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ORIGINAL CONTRIBUTION Business Strategy and Dynamics of Market Value in Financial Signaling and Information Asymmetries in Debt vs. Equity

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Abstract— The diversification strategies have important role in financial choices to decrease in cost and risk. In the previous empirical findings, the financial choices have little bit attention with reference to diversification strategies and market value behavior. The impact of corporate diversification is being explored in this study to find how they affect capital structure and firm value. This study used panel data analysis during period of 2012 -2022. It is suggested that corporate diversification strategy has significant impact on corporate financial structure and market value behavior. The increase in use of debt may be valid due to diversification strategies to eliminating the cost and risk. The product diversified firms, higher level of capital structure showed less risky as shown due to general asset specificity to more liquidity. The study aligned the cost with asymmetric risk and signaling trade off by concluding that the product and asset specificity diversification strongly related with capital structure. The funds managers, policy makers, regulators and other stakeholders may feel a safer flight in the implementation of diversification strategies and financial risk management while considering these capital structure choices.

Index Terms— Product diversification, Asset diversification, financial structure, Risk, Business Strategy

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Introduction

The decade of 80's was a hot period of debate of capital structure as a business strategy. It is considered that the capital structure may be impacted because of diversification of product and asset specificity. The quick decisions, risk control and flexibility of a firm depend upon its strategic behavior. The decision makers take the capital structure as a choice. There are two main elements of business strategy first is Product diversification and second is transaction cost economics. Linkages in these strategies explored and regarding to capital structure (Jordan, Lowe, & Taylor, 1988; Naughton & Taylor, 1994). Moreover, inclusion of these variables, further cost of debt equity & asset specificity has also been explored the linkages (Williamson, 1988; Kochhar, 1996; Khan et al., 2018). Every firm decides and establishes its financial policy. This attitude of firms creates different perceptions of capital markets and managers.

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The change in debt vs. equity opens the door of comparative variation in the position and status of supply of capital. Further a few other covariates may be included for optimum solution of capital structure. This area of research is more debatable and puzzling specially in developing economies. The study explored business strategy regarding to enhance the financial policy, governance, and signaling for behavioral change (Leary & Roberts 2010). We will focus above discussed situations of firms in the context of Pakistan. In the western economies the behavior of managers, markets changed strongly (Durand, 1952; Modigliani & Miller, 1958). So, it is being perceived that these changes may be found in Pakistan. The value of transitional economies may be enhanced due to diversification of risk. If the net present value moves towards the higher side the imperfection and asymmetric behavior and agency problem in diversifies firms. For high equity the assets specificity is being employed. The high collateral and liquidation value remains in general assets. This situation is good to meet more debt with low cost. By applying the corporate governance practices the agency cost may be lowered. The corporate diversification may be done through application of corporate governance. This is also a mechanism of risk mitigation. It is known as to avoid risk, accept risk, transfer risk, and reduce risk strategies during the eve of happening damage (Franch et al., 2015).

In view of above, the Pakistan is ignorant about the depth studies regarding capital structure and perceived as dormant. But the interest in Asian developing countries recently have been determine by the dominating researchers and exposed (Bajaj et al., 2021). This study explores the developing countries like Pakistan in its scope, and in investment decisions through revisit of firm's growth which is going to downward for prediction of better results and it is a major gap. For this, different theories have been tested to explore the business strategy through explaining signaling and asymmetric behavior of stocks in relation to debt Vs. equity. The OLS regression is taken to explore the novelty of the paper. Moreover, the research question is also exposed that how the business strategy proves an effective and provide the better results to firms through financial signaling, information asymmetry in relation to debt Vs. equity approach. Effective business strategy is necessity for the growth of every business and in decision making to enhance the profit for stakeholders that is core objective of this research (Akash & Abbas, 2015).

