unions and selling shares to a broader range of parties (Blagrave & Furceri, 2021). Furthermore, the study of business growth has gained considerable attention in terms of economic dynamics. From a microeconomic perspective, firms that achieve sustained high growth rates are more likely to survive long-term (Karnes, 2020).

Additionally, a more significant proportion of the market indicates a company's success; hence, quick expansion is desirable. Although (Jiang et al., 2015) (Cubizol, 2015), research has backed Gibrat's rule (Dovemark et al., 2018) (Kanagal, 2017) and has found it to be flawed. (Abdeldayem & Aldulaimi, 2020) and (Abdeldayem & Al Dulaimi, 2022) studies have also examined Gibrat's rule in the context of other corporate characteristics that foster expansion. Numerous studies on Gibrat's practices have focused on developed economies due to resource availability (Blagrave & Furceri, 2021). However, developing nations provide a suitable laboratory for testing and checking the validity of Gibrat's law and investigating company growth drivers primarily because many of these countries have pursued privatization policies.

According to (Pheko, 2013), firm size does not impact industry growth, and increasing firm growth productivity is considered an essential element. Therefore, this study aims to investigate the association between company growth, firm size, the validity of Gibrat's rule, and the factors driving business growth in developing nations that have adopted privatization policies.

In the late 1980s, most developing nations underwent privatization. (Pheko, 2013) argued that the inefficiency of their centrally planned system motivated the government to perform this economic reform, failing numerous SOEs. A cost-effective solution to this problem is to support privately held businesses while phasing out ineffective SOEs through a privatization programme. Bank privatization has been associated with increased performance in terms of operational and financial standards, competitiveness, and investor returns across nations and within countries (Yang, 2017); (Basurto et al., 2022) (Edwards, 2017). Thus, it is evident that privatization has been a successful strategy for improving the efficiency and competitiveness of businesses in developing countries.

Privatization refers to the transfer of a state-owned business to private ownership and management. Since the 1980s, privatization has become an integral part of economic policy. It is widely regarded as a means of increasing efficiency and performance in the enterprise sector and the economy (Whiteside, 2020). The underlying premise of a privatization policy is that private ownership and management can lead to improved collective performance. Empirical data from these two types of investigations support this premise. The first type of research examines enterprises' performance before and after privatization (Borish et al., 1997) (Ameza, 2014). The second category compares the performance of public and privately owned businesses (Mishra, 2018); (Whiteside, 2020) (Sathye, 2005) and (Sathye, 2005) provides a comprehensive summary of the work on micro-level privatization, while (Martin et al., 2018) focus on emerging nations. In addition, (Basurto et al., 2022) conducted extensive studies on privatization in industrialized countries, such as the United States.

The studies mentioned above primarily concentrate on assessing the efficacy of privatized enterprises. From a political standpoint, privatization theory posits that the involvement of political forces harms the decision-making process of publicly owned businesses (Landoni, 2020). Privatization has a significant global economic impact and has garnered the attention

of many scholars. However, collecting and obtaining consistent data from developing nations poses methodological challenges. (Jeong, 2015) noted that information from the United States and other wealthy countries is far superior to that from emerging nations. The consensus in the literature is that state-owned enterprises (SOEs) are inefficient due to "soft" budget constraints (Li et al., 2019). However, studies on bank performance in and around nations have shown that privatization is associated with increased investor returns, competition, performance, and efficiency standards (Kozak, 2017).

Gibrat's law has been controversial in various research studies and inconsistent findings have been reported. One possible reason for these mixed results could be the heterogeneity of the business samples. For example, some studies have focused on the manufacturing sector and supported Gibrat's law (Ghosh, 2009), while others have rejected it (Defesa et al., 2015). However, in Taiwan, Gibrat's law rejected the manufacturing industry, but accepted the service sector (Tsaedu & Chen, 2021).

Many empirical inquiries have explored a range of factors influencing firm growth, encompassing aspects such as age, financial vulnerability, profitability, ownership framework, demand volatility, human capital, technological advancement, macroeconomic forces, capital composition, and geographical location. These studies provide evidence countering the veracity of Gibrat's law. Nevertheless, intricate econometric methodologies require tackling thorny issues related to sample selection, endogeneity, heteroscedasticity, and panel unit root (Ghosh, 2009) (Younas & Rehman, 2021).

Despite the wide range of studies on this topic, few empirical studies have focused on developing nations to assess the validity of Gibrat's rule. These studies examined only one country. In contrast, most studies have concentrated on developed economies. Numerous studies have discovered a hostile relationship between company size and firm growth in their investigation of Ethiopian firm growth and its quality. Most research has neglected emerging nations, concentrated solely on industrialized countries, and ignored concerns related to heterogeneity and endogeneity.

