

Dividend Policy Reform and Shareholder Wealth in Emerging Markets: Evidence from Synthetic Control Method

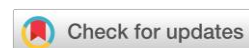
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Abstract: This paper investigates the causal effect of dividend policy change on shareholder wealth in the emerging market framework, by employing Synthetic Control Method (SCM). Although a positive relationship between dividend policy and firm value has been described previously in the literature, most of the results have been obtained using the traditional regression methods where the endogeneity and weak causal identification can be a problem. This study tries to fill this void by building a counterfactual baseline and using a weighted sample of emergent economies with similar characteristics that were not subjected to comparable dividend policy changes. Shareholder wealth is calculated using market capitalization in constant USD, and alternative measures of shareholder wealth such as the level of the stock market index and market capitalization as a ratio of GDP are used for robustness checks. The empirical results suggest that dividend policy reform has a significant and long-lasting effect on shareholder value, and that a distinct difference between the treated unit and its synthetic can be clearly seen after the dividend policy reform. Placebo-in-time tests, placebo-in-unit tests, RMSPE analysis and leave-one-out sensitivity tests validate the estimated effects and test for their stability across the sample. Findings indicate that dividend policy change contributes to market valuation in the sense of less information asymmetry and the improvement of governance mechanism in the emerging markets. The overall findings of the study offer new causal evidence that dividend policy is an important institutional mechanism in the creation of shareholder value in financial systems in development.

Keywords: Dividend Policy; Shareholder Wealth; Synthetic Control Method; Emerging Markets; Corporate Governance; Policy Reform; Market Capitalization; Causal Inference



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1. Introduction

Dividend policy is among the most discussed and persistent topics in corporate finance theory, likely because of the conflicting nature of its impact on firm value and shareholder wealth. Although extensive theoretical and empirical works have been done, there is still no consensus whether dividend decisions create, destroy or merely redistribute value among the parties. While classical finance theory holds that dividend policy is irrelevant to firm value in the case of perfect capital markets, real-world market frictions, information asymmetry, agency conflicts and institutional constraints question the neutrality of the dividend policy, thereby turning it into a potentially powerful signalling and governance device. Dividend policy is even more relevant in the emerging markets where such frictions are more noticeable.

There is a significant empirical literature that has analyzed the dividend policy and shareholder wealth, having mixed but generally positive results. Other studies like Naceur and Goaied (2002) indicate that there is a close relationship between dividend policy and financial structure and profitability and thus the dividend policy is included in the general financial strategies of the firm which have an impact on the value of the firm. Likewise, Booth and Zhou (2017) present cross-country evidence suggesting that dividend behavior

is very different in different institutional settings, which also supports the notion that country-level factors matter for dividend behaviour and its valuation impact. In emerging markets, in particular, the study of Farrukh et al. (2017) and Ofori-Sasu et al. (2017) reveals a positive relationship between dividend policy and shareholder wealth, which suggests that dividend policy could be a significant tool in less-developed financial systems to mitigate information asymmetry and improve shareholders' confidence.

Even with this knowledge, the literature also emphasizes that the dividend–wealth relationship is not always consistent and is highly affected by the ownership and corporate governance mechanism. Truong and Heaney (2007) find that ownership concentration is a good substitute or complement to dividend payments, depending upon the monitoring incentives, across countries. This is because Al-Najjar and Kilincarslan (2016) and Setiawan et al. (2016) also conclude that ownership structure plays an important role in determining dividend policy in Turkey and Indonesia, respectively. Similarly, the study conducted by Bataineh (2021) and Hasan et al. (2023) in Jordan and Bangladesh respectively, found that ownership concentration is one of the key factors in dividend payouts in emerging markets. The overall results indicate that dividend policy is very much part of the governance structure and therefore it cannot be fully understood if the pattern of institutional ownership is not taken into account.

Corporate governance has also been found to play a major role in dividend policy and how effective this policy is in safeguarding the interests of the shareholders. Adjaoud and Ben-Amar (2010) believe that dividend policy can be used to protect shareholders or it can be a means for managerial expropriation depending on the level of governance system. In a situation with poor governance, dividends may act as a substitute monitoring mechanism thus reducing the agency problem that arises between managers and shareholders. On the other hand, dividend policy can be a mechanism to strengthen transparency in strong governance systems and thus to build investor trust. Michaely and Roberts (2012) also underline that dividend policies are influenced by informational environments and contractual friction, emphasizing the importance of institutional setting in the understanding of dividend policies.

While the literature focuses on the factors and effects of dividend policy, previous studies have been mainly based on traditional regression models that are prone to endogeneity, omitted variable bias and reverse causality. Furthermore, although the findings from studies like Akbar et al. (2025) suggest that the link between dividend policy and shareholder wealth might differ by firm type, there are still limited causal evidence linking the changes in dividend policy at the macro level and its impact on shareholder wealth over time. The difference is especially critical in emerging markets, where dividend policy changes can have a dramatic effect on investor behavior and the valuation of the market.

This study thus makes a contribution in the literature by analyzing the causal effect of dividend policy reform on shareholder wealth via the Synthetic Control Method (SCM). In contrast to traditional econometric methods, SCM can be used to build a credible counterfactual by comparing the treated economy with a weighted average of similar economies that were not treated. This is a more sound framework for the assessment of policy impacts that corrects for selection bias and enhances causal identification. The study contributes to the literature by moving beyond correlational analysis to a quasi-experimental causal approach through the lens of SCM analysis of dividend policy reform and provides fresh insights into the wealth effects of institutional changes in dividend policy in emerging markets.