Literature Review

This is a very important issue to conduct research on diversification in the context of debt vs. equity decisions. To capture the change in value the diversification may be helpful. Williamson (1970) documented a study which explored that the imperfection of outside markets is under control of diversified firms. Myers and Majluf (1984) found the solution of high degree of asymmetries by getting positive net present value. The application of diversification the capital markets can be created more efficient (Khan et al., 2021). The problem of information asymmetry and underinvestment can be solved through diversification (Khan et al., 2011). The utilization of more debt capacity is also linked with industrial diversification (Khan, Akhter, & Bhutta, 2020). Lewllen (1971) found that mitigation in volatility in earnings among different industries may be used for high-capacity business debt. The cost of debt becomes the reason of tax shield resultantly explored earnings (Sheilfer & Vishnay, 1992). The study explored optimal debt capacity and cash flows, and day of the week effect at same high degree (Hussain et al., 2011). In this situation the assets of a firm sold to a firm which have lower liquidity problem. Tecee (1980) predicted that by establishing multiproduct of firms we can create better scale of economies. Information asymmetric discernment regarding diversified firms explored in lowest value (Harris et al., 1982). The same work has explored the asymmetries (Khan, Akhter, & Bhutta, 2020). It is explored that firms regarding single industry with more value comparative to diversified firms concluded high value (Lang & Stulz, 1994). Further they explored that the impact of industry and diversification on performance is irrelevant.

Williamson (1988) conducted research on the relationship of transaction cost and capital structure with regard to asset specificity. If the specificity of asset is high it prefers equity as it demands low level of collateral and low liquidation problem and vice versa. Akash et al. (2020) tackled with the financial distress and agency costs may change the psychological behavior of market. The optimal capital structure and favorable macro economy may decrease the financial risk and agency risk (Khan, Hussain, & Akash, 2023). The optimal capital structure and favorable macro factors strategy may decrease in financial risk and agency risk to increase in growth business. The sign regarding conflict of shareholders & Managers explored in agency cost theory (Jenson & Meckling, 1976). The solution of this conflict may be adoption of debt. The managers know about the unrelated diversification strategies.

Stulz (1990) stated that the chances of over and under investment belongs to cash flow volatility. These chances may lead to lowering the firm value at different degrees of debt. By adopting this mechanism of diversification, the managers can reduce the agency problem (Khan, Bashir, & Amir, 2023). Akash and Abbas (2015) explored the capital structure theories. The results explored that governance regarding to achieve the firm's performance theoretically elucidated the effect with transaction cost theory. The strategy of good corporate governance further explored for best firm performance in the view of construction of portfolio (Akash, Khan, & Shear, 2023). The diversification strategy is used for best mitigation of signaling cost and risk asymmetric and high market value (Amir, Bilal, & Khan, 2023). Li and Li (1996) documented that if there is freedom of investment choices then diversification may not be a good strategy in respect of growth. Further, the positive relationship of high diversification firms and high debt utilization is explored (Rumelt, 1974; Barton & Gordon, 1988). Taylor and Lowe (1995) made an extension in the research of Barton and Gordon (1988) and documented the same results. Kochhar and Hit (1998) explored two situations first is to explored the asset specificity regarding existence of diversification lower degree. The inverse and relations regarding diversification for capital structure elucidated strong due to unrelated shared resource diversification (Rocca et al., 2009). The slow adjustment is made by related diversified firms but faster in case of unrelated diversification (Akash, Khan, & Shear, 2023). Barton and Gordon (1987) explained the understanding of financial paradigm and capital structure decisions. Hameed et.al (2011) the debt signaling hypothesis revealed that integration of debt content that significantly explored the impact regarding investor's behavior. The research provides the cushion to analyze the strategy of portfolio construction for best market values that may enhance the firm's value and expose the employees related behavior (Raza et al., 2019).

Kochhar (1997) conducted a study on the association of Capital structure, strategic assets and performance regarding firms. The strategic assets are treated as competitive advantage for firms and their policies regarding financial matters. Product to diversify factor explored the capital structure & asset specificity examination (Jordon et al., 1998 & Lowe et al., 1994). The choice of debt and equity may change the perception of investors about risk. Williamson (1988) explored the choices of finance linked with nature of assets. Akash et al. (2019) explored the factors regarding debt & equity, macroeconomies, and asymmetries of markets. The information asymmetries & agency problems may lead to financial distress (Akash et al., 2011). The financial distress and bankruptcy threat leads to negative signaling effect over the market orientation and economies. The strategy of positive signaling may leads towards the fair play of market value.