### 3. Data and Methodology

The research inquiry utilized a panel dataset of firms with a specific emphasis on privatized banks in emerging countries between 2004 and 2021. The dataset derived from financial reports encompasses variables such as size, workforce quality, labor efficiency, total assets, capital intensity, and leverage, all included in the yearly financial statements. This study's primary objective is to scrutinize whether Gibrat's law holds true in the context of privatized banks in emerging economies. Gibrat's law postulated in 1931, stipulates that the growth rate of a firm is independent of its size at the commencement of the period. A regression model was used to test this hypothesis. Our research contributes to the existing literature on the growth of banks in emerging economies by examining the applicability of Gibrat's law in this setting.

$$\ln G_{it} = \pi_i + \beta_t + \lambda \ln G_{it} + \eta_{it} \tag{1}$$

Where  $\eta_{it} = \delta \eta_{it} + \mu_{it}$  equation (1) is extended by (Brambilla & Lavista, 2021).

$$\text{Gro}_{it} = \ln G_{it} - \ln G_{it-1} = \beta_i + \alpha_t + (\delta-1) \ln G_{it-1} + \varepsilon_t \tag{2}$$

Moreover, Equation 2 can be written as (Boubakri et al., 2017).

$$\text{Gro}_{it} = \beta_i(1-\delta) + \alpha_t + (\lambda-1) \ln G_{it-1} + \pi(\ln G_{it-1} - \ln G_{it-2}) + \varepsilon_t \tag{3}$$

Where  $\eta_{it} = \rho(1 - \beta) \ln S_{it-2} + \varepsilon_{it}$  and  $\varepsilon_t = \lambda(1-\alpha) \ln G_{it-2} + \mu_t$ . As for the validity of Gibrat's law  $\beta= 1$ , so  $\eta_{it} = \varepsilon_{it}$  under  $H_0: \beta = 1$ . Eq (2) and eq (3) can be written as.

$$\text{Growth}_{it} = \alpha_i(1 - \rho) + \delta_t + (\beta - 1) \ln S_{it-1} + \rho \text{Growth}_{it-1} + \eta_{it} \tag{4}$$

$$\text{Gro}_{it} = \beta_i(1 - \delta) + \alpha_t + (\lambda - 1) \ln G_{it-1} + \pi \ln G_{it-1} + \varepsilon_{it} \quad 5$$

This study employs a sophisticated multiple dynamic panel model established by (Brambilla & Lavista, 2021) to comprehensively scrutinize and assess the hypothesis on the connection between company growth and size by considering the influence of a diverse range of relevant firm-level variables.

$$\text{Gro}_{it} = \beta_i(1 - \delta) + \alpha_t + (\lambda - 1) \ln G_{it-1} + \pi \ln G_{it-1} + \omega(Y_{it-1}) + \varepsilon_{it} \quad 6$$

$X_{it}$  represents various firm characteristics, such as labor quality, total assets, productivity, capital intensity, FDI share, and leverage. Our study examined the relationship between company size and growth over two consecutive periods. To analyze this relationship, the study used the system GMM approach recommended by (Heo et al., 2021) for dynamic panel data. This method is particularly suitable for our research because we aim to draw accurate conclusions from an active dataset.

In addition, we face the challenge of endogeneity when the dependent variable affects the independent variable (firm size, in this case). This could lead to biased and inconsistent estimators. Therefore, we use the GMM system technique to account for the endogeneity of regressors in our analysis, as recommended by (Heo et al., 2021). The following table explains all variables used in our study. By examining these variables, we aim to gain a deeper understanding of the factors contributing to firm growth over time.

**Table 1: Description of Variables**

Variable name	Explanation
<b>Dependent variables</b>	
Growth	Annual employment growth
<b>Independent Variables</b>	
Size	The number of employees for firm measures the firm size
Labor Quality	Total income of employees per number of employees
Labor Productivity	Total sales are divided by the number of employees
Total Assets	Book value of total assets
Capital Intensity	Total capital divided by the number of employees
Leverage	Book value of Total liabilities divided by total assets
FDI Share	Share of foreign direct investment per total registered capital

#### 4. Results

This segment delineates the findings for privatized banks from to 2004-2021. This section is partitioned into three parts: first, it expounds on the data utilized in the study; second, it presents the outcomes of the unit root tests; and third, it discusses the estimation results. To guarantee the precision of our creations, we employed a balanced dataset and excluded outlier observations that could potentially lead to prejudiced estimations. It is well understood that an outlier is an observation that significantly deviates from the sample behavior, and we detected these outliers by scrutinizing the residuals as exhibited in Table 03. By eliminating outliers and employing a balanced dataset, we can draw reliable conclusions from the study and gain better insight into the performance of privatized banks over time.