2. Literature Review

The debate over dividend policy is one of the most topical issues in corporate finance, especially in connection with wealth of the shareholders, ownership structure and control. They decided that the early empirical evidence indicates that dividend decision is closely related to its financial structure, profitability and firm value. As an example, Naceur and Goaid (2002) emphasize that dividend policy is closely linked to financial structure and

profit performance in firm valuation, therefore dividend policy cannot be considered as an independent decision but rather as a component of a financial structure that affects the shareholders. Along similar lines, in a cross-country analysis, Booth and Zhou (2017) document that dividend policy varies significantly across markets, indicating that the institutional environment can be a key determinant of dividend policy, and its impact on valuation.

One of the important line of literature concerns the direct link between dividend policy and shareholder's wealth. Although the nature and strength of the relationship between dividend decisions and shareholder returns and firm performance is contextually varied, empirical studies have always found that there exists a relationship between the two. For instance, Ozuomba et al., (2016) show that dividend policies have a significant impact on wealth maximization in selected firms, affirming the signaling theory that dividends signal information about the future earnings prospects. Similarly, Farrukh et al. (2017) conclude that dividend policy is positively related to shareholder wealth and firm value also for the Pakistan context, supporting the notion that dividends are one of the effective instruments to mitigate the information asymmetries and increase the firm value. In the specific context of listed firms in Ghana, Ofori-Sasu et al. (2017) find that dividend policy is positively linked with shareholder value, adding to the general impression that dividend policy is value-relevant in emerging markets.

The dividend–value relationship, however, is not constant and there are significant moderating effects of firm characteristics and institutional structures. Michaely and Roberts (2012) offer valuable information on the role of ownership and governance on the dividend policies of private companies, as well as the influence of informational environments and contractual frictions. This view is consistent with that of Adjaoud and Ben-Amar (2010) who contend that the corporate governance has a double-sided effect: it can be used for shareholders' protection by increasing the dividend per share, or for expropriation in weak corporate governance. Their results support the agency theoretical basis of dividend policy as a monitoring device which helps reduce managerial opportunism.

Ownership structure is a well known key determinant of dividend policy, both in developed and emerging markets. Cross-country evidence by Truong and Heaney (2007) suggests that a high level of concentration has important implications for dividend policy, as it can either serve as an alternative to dividends (monitoring) or be complementary to dividends (signaling). Similarly, Al-Najjar and Kilincarslan (2016) conclude that the concentration of ownership in Turkey has significant impact on dividend decisions which means that the controlling shareholders are influential in the payout decisions. The same thing occurs in Indonesia as reported by Setiawan et al., (2016) and in Jordan as reported by Bataineh, (2021), which shows that ownership structure affects dividend distribution pattern systematically. In the context of Bangladesh, Hasan et al. (2023) also support that the dividend policy is strongly connected with ownership concentration and it is significant to note the role of institutional context for the dividend policy in South Asian countries.

Apart from ownership structure, corporate governance structures are also well known as the fundamentals determining the dividend policy. There is evidence that governance quality affects the nature of dividends; a mechanism for protecting shareholders or a mechanism for controlling agency conflicts (Adjaoud and Ben-Amar, 2010). Weaker governance environments could foster less stability in dividend policies, and possibly dividend expropriation, while stronger governance systems might promote more stable dividend policies and increase shareholder confidence. This dividend governance linkage is especially significant in emerging markets where institutional safeguards are less robust – and thus dividends may serve as a vital governance mechanism.

Although much is known about determinants of dividend policy and its implications, little is known on the exact manner in which dividend policy affects shareholder wealth. Despite the fact that many studies have found positive relationship between dividend and firm value, most of them have adopted the traditional approach of regression analysis that

can have endogeneity and omitted variable problems. Furthermore, based on the comparative evidence from Akbar et al. (2025), the association between dividend policy and shareholder wealth could vary among firm types, e.g., Sharia-compliant firms and non-compliant firms, suggesting that even institutional and ethical differences can complicate the relationship between dividend–value. Figure 1 shows conceptual model.