Theoretical Background

Pecking Order Theory

Mayers and Majluf (1984) described the asymmetric information context that managers have the best access of internal information of future concern of a firm as compared to market. The managers are the best protector of the rights of existing shareholders. The equity is due to asymmetric information tends to decrease in value of the firm. So, there may be preference of debt but if there will be more value of firm leads to take initiate for financing tool as equity. Fama and French (2005) also considered as fallback of the funding in pecking order theory regarded as information of asymmetry.

Trade Off Theory

Mayers (2001) documented savings in tax benefits for more debt acquisition. The extra benefit of tax makes to increase the profitability. But debt explored more chance of fraud, and savings in tax further explored service debt (Modigliani & Miller, 1963). Jensen and Meckling (1976) presented extra disadvantage regarding debt equity cost which explored agency problem. Firm's value follow asymmetry of information, and decreases. This may cause to less fundamental value as reflected more value in market. So, it is cause to issue equity financing. The debt may cause to reduction in firm's value regarding to debt increase.

Agency Cost Theory (Act):

The misalignment of executives, and shareholders behavior which explored agency problem that causes to produce signal, and information's asymmetries. The managers are interested in their personal benefits as to maximization of wealth. The theory regarding agency cost explored to hold the manager's conflict, and debt equity holders (Jenson & Meckling, 1976). The managers preferred operations regarding business in case of liquidation chosen by preferred firm's shareholders. Different dimensions mangers, equity holder and debt holders explored by (Stulz, 1990). The mangers make full investment of funds to make more cash inflows from investment to service debt.

Information Asymmetry Theory

Ross (1977) argued regarding the monopolistic access for managers, the internal information's of firm comparative to market. The excellent of financing cause to negative or positive signal in market. The debt financing may lead to make more cash inflows from investment to service debt to make payments of fixed debt installments and interest charges. Therefore, more debt may enhance the firm's value by making positive signal to market. Fama and French (1988) disagreed that less debt has more firm's value regarding to more debt creates fraud in banks. The threaten of bankruptcy tends to decrease of firm's value.

Transaction Cost Economics (TCE)

Williamson (1988) proved that Transaction Cost Economics approach (TCE) regarded to governance of two parties. The nature of the assets is useful to take buy or make and investments decisions. The less or general asset specificity required to debt financing at the

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event of liquidation due to more value due to excellent collateral, more liquidity and security to make service debt. Decisions regarding to explore the buy difference and markets use through TCE (Ronald, 1973). Moreover, the debt and equity buy elucidated by (Kochhar, 1996).

Life Stage Theory

Frielinghaus, Mostret, and Firer (2005) explored similar fashion regarding living firms. Stages in life tie up with birth and leads death. The utilization of more debt based on maturity stage of a firm. Bender and Ward (1993, 2013) documented choices of financing influenced by the circumstances and life stages of a firm. The life stages are used to manage business risk over time. There may be more financial risk regarded to life stages of the firm. Adizes (1979) provided that life stages are actually explored behavior pattern. Moreover, the flexibility, and control relation explored as stages of life (Adizes, 1996).

Market Timing Theory

Baker and Wurgler (2002) argued that change in financing decisions may have strong and positive relationship to the timing of the market. The financing through debt or equity as financing instrument presented that attempts regarding equity timing explored cumulative results. The decisions regarding sale/buy stocks followed by overpriced/underpriced. It is explored that theoretical validation regarding support evidenced empirical, and justification regarding capital structure optimum scope (Frank & Goyal, 2004).

Data and Methodology

Data

The data of income statements and balance sheets of firms listed on Pakistan stock exchange of Pakistan taken from 2012 to 2022. The five non-financial sectors were taken into consideration. The selection criteria of the firms with incomplete data, we were left with only those firms who have complete data.

The Proxies of Business Strategy

Methodology

Model 1

Fig. 1 Model 1

Model-2



Fig. 2 Model 2

Modeling regarding to capture the signaling, and asymmetric information, behavior regarding market's value, followed by debt vs equity business strategy. Following is the technique applied to examine the effects of changes of product and asset. The technique is the case to capture the debt vs equity change in diversification of asset, and product behavior. Regression equation is considering the panel data regarding debt vs. equity behavior as under.