**Table 2: Descriptive Analysis**

Variables	Mean	Max	Min	St.dev	Obs.
Growth <sub>it</sub>	0.005	3.212	-2.838	0.342	899
Growth <sub>it-1</sub>	0.006	4.731	-1.577	0.273	899
Size <sub>it-1</sub>	6.352	10.742	4.072	1.638	899
Quality <sub>it-1</sub>	3.324	7.632	-4.537	2.062	899

Productivity <sub>it-1</sub>	4.633	8.586	-7.069	2.019	899
Assets <sub>it-1</sub>	12.432	7.939	5.145	2.074	899
Intensity <sub>it-1</sub>	4.524	9.454	-6.272	2.051	899
Leverage <sub>it-1</sub>	0.586	0.79	0.0032	0.382	899
FDI Share <sub>it-1</sub>	0.291	1	0	0.285	899

Growth<sub>it</sub> has a mean of 0.005, indicating a relatively low average annual employment growth rate for the firms in the sample. The range of growth rates was quite broad, with a maximum growth rate of 3.212 and a minimum growth rate of -2.838. This suggests that some firms in the sample experience high growth rates, while others experience negative growth rates. A standard deviation of 0.342 indicates that the growth rates were moderately dispersed around the mean. The economic implication is that the employment growth of firms is volatile and varies widely across firms, which may be due to differences in the internal and external factors that affect their development.

The mean of variable Size<sub>it-1</sub> is 6.352, indicating that the average firm size in the sample is relatively small. However, the range of firm sizes is broad, with the largest firm having 10.742 employees and the smallest firm having 4.072 employees. A standard deviation of 1.638 indicates that firm size is moderately dispersed around the mean. The economic implication is that small firms dominate the sample, reflecting the structure of the industry or economy.

Quality<sub>it-1</sub> has a mean of 3.324, indicating that the average labor quality of the sample firms is moderate. However, the range of labor quality is quite broad, with the highest income per employee being 7.632 and the lowest payment per employee being -4.537. In addition, the standard deviation of 2.062 indicates that labor quality is highly dispersed around the mean. The economic implication is that the firms in the sample employ workers with different levels of skills and wages, which may be related to the characteristics of the labor market or the nature of the industry.

Productivity<sub>it-1</sub> has a mean of 4.633, indicating that the average labor productivity of the sample firms is moderate. However, the range of labor productivity is quite broad, with the highest sales per employee being 8.586 and the lowest sales per employee being -7.097. In addition, the standard deviation of the economic implication is that firms in the sample have different levels of labor productivity, which may be related to their production technology or management practices.

Assets<sub>it-1</sub> has a mean of 12.432, indicating that the average total assets of the sample firms are relatively large. The total assets range is quite broad, with the largest firm having a book value of total assets of 7.939 and the smallest firm having 5.145 in total assets. The standard deviation of 3.074 indicates that total assets are moderately dispersed around the mean. The economic implication is that firms in the sample have different levels of capital intensity, which may reflect their investment strategies or financing constraints.

The variable Intensity<sub>it-1</sub> has a mean of 4.145, indicating that the sample firms' average capital intensity is moderate. However, the range of capital intensity is quite broad, with the highest total capital per employee being 9.454 and the lowest total money per employee being -6.272. In addition, the standard deviation of 2.051 indicates that capital intensity is highly dispersed around the mean. The economic implication is that the firms in the sample have different levels of capital intensity, which may be related to their production technology or investment strategies.

Leverage refers to the use of borrowed funds to increase potential returns on investment. The

mean value of  $\text{leverage}_{it-1}$  is 0.586, which means that, on average, companies in this dataset used borrowed funds to finance 58.6% of their investment activities. The maximum value is 0.79, indicating that some companies use more borrowed funds. The minimum value is 0.0032, which indicates that some companies do not use borrowed funds.

FDI represents the ownership or control of assets by a foreign entity in a country other than the home country. The mean value of FDI Share<sub>it-1</sub> is 0.291, which means that, on average, foreign entities own or control 29.1% of companies' assets in this dataset. The maximum value is one, indicating that some companies are wholly owned or controlled by foreign entities. The minimum value is zero, meaning that some companies have no foreign ownership or control. The standard deviation for both variables is relatively high, indicating considerable variability in the values of these variables across companies in the dataset. Overall, these variables provide insight into companies' financing and ownership structures and can be used to analyze their financial health and performance.

In conclusion, the data suggest that annual employment growth in the firms studied is relatively stable over time. Firm size, labor quality, and total assets appear to be positively correlated with employment growth, whereas leverage and FDI share show weak or no correlation. Capital intensity and labor productivity offer less consistent patterns. These findings provide valuable insights into the factors influencing employment growth in these firms and may inform policies promoting economic growth and job creation.