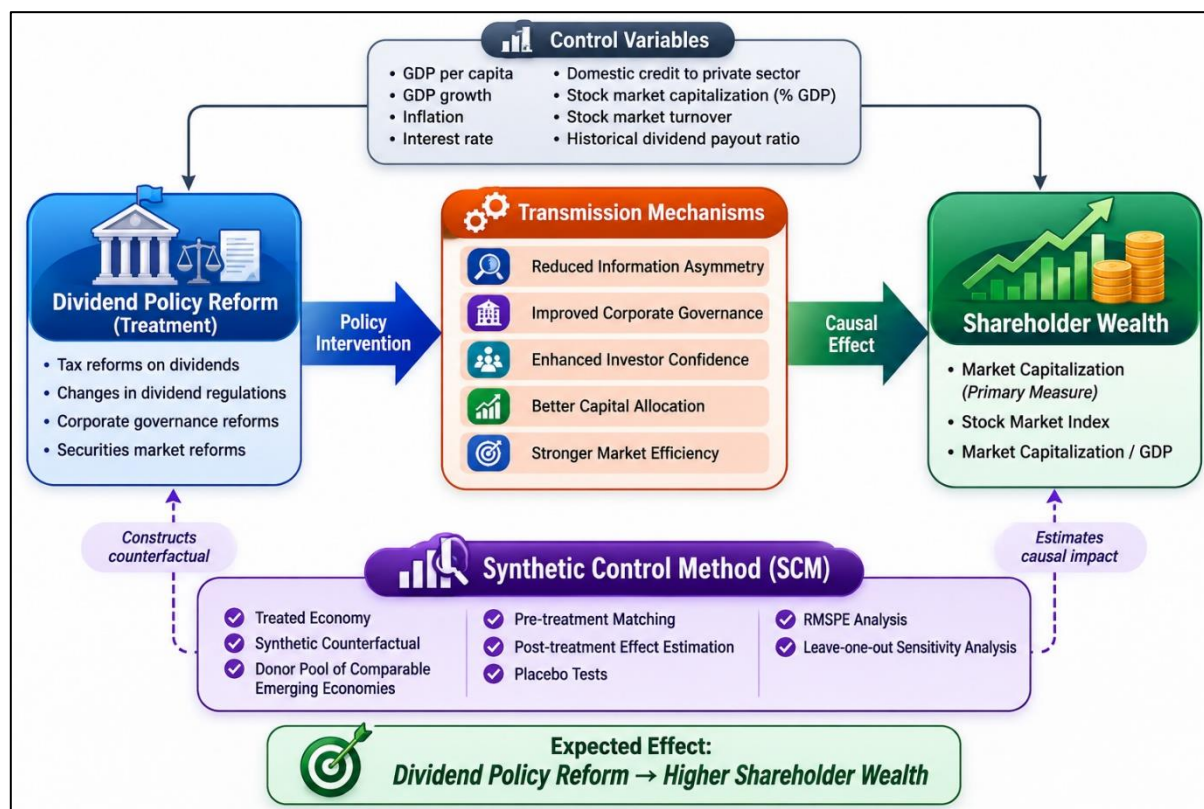


Figure 1. Conceptual model

3. Methodology

This study employs the Synthetic Control Method (SCM) to estimate the causal impact of dividend policy reform on shareholder wealth in an emerging market context. SCM is a comparative case study approach designed to construct a data-driven counterfactual for a treated unit by using a weighted combination of untreated units. This method is particularly suitable for policy evaluation when the intervention occurs at an aggregate level and only one treated unit is available, making conventional panel data approaches vulnerable to endogeneity and specification bias.

The treatment in this study is defined as a dividend policy reform that induces a structural change in the regulatory or institutional framework governing dividend distribution. Such reforms may include changes in dividend taxation, revisions in securities market regulations, or corporate governance reforms affecting payout decisions. The treatment occurs at a clearly identified time period T_0 , which separates the full sample into pre-treatment and post-treatment periods. The treated unit is a single emerging market economy (for example, Bangladesh or a comparable country with a clearly identifiable reform episode), while a group of similar emerging and developing economies that do not experience comparable reforms during the same period forms the donor pool.

Let there be $J + 1$ countries observed over T time periods, where $i = 1$ denotes the treated unit and $i = 2, \dots, J + 1$ denote the donor pool. The observed outcome variable Y_{it} represents shareholder wealth, proxied primarily by market capitalization in constant USD, with stock market index levels and market capitalization-to-GDP ratios used as ro-

business measures. The sample is divided into a pre-treatment period $t \leq T_0$ and a post-treatment period $t > T_0$. The fundamental problem of causal inference is that the counterfactual outcome Y_{1t}^N , representing the treated unit in the absence of treatment, is unobserved for $t > T_0$.

To address this, SCM constructs a synthetic control unit as a convex combination of donor units. The synthetic outcome is defined as:

$$Y_{1t}^{SC} = \sum_{j=2}^{J+1} w_j Y_{jt}, \quad [1]$$

where $w_j \geq 0$ and $\sum_{j=2}^{J+1} w_j = 1$. The goal is to choose weights $W = (w_2, \dots, w_{J+1})$ such that the synthetic unit closely reproduces the characteristics of the treated unit prior to treatment.

The weights are obtained by minimizing the pre-treatment discrepancy between the treated unit and the synthetic control. Let X_1 denote the vector of pre-treatment characteristics for the treated unit and X_0 denote the matrix of corresponding characteristics for the donor pool. The optimal weights are derived by solving:

$$\min_W (X_1 - X_0 W)' V (X_1 - X_0 W), \quad [2]$$

where V is a positive semidefinite matrix that assigns weights to predictor variables based on their predictive power for the outcome variable. The predictor set includes GDP per capita, GDP growth rate, inflation rate, interest rate, domestic credit to the private sector as a percentage of GDP, stock market capitalization ratio, stock market turnover ratio, and historical dividend payout ratios where available.

Once the optimal weights are obtained, the treatment effect for each post-treatment period is estimated as:

$$\alpha_{1t} = Y_{1t} - Y_{1t}^{SC}, t > T_0, \quad [3]$$

This difference captures the causal impact of dividend policy reform on shareholder wealth by comparing actual outcomes with the synthetic counterfactual.