$$ED_{ct} = \alpha_t + \sum_{f=1}^n \beta_{nc} S_{ntc} + \varepsilon_t \tag{1}$$

Where t = 1....5

c = number of firm' search group

The measurement of debt vs.equity is done as

 $ED_{ct} = \Delta D/E = (D/E_t - D/E_{t-1})$ where S represents as an independent variable as business strategy, firm's value, and debt vs.equity. The dummy variable is adjusted in model for business strategy. The sole objective of this model is to find product and asset diversification on capital structure.

$$Y_{cijk} = \alpha_t + \sum_{i=1}^{7} \beta_{tic} + \sum_{j=1}^{4} \beta_{tj} \text{ (Product Diversification)tjc } + \sum_{k=1}^{3} \beta_{tk} \text{ (Asset Specificity)tkc } + \varepsilon_{cijk}$$
(2)

Where, the model is explored as above,

 Y_{cijk} = the structure regarding capital response of c company in year t (t = 1.....5) with product type j (j = 1....4), and asset type k (k = 1.....3).

PD = the dummy variable for the product of the company

AD = = the dummy variable for the Asset of the company

 β = intercept, and slope regarding coefficient for fixed effects, estimates are produceable individually).

cijk = random error regarding c company in year *t* with product *j*, and asset type k.

Four products non-time varying variables and three assets non-time varying taken. It can also be expressed as follows:

$$Y_{cijk} = \alpha_t + \sum_{i=1}^{8 \text{ or } 9} \beta_{tic} + \text{PDI}_{(\text{Product})1} + \text{PD2}_{(\text{Product})2} + \text{PD3}_{(\text{Product})3} + \text{PD}_{(\text{Product})4} + \sum_{k=1}^{3} \beta_{tk} (\text{ Asset Specification }) \text{tkc} + \varepsilon_{cijk}$$
(3)

Where, for the model is defined as above.

 Y_{cijk} = Response regarding capital structure for c company in year t (t = 1.....5).

PDI to PD4 = Coefficient of non-time-varying product dummy variables regarding company c. Product-1 is a reference dummy variable.

Where, for the model is defined as above.

 Y_{cijk} = Response regarding capital structure for c company in year t (t=1....5).

AD1 to AD3 = Coefficient of non-time-varying product dummy variables regarding company c. Product-1 is a reference dummy variable.

$$X_{cijk} = \alpha_t + \sum_{i=1}^{8 \text{ or } 9} \beta_{tic} + \sum_{j=1}^{4} \beta_{ti} + \text{ (Product Diversification) tjc} + \sum_{k=1}^{3} \beta_{tk} \text{ (Asset Specificity)tkc} + \varepsilon_{cijk}$$
(5)

Where, for the model is defined as above.

 X_{cijk} = Response regarding Market value for company c in year t (t = 1......5)

with product type j (j = 1......4), and asset type k(k = 1......3).

 X_{cijk} = Response regarding Market value for company c in year t (t = 1......5) and

ADI to AD3 are coefficients regarding non-time varying product dummy variable for c. Product-1 is a reference dummy variable. Asset-1 is reference dummy variable.

Results and Discussion

Descriptive Analysis

Table I explored the results regarding to describe the variables. PD1, PD2, PD3, PD4, AD1, AD2, AD3, and DE are the variables included. The mean return of DE is 0.7118435 with standard deviation 0.16756. A3 has highest mean return 0.872517 with highest standard deviation 0.682017. The mean returns and standard deviations of all the variables are positive.

Table I

Descriptive statistics (5 - Year summary)

	DE	PD1	PD2	PD3	PD4	AD1	AD2	AD3
Mean	.7118435	0.700076	0.191525	0.16850	0.25	0.06325	0	0.872517
Median	.172244	1	0	0	0	0	0	1
Std. Deviation	0.16756	0.493560	0.664235	0.324532	0.41222	0.386677	0	0.682017
Skewness	1.76436	-0.59674	3.047861	2.52413	3.904776	4.49556	0	-4.766264
Minimum	387654	0	0	0	0	0	0	0
Maximum	.678900	1	1	1	1	1	0	1
Count	350	350	350	350	350	350	350	350

Correlation Matrix

Table II explored correlation results regarding products (PD1, PD2, PD3, PD4,) and assets (AD1, AD2, AD3) proxies of diversification taken for relationship with debt vs. equity. As per the results it is concluded that no product and assets diversification have relation with debt vs. equity strongly. So, there is a week relationship among variables. There is inverse relation between product (PD2), product (PD3), product (PD4) and asset (AD1), asset (AD2). Whereas a positive relation is found between (PD1) and (AD3). Following are correlation results explored in Table Referencestab2.