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This section examines the presence of a unit root in the series of company size, growth, and quality using the Im, Pesaran, and Shin (1995) test. The primary objective of this test is to determine the stationarity of a time-series dataset by evaluating the null hypothesis that the dataset contains a unit root, against the alternative hypothesis of the absence of a unit root.

To ensure the reliability and validity of the results, this study utilized a comprehensive dataset consisting of a diverse range of variables, including labor productivity, leverage, capital intensity, labor quality, total assets, and company size over 17 years from 2004 to 2021. The results for the unit root are reported in Table 04. The significance of the test statistics, as evidenced by the p-values, indicates that we can reject the null hypothesis of the presence of a unit root for all variables under consideration. This finding implies that the time-series data used in this study are stationary and can be relied upon to draw robust conclusions about the performance of privatized banks over time. In conclusion, (Pesaran & Shin, 1998) test is a powerful tool that enables us to determine the stationarity of time-series data. The results of this test reveal that our dataset contains no unit roots, thereby providing a solid foundation for empirical analysis of privatized banks in emerging economies.

**Table 3: Im, Pesaran and Shin Test (IPS)**

Variables	t stat	p-value	Integrating
$\text{Growth}_{it}$	-6.981	0.01	I(0)
$\text{Growth}_{it-1}$	-7.853	0.02	I(0)
$\text{Size}_{it-1}$	-8.327	0.01	I(0)
$\text{Quality}_{it-1}$	-4.635	0.02	I(0)
$\text{Productivity}_{it-1}$	-4.989	0.01	I(0)



Assets <sub>it-1</sub>	-8.987	0.02	I(0)
Intensity <sub>it-1</sub>	-6.961	0.01	I(0)
Leverage <sub>it-1</sub>	-3.874	0.02	I(0)
FDI Share <sub>it-1</sub>	-8.088	00.01	I(0)

The t-statistic measures the difference between the estimated coefficient and zero, with higher absolute values indicating more significant results. All variables have t-statistics with high fundamental values, and very low p-values indicate a robust statistical relationship between each variable and employment growth. Furthermore, all the variables are stationary, indicating a long-term equilibrium relationship with employment growth. Therefore, changes in these variables are expected to have a lasting effect on employment growth. This finding suggests that firm size, labor quality, productivity, total assets, capital intensity, leverage, and FDI share are all important determinants of employment growth.

Through the implementation of the IPS test, this study considerably bolstered its ability to reject the null hypothesis. Furthermore, this outcome confirms that all the variables utilized in this research, including solid determinants, size, and company growth, exhibit stationary behavior, implying the absence of a stochastic trend (Pesaran & Shin, 1998).

Gibrat's law suggests (Audretsch et al., 2004) that firms' growth rate is independent of their initial size. In the context of this study, the results describe the annual employment growth rate of firms as stationary and independent of their size, labor quality, productivity, assets, capital intensity, leverage, and FDI share. Moreover, the stationarity of the growth rate implies that firms tend to revert to their long-term average growth rates after experiencing temporary shocks. This finding is consistent with Gibrat's law and suggests that the growth rate of firms is a random process that is not affected by their initial size or other characteristics (Chen et al., 2022).

From an economic perspective, these results imply that firm size does not necessarily determine its ability to generate growth. Instead, other factors such as labor quality, productivity, and capital intensity significantly determine a firm's growth prospects. Additionally, the stationary nature of the growth rate suggests that firms face similar growth opportunities and challenges regardless of their initial size. Policymakers may need to consider these factors when designing policies to promote growth and support the development of small and medium-sized enterprises.

This study has taken rigorous measures to address concerns regarding overall model fitness by utilizing sophisticated statistical tests, such as the Arellano Bond test (m2) to address correlation problems and the Hansen test to manage over-identification issues. The Wald chi-square test was used to ensure that all instruments were valid, while all variables were considered instruments due to their lags. The results are presented in Table 5, which shows the factors that influence company growth using single and multiple dynamic models, providing a comprehensive picture of the determinants of firm growth in the context of privatized banks in developing nations.

Table 5 shows the rigorous testing and analysis of this study using multiple regression models with firm characteristics and statistical tests to ensure accurate and valid findings. An investigation of Gibrat's law for privatized banks in developing nations reveals a rejection of the law, with small businesses demonstrating faster growth rates than larger firms. These results were consistent with those reported by (Chen et al., 2022), (Adams & Klobodu, 2019), and (Kotikova & Vavrek, 2019), and highlight the importance of considering firm attributes when analyzing size and growth relationships. The lagged variables of company growth also suggest that development in privatized banks is not continuous, and that companies may expand gradually in the future, even if they experienced growth in the previous year. Overall,

these findings provide valuable insights into the dynamics of firm growth and emphasize the need to consider various factors when designing policies to support economic development. Labor quality is a crucial element in the advancement of privatized banks. However, the findings of this study reveal that past labor quality does not significantly impact the current growth of these banks. Despite the limited effect of labor productivity on boosting the development of privatized banks, all the models demonstrate slightly positive outcomes. (Ghulam, 2020) supports these findings. In contrast, capital intensity may not necessarily spur company growth, as banks need considerable investments to fulfill immediate demands for service operations, sales, and purchases. Although higher total assets exhibit a favorable influence, (Ghulam, 2020) suggests that companies with larger asset bases will grow faster than those with relatively lower total assets.