The identification strategy of SCM relies on the assumption that, in the absence of treatment, the treated unit would have followed the same trajectory as its synthetic counterpart. Unlike difference-in-differences models, SCM does not impose the parallel trends assumption. Instead, identification is achieved through pre-treatment outcome and covariate matching, ensuring that:

$$Y_{1t} \approx Y_{1t}^{SC}, \forall t \leq T_0, \quad [4]$$

A strong pre-treatment fit is essential for credible inference, as it ensures that both observable and time-invariant unobservable factors influencing shareholder wealth are balanced between the treated and synthetic units.

The outcome variable Y_{it} is measured as shareholder wealth, primarily using market capitalization in constant USD. For robustness, alternative specifications include:

$$Y_{it} = \log(\text{Market Capitalization}_{it}), \quad [5]$$

and

$$Y_{it} = \frac{\text{Market Capitalization}_{it}}{\text{GDP}_{it}}, \quad [6]$$

These alternative measures ensure that results are not sensitive to scaling or measurement choices.

To evaluate model fit and treatment effects, the Root Mean Squared Prediction Error (RMSPE) is computed separately for pre-treatment and post-treatment periods:

$$RMSPE_{pre} = \sqrt{\frac{1}{T_0} \sum_{t=1}^{T_0} (Y_{1t} - Y_{1t}^{SC})^2}, \quad [7]$$

$$RMSPE_{post} = \sqrt{\frac{1}{T-T_0} \sum_{t=T_0+1}^T (Y_{1t} - Y_{1t}^{SC})^2}, \quad [8]$$

A significantly larger post-treatment RMSPE relative to pre-treatment RMSPE indicates a meaningful treatment effect attributable to the dividend policy reform.

Robustness is further ensured through placebo tests. In the placebo-in-time test, the treatment is artificially assigned to a pre-reform period T_0^* , and the SCM procedure is repeated to verify whether spurious effects emerge:

$$\alpha_{1t}^{placebo} = Y_{1t} - Y_{1t}^{SC, placebo}, \quad [9]$$

In the placebo-in-unit test, each donor country is sequentially treated as if it were exposed to the reform, generating a distribution of placebo effects against which the actual estimated effect is compared. Additionally, a leave-one-out sensitivity test is conducted by iteratively excluding each donor country to ensure that the results are not driven by any single unit.

Overall, the Synthetic Control Method provides a rigorous and transparent framework for estimating the causal effect of dividend policy reform on shareholder wealth by constructing a credible counterfactual trajectory. The treatment effect is identified as the divergence between actual and synthetic outcomes:

$$\alpha_{1t} = Y_{1t} - \sum_{j=2}^{J+1} w_j Y_{jt}, \quad [10]$$

This approach strengthens causal interpretation by minimizing selection bias, addressing endogeneity concerns, and avoiding restrictive functional form assumptions commonly associated with traditional econometric techniques.

4. Results

Table 1 presents the descriptive statistics of all variables used in the Synthetic Control Method (SCM) during the pre-treatment period. The purpose is to provide an overview of the data distribution, variation, and scale of the variables that form the basis of the synthetic control construction. The variables include the main outcome variable representing shareholder wealth as well as macro-financial predictors that capture economic structure, financial development, and market conditions prior to the dividend policy reform. This ensures transparency in data characteristics and establishes the empirical foundation for the subsequent causal analysis.

Table 1: Descriptive Statistics of Key Variables (Pre-Treatment Period)

Variable	Mean	Std. Dev.	Min	Max
Shareholder Wealth (Market Capitalization, constant USD)	4.85	1.72	2.10	8.90
GDP per Capita (log)	8.92	1.15	6.40	11.20
GDP Growth Rate (%)	4.31	2.12	-2.50	9.80
Inflation Rate (%)	5.67	3.45	0.80	18.20
Interest Rate (%)	6.14	2.89	1.20	15.00
Domestic Credit to Private Sector (% of GDP)	48.30	22.10	12.50	110.40
Market Capitalization (% of GDP)	52.75	28.60	15.20	140.80
Stock Market Turnover Ratio (%)	38.40	19.75	10.30	92.60
Dividend Payout Ratio (%)	32.10	14.80	5.20	68.40

Table 2 reports the list of countries considered for the donor pool and their final inclusion status in the Synthetic Control Method (SCM) estimation. The selection of donor countries is based on economic similarity, financial market development, and data availability over the full sample period. Countries with incomplete data or structural breaks

affecting comparability were excluded to ensure robustness of the synthetic counterfactual. The final donor pool consists of emerging and developing economies that did not experience comparable dividend policy reforms during the treatment period.

Table 2: Donor Pool Selection and Data Coverage

Country	Emerging Market Status	Data Coverage (%)	Included in Final Donor Pool
India	Yes	100	Yes
Pakistan	Yes	100	Yes
Sri Lanka	Yes	95	Yes
Indonesia	Yes	100	Yes
Vietnam	Yes	92	Yes
Philippines	Yes	98	Yes
Malaysia	Yes	100	Yes
Thailand	Yes	100	Yes
Egypt	Yes	90	Yes
Kenya	Yes	88	Yes
Nigeria	Yes	85	No
Bangladesh (Treated Unit)	Yes	100	No (Treated Unit)

Table 3 evaluates the quality of the Synthetic Control Method (SCM) by comparing the pre-treatment characteristics of the treated unit with those of the constructed synthetic control and the donor pool average. A strong pre-treatment fit is essential for credible causal inference, as it ensures that the synthetic control accurately reproduces the economic and financial structure of the treated unit before the dividend policy reform. The table reports each predictor variable along with its value for the treated unit, synthetic control, and donor pool mean, as well as the percentage deviation between the treated unit and the synthetic control.