Table II

Correlations Matrix of All Variables

	DE	PD1	PD2	PD3	PD4	AD1	AD2	AD3
DE	1							
PD1	0.039098	1						
PD2	-0.016866	-0.647727	1					
PD3	-0.0147875	-0.511939	-0.226655	1				
PD4	0.0154445	-0.547215	-0.176088	-0.220974	1			
AD1	-0.0071367	-0.072798	-0.079545	0.192678	-0.072546	1		
AD2	0	0	0	0	0	0	1	
AD3	0.0071334	0.0717944	0.077564	-0.202685	0.040459	-0.169087	0	1

Empirical OLS - Regression Analysis

The diversification of product and asset and its impact on capital structure choices is being analyzed in this study. Regression analysis is conducted for estimation. The reveals that debt vs. equity is inversely related to the product diversification which means more diversified firms with regard to product are riskier. On the other hand, the debt vs. equity has positive relation with asset diversification and considered as less risky. The investors predict the stocks and firm's value through diversification strategies, and signaling behavior (Ahmad, Khan, & Cheema, 2022).

Table III

The sensitivity, and validity of product (P) and asset (A) and debt vs.equity

015		2017,110					DivAD2
013	DIVFD1	DIVFDZ	DIVEDS	DIVF D4	DIVADI	DIVADZ	DIVADS
Dependent Variable	DE	DE	DE	DE	DE	DE	DE
Independent Variable	PD1	PD2	PD3	PD4	AD1	AD2	AD3
R^2	0.00092	0.0003	0.03259	0.02051	0.00020	0.002159	0.0030
F-Value	0.30489	0.069	10.97654	7.66604	1.66385	0.72306	0.9847
B- (Beta Coefficient)	9.24795	-7.2522	-0.1812	163073	-7.76874	-14.2973	17.256
t – statistics	0.56404	-0.3147	-4.26875	-5.15437	-0.32649	-0.86648	0.9920
P – Value	0.60745	0.7883	0.0061	0.01181	0.81772	0.42909	0.3717

Significant at 0.01, and 0.05 level.

Table III (Divpd₃ – 3, & Divpd₄ - 4) shows impact. Models 3, & 4 regarding significantly explored at p < .05. The expressions of these Divpd's explored as ($\beta = -0.18129$, F - value = 10.97654, t-statistics = -4.26875, P (sig) = 0.0061), relation regarding debt Vs. equity (DE) explored for products. Divpd4 - 4 (β = -.163073, F value = 7.66604, t statistics = -5.15437, p (sig) = 0 .01181), found as debt vs.equity (DE), and further the exploration regarding to diversify assets elucidated relation statistical significant (β = 9.24795, F value = 0.30489, t statistics = 0.56404, p (sig) = 0.60745) is provided in model 1 that reflect failure regarding to explore significant relation, and Divp₂ - 2. It is also explored as (β = -7.25522, F value = 0.069, t statistics = -0.3147, p (sig) = 0.7883). Moreover, it provides negative impact regarding debt vs. equity (DE). The Div_{A1}, Div_{A2} and Div_{A3} explored as (β = -7.76874), (β = -14.2973) and (β = 17.256) respectively and are exploring negative to positive insignificant becasue of level is that p > .05. According to the results explored impact of product diversification regarding debt vs. equity shown in Table III are significantly linked among themselves. There is a negative association between the dummy variables of all product except PD1 with debt vs. equity as found by (Williamson, 1988, Barton & Gordon, 1988). Whereas the all assets except AD3 are negatively related to debt vs. equity as explored by transaction cost economics (TCE) theory (Williamson, 1988 & Kochhar, 1996).