**Table 4: Results of the Growth Model**

Dependent Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
$Growth_{it}$							
$Growth_{it-1}$	-0.39*** (0.009)	-0.39*** (0.005)	-0.39*** (0.002)	-0.39*** (0.003)	-0.39*** (0.004)	-0.39*** (0.005)	0.39*** (0.003)
$Size_{it-1}$	0.48*** (0.001)	0.49*** (0.008)	0.46*** (0.003)	0.43*** (0.004)	0.48*** (0.007)	0.41*** (0.005)	0.44*** (0.003)
$Quality_{it-1}$		0.002*** (0.001)	0.006*** (0.004)	0.004*** (0.003)	-0.01*** (0.003)	-0.027** (0.035)	-0.04** (0.032)
$Productivity_{it-1}$			0.011** (0.034)	0.019** (0.049)	0.017** (0.059)	0.019** (0.024)	0.001** (0.034)
$Assets_{it-1}$				0.018** (0.019)	0.029** (0.022)	0.004** (0.026)	0.005** (0.029)
$Intensity_{it-1}$					-0.019** (0.018)	-0.025** (0.016)	- 0.028** (0.017)
$Leverage_{it-1}$						-0.319* (0.082)	-0.312* (0.069)
$FDI\ Share_{it-1}$							-0.352* (0.065)
$Constant$	0.543 (0.578)	0.398 (0.69)	0.264 (0.36)	0.275 (0.37)	0.339 (0.37)	0.558 (0.41)	0.694 (0.48)
Wald chi sq test	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hansen test	0.34	0.12	0.14	0.13	0.39	0.37	0.27
A-Btest AR (2)	0.49	0.43	0.33	0.23	0.25	0.27	0.31
Corr. Coeff	0.24	0.33	0.40	0.45	0.45	0.46	0.48

Note: \*, \*\*, and \*\*\* indicate significance at the 10 %, 5 %, and 1% levels, respectively.

Leverage is found to have a statistically significant adverse effect on the growth of privatized banks, implying that it may hinder firm expansion. This finding agrees with those of previous studies conducted in developed countries (Tsaedu & Chen, 2021); (Li et al., 2019) and

underscores the suppressive influence of debt on enterprises. Given the potential for bankruptcy and the burden of debt, business directors are under immense pressure to improve efficiency and achieve greater sustainability, as noted by Ghosh (2007).

Furthermore, FDI has a significant negative effect on the growth of privatized banks in emerging countries, implying that it may impede their expansion. This finding is contrary to the results of other studies (Landoni, 2020); (Mishra, 2018) (Whiteside, 2020) that found positive effects of FDI on business growth. In summary, the empirical results reveal that Gibrat's law does not hold for the growth of privatized banks in emerging nations. However, incorporating firm characteristics into the analysis leads to different outcomes, providing evidence for the development of these banks. (Yang, 2017), (Basurto et al., 2022), and Edwards ((Edwards, 2017) found similar results for small businesses in previous studies.

Table 5 presents the outcomes and suggests that an entity's growth rate in the previous period is a significant predictor of its growth rate in the current period. The coefficient for this variable is negative in all models, indicating that a higher growth rate in the previous period is associated with a lower growth rate in the current period. The coefficient for "Size<sub>it-1</sub>" is positive in all the models, indicating that larger entities tend to have higher growth rates. Furthermore, the coefficient of "Quality<sub>it-1</sub>" is positive in all models, meaning that higher quality is associated with higher growth rates. Finally, the coefficient of Productivity<sub>it-1</sub> is positive in some models, indicating that higher productivity is associated with higher growth rates. However, the coefficient is insignificant in all the models, suggesting that productivity may not always strongly predict growth.

Other independent variables included in the models are "Assets<sub>it-1</sub>," "Intensity<sub>it-1</sub>," "Leverage<sub>it-1</sub>," and "FDI Share<sub>it-1</sub>." These variables represent the entity's assets, intensity of its activities, leverage ratio, and share of foreign direct investment. The coefficients of these variables are positive in some models and harmful to others, indicating that their effects on growth may vary depending on other factors.

Finally, the models suggest that the growth rate of an entity is influenced by various factors including its size, quality, and past growth rates. However, the effects of other factors, such as productivity, assets, and foreign direct, may be less consistent and may depend on other factors not captured in the models.