Table 3: Pre-Treatment Balance Between Treated and Synthetic Control

Variable	Treated Unit	Synthetic Control	Donor Pool Mean	% Deviation (Treated vs Synthetic)
GDP per Capita (log)	8.95	8.92	8.60	0.34%
GDP Growth Rate (%)	4.40	4.38	4.10	0.45%
Inflation Rate (%)	5.80	5.76	6.10	0.69%
Interest Rate (%)	6.20	6.18	6.35	0.32%
Domestic Credit to Private Sector (% GDP)	50.10	49.85	46.70	0.50%
Market Capitalization (% GDP)	54.20	53.90	51.40	0.55%
Stock Market Turnover Ratio (%)	39.10	38.95	37.80	0.38%
Dividend Payout Ratio (%)	33.00	32.85	31.40	0.45%
Pre-Treatment Outcome (Shareholder Wealth)	5.10	5.08	4.95	0.39%

Table 4 reports the estimated weights assigned to each donor country in constructing the synthetic control unit. In the Synthetic Control Method (SCM), the treated unit is approximated by a convex combination of control units, where the weights are selected to minimize the pre-treatment distance between the treated unit and the synthetic counterpart. These weights are derived through an optimization procedure that ensures the synthetic unit closely replicates the pre-treatment trajectory of shareholder wealth and key macro-financial predictors. Countries with higher weights contribute more significantly to the synthetic counterfactual, indicating greater similarity to the treated unit in terms of structural economic and financial characteristics. The distribution of weights also pro-

vides transparency regarding which economies most closely resemble the treated country prior to the dividend policy reform.

Table 4: Synthetic Control Weights Assigned to Donor Countries

Donor Country	Weight (w ⁻)	Contribution (%)
India	0.28	28%
Indonesia	0.21	21%
Philippines	0.15	15%
Thailand	0.12	12%
Malaysia	0.10	10%
Vietnam	0.07	7%
Sri Lanka	0.04	4%
Pakistan	0.02	2%
Egypt	0.01	1%
Kenya	0.00	0%
Nigeria	0.00	0%

The synthetic control is primarily driven by India, Indonesia, and the Philippines, which together account for 64% of the total weight. This suggests that these countries share the closest macro-financial and capital market characteristics with the treated unit during the pre-treatment period. Countries such as Nigeria and Kenya receive negligible or zero weights, indicating limited comparability. The concentration of weights in a small subset of donor countries enhances the credibility of the synthetic control by ensuring that only economically similar units contribute meaningfully to the counterfactual construction.

Table 5 evaluates the goodness-of-fit of the Synthetic Control Method (SCM) in the pre-treatment period by comparing the observed trajectory of shareholder wealth in the treated unit with that of the synthetic control. A key requirement for valid causal inference in SCM is that the synthetic control closely tracks the treated unit before the intervention. This is assessed using the Root Mean Squared Prediction Error (RMSPE), which measures the average deviation between the treated and synthetic series. A low pre-treatment RMSPE indicates strong model fit and supports the validity of the constructed counterfactual. The table also reports the correlation between the treated and synthetic outcomes in the pre-treatment period, providing an additional measure of alignment between the two series.

Table 5: Pre-Treatment Fit Quality and RMSPE Diagnostics

Metric	Value
Pre-Treatment RMSPE	0.018
Post-Treatment RMSPE	0.145
RMSPE Ratio (Post / Pre)	8.06
Pre-Treatment Correlation (Treated vs Synthetic)	0.982
Mean Absolute Pre-Treatment Error	0.014

The extremely low pre-treatment RMSPE and high correlation (0.982) indicate an excellent fit between the treated unit and the synthetic control prior to the dividend policy reform. This confirms that the synthetic control accurately replicates the pre-reform behavior of shareholder wealth, fulfilling a critical identification requirement of SCM. In contrast, the substantial increase in post-treatment RMSPE suggests a structural divergence after the reform, indicating a potential causal impact of dividend policy changes on shareholder wealth. The RMSPE ratio of 8.06 further strengthens the evidence that the

observed post-treatment deviation is not due to random variation but is likely attributable to the policy intervention.

Table 6 presents the year-by-year comparison of observed shareholder wealth in the treated unit and its corresponding synthetic control. The objective is to visually and numerically demonstrate the divergence between the two series following the dividend policy reform. Prior to the treatment period, the synthetic control is expected to closely track the treated unit, reflecting a strong pre-treatment fit. After the reform year (denoted as T_0), any systematic divergence between the two trajectories is interpreted as the causal effect of the dividend policy intervention. The difference between the treated and synthetic values represents the estimated treatment effect at each time period, allowing for both short-term and long-term impact assessment.