Fig. 3 Financial Signaling and Information Asymmetries of Business Strategy Covariates and Debt vs. Equity from 2012 to 2022

Table IV reveals the results regarding to explore the impact of product and to diversify asset on firm's value. Results of model 2, 4, and 5 respectively are statistically significant at the level of p < .05 that fulfills the settings regarding to explore the firm's performance as find out the strong relationship of the product and asset diversifications. Model Divpd₁ - 1, Divpd₃, DivAd₂ explored positive, and Div_{Ad3} negative impact where ($\beta = 63.39$), ($\beta = 315.0169$), ($\beta = 62.577$) and ($\beta = -51.448$) respectively but not significant because of significance level at p > .05. Table IV reveals impact regarding to explore the product's numbers, and assets to Market Value Added of shares (MVA). Moreover, it explored likelihood of products, and asset diversification with market value added of shares (MVA) (PD₂, PD₃, and PD₄) are the dummy variables of product these are significantly associated to the market value of shares except (PD₁) as explored by theory of product diversification (Williamson, 1988; Barton & Gordon, 1988). All the assets diversification except AD₃ associated to the market value added of shares negatively and significantly as discussed by the Transaction Cost Economics (TCE) theory (Williamson, 1988; Kochhar, 1996).

Table IV

The Sensitivity and Validity of Product (P) and Asset (A) on Market Value

	()						
OLS	DivPD1	DivPD2	DivPD3	DivPD4	DivAD1	DivAD2	DivAD3
Dependent Variable	MVA	MVA	MVA	MVA	MVA	MVA	MVA
Independent Variable	PD1	PD2	PD3	PD4	AD1	AD2	AD3
R^2	0.000	0.066802	0.00812	0.026484	0.047437	0.0008	0.00041
F-Value	0.32737	24.25587	3.38396	9.430565	16.50278	0.3452	0.216351
β (Beta Coefficient)	63.39	-810.526	315.0169	623.951	-143.393	62.577	-51.448
t –statistics	0.653	-5.874	1.707467	3.054753	-701.467	0.5554	-0.4092
p – Value	0.600273	0.000001	0.128859	0.003642	0.00008	0.6605	0.73215

Significant at 0.01, 0.05 level

The study not only explored the application of signaling theory but also to explore the choices regarding debt vs.equity from application of agency, and information asymmetric theory, and transaction cost under transaction cost theory. The level of asymmetric

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information derives the sentiments of investors and their irrational behavior. This is a new dilemma in the field of research in corporate finance and behavioral finance. By this way, the investors following the pattern of stock for the enhancement of investment (Ahmed et al., 2022), and the same results regarding choices decisions explored the efforts in this field (Adil et. al., 2022). The signaling and asymmetric pattern of stocks explored the significant impact regarding to expose the investment decisions. The decision choice and financial knowledge regarding investment explore effective information that expose cognitive behavior and monetary benefits (Mirza et al., 2022). The subject matter is achieved and exposed that the asymmetric anomaly can predict the value of firms and set an effective business strategy.

Conclusion

The study concluded that the corporate strategies are another tool for better choices of financial structure and market value behavior. This structure may be enhanced by changing the degree of product diversification and asset specificity. The results of study show that corporate strategies have greater impact on capital structure firm's choices. Further it is also found that corporate strategies play a moderating role between capital structure, and firm's value. The choice of debt and equity treated as a mechanism for the efficiencies of business strategies and for protection of rights of shareholders which create value of the firm. The diversification of the product and specificity of the asset may diversify the negative financial signaling and asymmetries of information by recognizing financial signaling and asymmetries of information in emerging and transitional economies (Akash, Ghafoor, & Siddique, 2020). This is an important tool to reduce the risk and cost. So, business strategy is treated as life blood of alignment of risk and cost. The results which are shown as negative association are due to agency problem. As per the signaling hypothesis the behavior of the investor is being affected due to relationship of debt and equity and diversification strategies.

Implication, Limitation and Future Directions

It is implicated that this is not commonly accepted that the diversification strategy is the determinant of capital structure. It is explored that moderation analysis in this study exposed the business strategy in relation to signaling and information asymmetric through debt Vs. equity, perceived a market value anomalies and prediction of better choices. The smaller number of sample firms and period taken for study may be the limitation of the study and did not identify instrumental variable that can explore endogeneity in better way due to limited scope. The mediation may be examined in for both scenarios of same studies. Moreover, the consideration of an appropriate instruments that may enhance the efficiency of instrumental variable to explore the issues in better way and in future.

We thereby suggest that future research in this area should seek appropriate instruments and apply the instrumental variable method to further address the issue.

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