## **5. Conclusion and Policy Implication**

This empirical investigation delves into the ramifications of Gibrat's law on economic growth by exploring the determinants of firm growth for privatized banks in developing nations using dynamic panel data and a GMM system approach. The findings show that labor quality, capital intensity, leverage, and FDI share harm firm growth, and indicate that globalization and integration pose formidable barriers to expansion.

Gibrat's law, an economic principle also referred to as the "law of proportionate effect" or "law of proportional growth," posits that a firm's growth rate is independent of its initial size. This means that a firm's size does not determine its growth rate and that smaller firms have the same likelihood of growing or shrinking as larger firms. This law assumes that firm growth is a random process and is not influenced by external factors.

The significance of Gibrat's law is that, on average, firms grow at the same rate regardless of their initial size. However, some firms may experience faster growth rates than others, whereas others may even decline in size. Despite its theoretical underpinnings, Gibrat's law has been the subject of much debate and controversy. Smaller firms often experience higher growth rates than larger ones, leading to challenges in accurately predicting and modeling firm growth dynamics.

This study's insightful finding delved into the determinants of firm growth for privatized banks in developing nations through a comprehensive analysis of dynamic panel data and the

GMM system approach. It reveals that several critical factors, such as labor quality, capital intensity, leverage, and FDI share, significantly influence firm growth. The implications of these results are far-reaching and indicate that firms in developing nations encounter numerous challenges in their quest to expand, and globalization and integration have created significant obstacles in their path. Consequently, it is incumbent upon policymakers must consider these factors when designing policies that facilitate economic growth because their effective management can be pivotal in enhancing the competitiveness and growth prospects of the private sector.

The findings suggest that firm characteristics such as labor quality, capital intensity, size, leverage, and FDI share play a critical role in determining the growth of privatized banks in developing nations. These characteristics are consistent with the predictions of Gibrat's Law, which suggests that firm size and growth are independent, and that firm growth is primarily determined by exogenous factors, such as the market environment and firm-specific characteristics.

In the context of privatized banks, the study's findings suggest that firm-specific characteristics, such as those mentioned above, are critical determinants of growth, rather than just firm size. This implies that policymakers should promote policies that encourage the development of firm-specific characteristics, such as improving labor quality and increasing capital intensity, to promote the growth of privatized banks in developing nations.

Overall, the findings of this study support Gibrat's law on privatized banks in developing nations. However, the results also highlight the importance of firm-specific characteristics in determining growth and suggest that policymakers should adopt a nuanced approach when formulating policies to support the development of these institutions.

This study underscores the pivotal significance of firm-specific attributes such as labor quality, capital intensity, size, leverage, and FDI share in steering the growth of privatized banks in developing economies. Therefore, policymakers must consider these growth determinants while devising strategies to bolster the development of such financial institutions, as they hold a cardinal role in stimulating sustainable economic growth.

This study's application of dynamic panel data analysis and the GMM approach produces robust and efficient estimations that ensure the accuracy of its findings. Nevertheless, it is critical to acknowledge that data constraints and potential endogeneity challenges can impede such research endeavors, particularly in developing countries. As a result, policymakers and scholars must collaborate closely to overcome these hurdles and foster evidence-based decision-making that can advance economic development.

Finally, a concise policy implication could be to focus on policies that promote the growth of small and medium-sized enterprises (SMEs). It can include supporting SMEs in increasing their productivity and quality, enabling access to credit to reduce leverage, encouraging foreign investment, and promoting technological innovation. Policies that encourage market competition may stimulate growth and reduce market concentration. Overall, the goal is to create an environment that supports a diverse and dynamic business sector that can lead to sustained economic growth.

## References

- Abbas, J., Raza, S., Nurunnabi, M., Minai, M. S., & Bano, S. (2019). The impact of entrepreneurial business networks on firms' performance through a mediating role of dynamic capabilities. *Sustainability*, 11(11), 3006.
- Abdeldayem, M. M., & Al Dulaimi, S. H. (2022). Public sector reform in emerging economies: Does privatisation matter?. *Human Systems Management*, 41(1), 73-85.
- Abdeldayem, M. M., & Aldulaimi, S. H. (2020). Lessons Drawn From Privatisation In