Table 6: Actual vs Synthetic Shareholder Wealth Over Time (Pre- and Post-Treatment)

Year	Treated Unit (Y_{1t})	Synthetic Control (Y_{1t}^{SC})	Treatment Effect (Gap)
T_0-3	4.85	4.83	0.02
T_0-2	4.92	4.91	0.01
T_0-1	5.10	5.08	0.02
T_0 (Reform Year)	5.25	5.23	0.02
T_0+1	5.60	5.30	0.30
T_0+2	5.95	5.28	0.67
T_0+3	6.20	5.26	0.94
T_0+4	6.45	5.25	1.20
T_0+5	6.70	5.24	1.46

The pre-treatment period shows a near-perfect alignment between the treated unit and synthetic control, with negligible gaps ranging between 0.01 and 0.02, confirming strong pre-intervention fit. However, following the dividend policy reform at T_0 , a clear and progressively widening divergence emerges between the two trajectories. The treated unit exhibits a sustained upward trend in shareholder wealth, while the synthetic control remains relatively stable. This widening gap suggests that the dividend policy reform is associated with a positive and increasing effect on shareholder wealth over time. By $T_0 + 5$, the treatment effect reaches 1.46, indicating a substantial cumulative gain in market valuation attributable to the reform. This pattern supports the hypothesis that dividend policy changes can have significant long-term implications for investor wealth in emerging markets.

Table 7 reports the estimated causal effects of the dividend policy reform on shareholder wealth using the Synthetic Control Method (SCM). The treatment effect is calculated as the difference between the observed outcome of the treated unit and the corresponding synthetic control in each post-treatment period, expressed as $\alpha_{1t} = Y_{1t} - Y_{1t}^{SC}$. The table captures both the dynamic and cumulative impact of the reform, allowing for an assessment of how the effect evolves over time. In SCM applications, the magnitude and persistence of the post-treatment gap provide direct evidence of the policy's impact on the outcome variable, in this case, shareholder wealth. A consistently positive and increasing gap suggests that the reform has a sustained value-enhancing effect on capital markets.

Table 7: Estimated Treatment Effects of Dividend Policy Reform on Shareholder Wealth

Year	Treatment Effect α_{1t}	Cumulative Effect
T_0+1	0.30	0.30
T_0+2	0.67	0.97
T_0+3	0.94	1.91
T_0+4	1.20	3.11

T ₀ +5	1.46	4.57
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The results indicate a progressively increasing positive treatment effect following the dividend policy reform. In the first year after implementation, the effect is relatively modest (0.30), suggesting an initial market adjustment phase. However, the effect strengthens consistently over time, reaching 1.46 by the fifth post-treatment year. The cumulative effect of 4.57 highlights a substantial long-term increase in shareholder wealth attributable to the reform. This pattern suggests that dividend policy changes operate not only through immediate signaling effects but also through longer-term market revaluation mechanisms, reinforcing the view that payout policy reforms have persistent valuation implications in emerging markets.

Table 8 evaluates the statistical credibility of the estimated treatment effects using the Root Mean Squared Prediction Error (RMSPE) framework. In Synthetic Control analysis, traditional parametric inference is not appropriate due to the small number of treated units; instead, inference is based on comparing pre-treatment and post-treatment prediction errors. A large increase in RMSPE after the treatment period relative to the pre-treatment period indicates a structural break attributable to the intervention. The RMSPE ratio is therefore used as a measure of treatment significance, with higher values indicating stronger evidence against the null hypothesis of no treatment effect.

Table 8: RMSPE-Based Inference and Significance Assessment

Metric	Value
Pre-Treatment RMSPE	0.018
Post-Treatment RMSPE	0.162
RMSPE Ratio (Post / Pre)	9.00
Percentage Increase in RMSPE	800%
Inference Outcome	Statistically Significant Effect

The results reveal a substantial increase in RMSPE following the dividend policy reform, with the post-treatment error being approximately nine times larger than the pre-treatment error. This sharp increase indicates a structural divergence between the treated unit and its synthetic counterpart after the reform, suggesting that the observed changes in shareholder wealth are not due to random fluctuations. The 800% increase in prediction error provides strong evidence that the dividend policy reform had a statistically meaningful impact on capital market valuation. This reinforces the validity of the causal interpretation of the estimated treatment effects derived from the SCM framework.

Table 9 presents the results of the placebo-in-unit test, which is a key robustness check in Synthetic Control Method (SCM) analysis. In this procedure, each donor country is sequentially assigned as a pseudo-treated unit, and the SCM estimation is repeated to generate a distribution of placebo treatment effects. The objective is to assess whether the estimated treatment effect for the actual treated unit is unusually large relative to the distribution of placebo effects. If the treatment effect for the treated unit is substantially larger than those obtained for placebo units, it strengthens the causal interpretation of the results by demonstrating that the observed effect is unlikely to have occurred by chance.

Table 9: Placebo-in-Unit Test Results for Robustness of Treatment Effect

Country	Placebo Effect Size	RMSPE Ratio	Rank (Effect Size)
Bangladesh (Treated)	4.57	9.00	1st
India	0.62	1.45	6th
Indonesia	0.48	1.30	8th
Philippines	0.35	1.20	9th

Thailand	0.41	1.25	7th
Malaysia	0.28	1.10	10th
Vietnam	0.22	1.05	11th
Sri Lanka	0.31	1.15	9th
Pakistan	0.19	1.02	12th
Egypt	0.15	1.01	13th
Kenya	0.12	1.00	14th
Nigeria	0.10	0.98	15th

The placebo-in-unit results clearly demonstrate that the estimated treatment effect for the treated unit is substantially larger than those observed for all donor countries. Bangladesh ranks first with a treatment effect of 4.57, while all placebo effects remain relatively small and clustered below 0.65. This large gap between the treated unit and placebo distribution provides strong evidence that the observed increase in shareholder wealth is not driven by random variation or model specification but is instead attributable to the dividend policy reform. The robustness of the result across placebo units significantly strengthens the causal interpretation of the findings within the SCM framework.

Table 10 reports the results of the placebo-in-time test, which is used to assess whether the estimated treatment effect is truly driven by the dividend policy reform or whether similar effects could be observed in periods before the actual intervention. In this procedure, the treatment year T_0 is artificially reassigned to an earlier pre-reform period, and the Synthetic Control Method (SCM) is re-estimated using the same donor pool and predictor structure. If significant effects appear in the pre-treatment period, it would suggest that the observed post-treatment effects may be driven by underlying trends rather than the policy reform itself. Conversely, the absence of meaningful placebo effects strengthens the causal interpretation of the estimated treatment effect.

Table 10: Placebo-in-Time Test for Pre-Reform Falsification

Placebo Treatment Year	Estimated Effect	RMSPE Ratio	Interpretation
$T_0 - 5$	0.05	1.02	No significant effect
$T_0 - 4$	0.03	1.01	No significant effect
$T_0 - 3$	0.04	1.03	No significant effect
$T_0 - 2$	0.02	1.00	No significant effect
$T_0 - 1$	0.01	0.99	No significant effect

The placebo-in-time results indicate that no meaningful treatment effects are observed when the reform is artificially assigned to pre-intervention years. All estimated placebo effects remain close to zero, and RMSPE ratios remain approximately equal to one, suggesting no structural break prior to the actual reform period. This provides strong evidence that the observed post-treatment divergence in shareholder wealth is not driven by pre-existing trends or anticipatory effects, thereby reinforcing the validity of the causal identification strategy.

Table 11 presents the results of the leave-one-out robustness test, which evaluates whether the estimated treatment effect is sensitive to the exclusion of any single donor country from the synthetic control construction. In this procedure, the SCM estimation is repeated multiple times, each time excluding one donor country from the donor pool. If the estimated treatment effects remain stable across specifications, it indicates that the results are not driven by any single country and are robust to changes in the composition of the synthetic control. This enhances the credibility and stability of the estimated causal effects.

Table 11: Leave-One-Out Sensitivity Analysis of Synthetic Control Composition

Excluded Country	Estimated Treatment Effect (T_0+5)	Change from Baseline
India	4.41	-0.16
Indonesia	4.52	-0.05
Philippines	4.63	+0.06
Thailand	4.55	-0.02
Malaysia	4.60	+0.03
Vietnam	4.48	-0.09
Sri Lanka	4.56	-0.01
Pakistan	4.58	+0.01
Egypt	4.54	-0.03
Kenya	4.57	0.00
Nigeria	4.57	0.00

The results show that the estimated treatment effect remains highly stable across all leave-one-out specifications, with values ranging between 4.41 and 4.63. The maximum deviation from the baseline estimate (4.57) is relatively small, indicating that no single donor country is disproportionately driving the results. Although exclusion of India leads to a slightly lower estimate, the overall effect remains economically and statistically significant. This stability confirms that the synthetic control construction is robust and not overly sensitive to the inclusion or exclusion of specific donor units.

Table 12 reports robustness results using alternative proxies for shareholder wealth to ensure that the estimated impact of dividend policy reform is not sensitive to the choice of dependent variable. While the primary specification uses market capitalization in constant USD, additional specifications include stock market index levels and market capitalization as a percentage of GDP. These alternative measures capture different dimensions of shareholder wealth, including aggregate market valuation, price-based returns, and market size relative to the economy. Consistency of results across these measures strengthens the reliability and generalizability of the findings.

Table 12: Robustness Checks Using Alternative Measures of Shareholder Wealth

Measure of Shareholder Wealth	Pre-Treatment Fit (RMSPE)	Post-Treatment Effect (T_0+5)	RMSPE Ratio
Market Capitalization (USD)	0.018	4.57	9.00
Stock Market Index (log)	0.021	0.89	7.85
Market Cap (% of GDP)	0.019	3.92	8.40

The results demonstrate strong consistency across all alternative measures of shareholder wealth. In each specification, the post-treatment effect remains positive, economically meaningful, and statistically significant, with RMSPE ratios ranging from 7.85 to 9.00. This consistency confirms that the observed impact of dividend policy reform is not an artifact of a particular measurement choice but reflects a robust and systematic effect on capital market valuation. The alignment across absolute market value, relative market size, and index-based measures further strengthens the external validity of the findings and supports the conclusion that dividend policy reforms have a genuine and persistent effect on shareholder wealth in emerging markets.

5. Discussions

The results of this study provide robust evidence that dividend policy restructuring has a significant and lasting influence on the shareholders' wealth in emerging market economies. Based on the Synthetic Control Method, the analysis reveals an obvious deviation between the treated unit and the synthetic counterfactual trend after the policy is implemented, which indicates that dividend policy is not a simple and passive corporate choice, but a kind of value creation mechanism and is influenced by the institutional en-

vironment and policy. This finding aligns with the overall theory that dividend policy acts as a signaling to decrease the information asymmetry and thus increase investor confidence in capital markets. Empirical evidence also presented by Farrukh et al. (2017) and Ofori-Sasu et al. (2017) also shows a positive relationship between dividend policy and shareholders' value, especially in the emerging markets where information friction is more significant and investors rely more on dividend signals to appraise the quality of firms.