- Developing Countries: Evidence From An Emerging Economy. *International Journal of Scientific and Technology Research*, 12(13), 209-219.
- Adams, S., & Klobodu, E. K. M. (2019). Urbanization, economic structure, political regime, and income inequality. *Social Indicators Research*, 142, 971-995.
- Ameza, E. (2014). *The Role of State and Foreign Investors in Corporate Governance: Evidence of the Banking Sector Privatisation of Ghana*. The University of Manchester (United Kingdom), 13(12), 233-245.
- Santarelli, E., Audretsch, D. B., Klomp, L., & Thurik, A. R. (2004). Gibrat's Law: Are the Services Different?. *Review of Industrial Organization*, 24, 301-324.
- Basurto, N., Jiménez, A., Bayraktar, S., & Herrero, Á. (2023). Improving the prediction of project success in the telecom sector by means of advanced data balancing. *Cybernetics and Systems*, 54(3), 306-320.
- Behrer, A. P., Manning, D. T., & Seidl, A. (2019). The Impact of Institutional and Land Use Change on Local Incomes in Chilean Patagonia. *The Journal of Development Studies*, 55(2), 191-208.
- Blagrove, P., & Furceri, D. (2021). The macroeconomic effects of electricity-sector privatization. *Energy Economics*, 100, 105-245.
- Borish, M. S., Ding, W., & Noel, M. (1997). The evolution of the state-owned banking sector during transition in Central Europe. *Europe-Asia Studies*, 49(7), 1187-1208.
- Boubakri, N., Cosset, J. C., & Saffar, W. (2017). The constraints on full privatization: International evidence. *Journal of Corporate Finance*, 42, 392-407.
- Brambilla, C., & Lavista, F. (2020). Privatizations and efficiency. Evidences from the Italian iron and steel industry, 1979–2016. *Industrial and Corporate Change*, 29(3), 757-778.
- Chen, J., Shin, Y., & Zheng, C. (2022). Estimation and inference in heterogeneous spatial panels with a multifactor error structure. *Journal of Econometrics*, 229(1), 55-79.
- Cubizol, D. (2017). Unbalanced credit distribution in emerging economies and FDI. *Electronic Journal*, 27(01), 867-887.
- Dar, A. A., & AmirKhalkhali, S. (2015). On The Growth Process Of Firms: Does Size Matter?. *International Business & Economics Research Journal (IBER)*, 14(3), 477-484.
- Darovskii, I. (2020). Microeconomic and Macroeconomic Effects of the Banking Sector Development Policy in Russia [Отраслевые И Макроэкономические Эффекты Политики Оздоровления Российского Банковского Сектора]. *Economic Policy*, 4, 30-61.
- Dovemark, M., Kosunen, S., Kauko, J., Magnúsdóttir, B., Hansen, P., & Rasmussen, P. (2018). Deregulation, privatisation and marketisation of Nordic comprehensive education: Social changes reflected in schooling. *Education Inquiry*, 9(1), 122-141.
- Edwards, C. (2017). Margaret Thatcher's privatization legacy. *Cato J.*, 37, 89.
- El-Mallah, R. K. E. D., Aref, A. E. H., & Sherif, S. (2019). The role of social responsibility in protecting the environment –a case of the petrochemical companies in Alexandria Governorate. *Review of Economics and Political Science*, 14(04), 190-210.
- Ghosh, S. (2009). Do productivity and ownership really matter for growth? Firm-level evidence. *Economic Modelling*, 26(6), 1403-1413.
- Ghulam, Y. (2020). Assessing the long-term impact of reforms and privatisation on the banking industry of Pakistan. *International Journal of Banking, Accounting and Finance*, 11(4), 461-494.
- Guidi, F. (2021). Concentration, competition and financial stability in the South-East Europe banking context. *International Review of Economics & Finance*, 76, 639-670.
- Hameed, K., Arshed, N., Yazdani, N., & Munir, M. (2021). Motivating business towards innovation: A panel data study using dynamic capability framework. *Technology in Society*, 65, 101581.

- Heo, Y., Thanh Huyen, N. T., & Doanh, N. K. (2021). Impact of the institutional quality on NAFTA's international trade: a system GMM approach. *Journal of Economic Studies*, 48(3), 537-556.
- Ilmudeen, A. (2022). IT Governance mechanism and IT-enabled dynamic capabilities drives firm performance: An empirical study in Sri Lanka. *Information Development*, 02666669221074259.
- Ilmudeen, A. (2022). Leveraging IT-enabled dynamic capabilities to shape business process agility and firm innovative capability: moderating role of turbulent environment. *Review of Managerial Science*, 16(8), 2341-2379.
- Jeong, B. (2015). The developmental state and social enterprise in South Korea: A historical institutionalism perspective. *Social Enterprise Journal*, 11(2), 116-137.
- Jiang, Y., Peng, M. W., Yang, X., & Mutlu, C. C. (2015). Privatization, governance, and survival: MNE investments in private participation projects in emerging economies. *Journal of World Business*, 50(2), 294-301.
- Kanagal, N. B. (2017). Strategic Marketing Issues for an Emerging Market Firm to go Global. *International Business Research*, 10(6), 35-45.
- Karnes, Y. (2020). Are There Optimal Forms of Public-Private Partnerships?. *Journal of Behavioral and Applied Management*, 20(2), 51-68.
- Kotikova, S., & Vavrek, R. (2019). Determining the size of technological gap between local firms and foreign direct investment at regional level. *Journal of International Studies*, 12(3).
- Kozak, N. I. (2017). Building community, breaking barriers: Little Free Libraries and local action in the United States. *M/C Journal*, 20(2), 170-185.
- Landoni, M. (2020). Knowledge creation in state-owned enterprises. *Structural Change and Economic Dynamics*, 53, 77-85.
- Li, X., Ding, Y., & Li, Y. (2019). M-government cooperation for sustainable development in China: a transaction cost and resource-based view. *Sustainability*, 11(7), 1884.
- Martin, C., Hulse, K., & Pawson, H. (2018). The changing institutions of private rental housing: an international review, 11(2), 117-132.
- Mishra, S. N. (2018). Growth, Development and Equity: India's tryst with economic reforms. *Parikalpana: KIIT Journal of Management*, 14(1), 1-10.
- Murwindarti, A. FACTORS INFLUENCING THE GROWTH OF CRAFT BUSINESS IN BOGOR CITY. *Tunas Geografi*, 10(1), 21-26.
- Partelow, S., Abson, D., Schlüter, A., Fernández-Giménez, M., von Wehrden, H., & Collier, N. (2019). Privatizing the commons: New approaches need broader evaluative criteria for sustainability. *International Journal of the Commons*, 13(1), 191-206.
- Paschal, S. (2015). Privatization in the name of public private partnership: the case of Tanzania Breweries Ltd., an evaluation. *Tribuna Juridică*, 5(10), 70-87.
- Paschal, S. (2015). Privatization in the name of public private partnership: the case of Tanzania Breweries Ltd., an evaluation. *Tribuna Juridică*, 5(10), 70-87.
- Pesaran, H. H., & Shin, Y. (1998). Generalized impulse response analysis in linear multivariate models. *Economics letters*, 58(1), 17-29.
- Pheko, M. M. (2013). Privatization of public enterprises in emerging economies: Organizational development (OD) perspectives. *International Journal of Business and Management*, 8(20), 25-37.
- Qi, L., Hurriyati, R., Disman, H., & Ali, M. (2021). Research on the Influencing Factors of Chinese Family Business's Succession from the Perspective of Re-Creation. *International Journal of Business and Society*, 22(1), 146-160.
- Sathye, M. (2005). Privatization, performance, and efficiency: A study of Indian banks. *Vikalpa*, 30(1), 7-16.

- Tiberius, V., Stiller, L., & Dabić, M. (2021). Sustainability beyond economic prosperity: Social microfoundations of dynamic capabilities in family businesses. *Technological Forecasting and Social Change*, 173, 121093.
- Tiberius, V., Stiller, L., & Dabić, M. (2021). Sustainability beyond economic prosperity: Social microfoundations of dynamic capabilities in family businesses. *Technological Forecasting and Social Change*, 173, 121093.
- Tsaedu, K. G., & Chen, Z. (2021). The Dynamics of Firm Growth in Sub-Saharan Africa: Evidence from Ethiopian Manufacturing Sector 1996–2017. *Journal of Industry, Competition and Trade*, 21(3), 367-392.
- Ugyel, L., & Daugbjerg, C. (2020). Successful policy transfer and public sector reform in developing countries. *Policy & Politics*, 48(4), 603-618.
- Whiteside, H. (2020). Public-private partnerships: market development through management reform. *Review of International Political Economy*, 27(4), 880-902.
- Yang, X. (2017). A Study of Alignment between Management and Shareholders on China Financial Firms. *Journal of Applied Finance and Banking*, 7(6), 99.
- Younas, M. Z., & Rehman, F. U. (2021). Exploring the nexus between innovation and firm performance: new evidences from manufacturing innovation survey of Pakistan. *Asian Journal of Technology Innovation*, 29(1), 16-51.
- Zarrouk, H., El Ghak, T., & Bakhouche, A. (2021). Exploring economic and technological determinants of FinTech startups' success and growth in the United Arab Emirates. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(1), 50-65.
- Zhang, M., Zhou, G., & Fan, G. (2020). Political control and economic inequality: Evidence from Chinese cities. *China Economic Review*, 6(1), 101-22.
- Yasmin, F., Faridi, M. Z., Ali, H., & Yasin, A. (2016). Workers' Remittances and Growth Linkages in Pakistan. *Review of Economics and Development Studies*, 2(2), 81-92.
- Masood, Z., Ali, H., & Bhutto, S. (2020). Job Design in Career Context: Empirical Evidence from Higher Educational Institutes. *The New Educational Review*, 60(2), 61- 70.