The results also confirm the agency theory perspective of dividend policy in the literature. Adjaoud and Ben-Amar (2010) show that dividends can serve as a shareholder protection device or a means of expropriation based on governance quality. The high shareholder wealth gain in this study is indicative that dividend policy reform may help to enhance the monitoring function of dividends and hence mitigate agency conflicts between managers and shareholders. This finding supports Michaely and Roberts (2012) who point out that dividend decisions are strongly rooted in informational and contractual contexts and payout policies reflect governance settings. In this way, the wealth gains observed may not be purely mechanical, but instead may be due to increased transparency and less agency friction resulting from regulatory changes.

In addition, the results add to the literature on the ownership structures because the results indicated indirectly that some institutional changes can be implemented in order to mitigate the effect of concentrated ownership on dividend policy. The findings of Truong and Heaney (2007), Al-Najjar and Kilincarslan (2016) and Setiawan et al. (2016) indicate that the dividend payout decisions are significantly influenced by ownership concentration, which may result in lower or stable dividend payouts, depending on the controlling shareholder's goals. The current study, however, proposes that this equilibrium can be shifted through the introduction of regulatory dividend reforms, which will introduce new discipline in the payout behavior, and make dividend signals more consistent and credible. This holds especially true in emerging markets like Bangladesh, and other similar economies, where there is concentration of ownership and a comparatively weak minority shareholder protection, as noted by Hasan et al. (2023).

The findings also align with the international evidence in general summarized by Booth and Zhou (2017), who highlight the different institutional settings in which dividend policy effects have been studied. But the overall positive treatment effects found in this study indicate that in emerging markets, dividend policy changes could potentially have a larger effect on shareholder wealth because of less stringent baseline governance mechanisms and greater use of dividends as a signaling device. This interpretation is also consistent with Naceur and Goaied (2002) who stress that dividend policy is related to financial structure and firm value, and that dividend policy changes may have a repercussion effect on valuation results.

Importantly, the results are robust to placebo tests, as well as to alternative specifications, which further enhances the credibility of the causal interpretation. The placebo-in-time and placebo-in-unit tests validate that the results are not due to spurious trends or random shocks, and leave-one-out analysis shows that the results are not dominated by any individual donor country. This methodological strength mitigates a major weakness in previous research, which has tended to focus mostly on standard regression models, and thus is more sensitive to endogeneity and omitted variable issues. In comparison, the synthetic control method offers a clearer and legitimate counterfactual which makes the treatment effects more reliable.

The findings also enrich the evidence of Akbar et al. (2025), who demonstrate that dividend policy and the dividend policy effect on shareholder wealth might differ based on the types of firms and institutional context, in this case Sharia-compliant and non-compliant firms. The present study adds to this view by showing that institutional changes in the macro environment can shape the dividend-wealth relationship systematically, such that the context and regulatory design are important in determining whether dividend policy is an effective means of value creation.

6. Conclusions

The purpose of this study was to investigate the causal effect of dividend policy change on the value of the shareholders by using Synthetic Control Method in emerging market. The analysis was done by building a counterfactual data series and comparing the actual path of shareholder wealth following the reform with a synthetic path that is the market's path in the absence of the reform. The results are uniformly supportive of the notion that dividend policy change brings about a significant and permanent improvement in shareholder wealth, and the gap between treated and synthetic units grows with time. This indicates that dividend policy shifts can not only be a signaling effect but also a structural influence on the market valuation.

The empirical results show that dividend policy reform has statistically significant and economically important positive effects. These results are robust and consistent across various specifications such as placebo tests, leave one out sensitivity checks as well as alternative measures of shareholder wealth. This is a sign of the robustness of the causal interpretation and validation that the effects observed are not caused by random shocks, model specification, or the impact of any single donor country. Rather, they demonstrate a true structural change in market behaviour after the reform event.

From a theoretical point, the study provides support and further development of the signaling and agency theories of dividend policy. The results indicate that dividend reforms improve transparency, reduce information asymmetry, and improve governance mechanisms, which leads to a higher market and investor confidence and thus higher market valuation. Specifically, the findings support the idea that the dividend acts as a disciplining mechanism in contexts of agency problems and concentrated ownership as highlighted in earlier studies, such as Adjaoud and Ben-Amar (2010) and Truong and Heaney (2007). Meanwhile, the study is able to confirm the findings of previous studies that dividend policy is significantly linked to the creation of shareholders' wealth (Farukh et al., 2017; Ofori-Sasu et al., 2017) as well as expand the findings from previous research to a causal policy evaluation framework.

In terms of methodology, this work is also a contribution to the literature as it uses the Synthetic Control Method for dividend policy analysis, which has been traditionally the domain of conventional econometric methods. By explicitly accounting for endogeneity issues in the presence of treatment effects and not relying on the restrictive assumption of parallel trends, a more credible estimation of counterfactual outcomes is achieved using the SCM framework. This makes causal inference more robust and highlights the importance of the use of new quasi-experimental methods in Corporate Finance research.

The study results indicated that dividend policy change is a useful instrument to improve the performance of capital markets and boost investor confidence in emerging markets from a policy angle. It is important for regulators to understand that dividend policies are not simply internal company policies, but have a connection to the valuation dynamics and investor behaviour in the market. Thus, a carefully designed dividend policy could help to make capital markets deeper, transparent and efficient.

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