

# The Impacts of Equity and Credit Marketplace Development on the Innovation in the ASEAN Counties

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## Abstract:

The present study aim is to examine the impact of development of marketplace on the innovation of ASEAN countries around the globe. The data were extracted form the World Bank database and logistic model was used and STATA was employed for the analysis. The outcomes exposed that positive nexus among the development of marketplace both equity and credit on the innovation of ASEAN countries. This study guided to the regulators that the enhance the focus on the development of equity marketplace that enhance the innovation in the organization the ultimately improve the competitive advantage of the firm in the country.

**Keywords:** Equity Marketplace, Innovation, ASEAN Countries, Financial Development

## 1. Introduction

While innovation is essential to assure a nation's long haul financial progress in a long run and competitive edge, propelling and sustaining innovation is quite hard (Haseeb, Hussain, Kot, Androniceanu, & Jermisittiparsert, 2019; Somjai, Vasuvanich, Laosillapacharoen, & Jermisittiparsert, 2020). As Worlock (2017) calls attention to, the entire innovation procedure isn't just long, eccentric, and flighty, yet in addition includes a high likelihood of failure. Consequently, promotion of innovation is viably required proper functioning monetary related marketplaces that play a serious role in

diminishing fiscal costs, designating rare resources, assessing inventive ventures, ignoring the risk factor, and monitoring officials. Aside the contention about progress of fiscal markets is difficult for a country's innovation, arduous realistic examinations which creates the bridge between development of financial marketplace progress and high-tech innovations those are inadequate. Therefore, this investigation aims to give cross country proof of fiscal market progress genuine impacts on the country financial position from the technical innovation point of view. In particular, we investigate the equity various effect and credit marketplace improvement

on innovation and recognize fiscal components from which they occur.

### 1.1 ASEAN Efforts towards the Innovation

Innovation (Research & Development) in any country plays a back bone role in the development of that country's economy (Kerdpitak & Jernsittiparsert, 2020). In the below given table and graph we can have an idea that developed countries continues to pay special attention and investment on Innovation, Whereas ASEAN countries are a little bit slow in this capacity.

Table 1: Capacity of Innovation

Sr	Country	2005	2006	2007	2008	2009
1	Brunei	-	-	-	-	-
2	Cambodia	-	-	-	-	-
3	Indonesia	-	-	-	-	0.08
4	Lao	-	-	-	-	-
5	Malaysia	-	0.62	-	0.79	1.02
6	Myanmar	-	-	-	-	-
7	Philippine	0.12	-	0.12	-	0.12
8	Singapore	2.15	2.13	2.34	2.62	2.16
9	Thailand	0.23	0.22	0.2	-	0.23
10	Vat Nam	-	-	-	-	-
11	China	1.32	1.38	1.38	1.46	1.68
12	India	0.8	0.8	0.78	0.83	0.81
13	Japan Korea	2.62	2.83	3	3.12	3.29

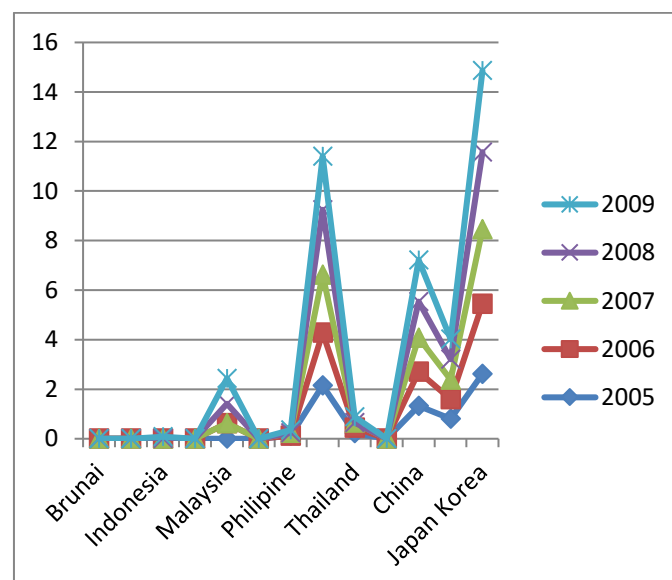


Figure 1: Capacity of Innovation

One of the significant test of our investigation is recognizing the pivotal impacts of fiscal marketplace progress on high-tech innovation, because of both invert causation and apprehensions of the ignored variable. Initially, there is a past discussion on the course of causation among economics and innovation (Prajogo & Oke, 2016). Huge assortment of studies beginning with Schumpeter (1912) claims that finance prompts economic progression, on the grounds that the services that fiscal sector provides area gives enable funds and assets to be distributed to the most elevated worth usage by reducing the danger of damage or loss brought about from a contrary assortment, ethical risk, or the costs of exchange. Inversely, a large amount of studies pursues excellently contends "where enterprise leads, finance pursues". Trust of this work regarding country's financial position with enough progress chances form fiscal markets to give the financial resources to help their good expansion views. In the presence of such instances, the economy leads, and followed by the finance. Second, overlooked variables could prejudice the estimation and statistical inferences which come about because of utilizing customary cross country regressions. An industry

which is unobservable or nations characteristics in relation between fiscal market progress and innovation are leftward in the residua in the term of regression, which creates accurate statistical inductions difficult to portray (Umrani, Johl, & Ibrahim, 2017).

Our investigation with plan to utilize a panel-base static impacts documentation methodology that reviews the particular fiscal systems by which money related market progress influences building of the innovation on the inspiring investigation of Rajan and Zingales (1996). This panel-base methodology catches altogether time series and cross-sectional dynamics among money related marketplaces and innovation, permitting additional dependable statistical impositions. This work analyzes two apparatus inspired by financial theories regarding the fiscal marketplace functioning and organizations. Initially, this investigation considers the most significant function of money related markets: disabling the moral threat and adversative selection concerns and, in this manner, decreasing the organizations cost of capital from external sources (Atalay, Dirlik, & Sarvan, 2017). In particular, we analyze whether enterprises that are increasingly reliant on innovation based on finance from external sources is more in nations with progressively created fiscal marketplaces (Rubera, Chandrasekaran, & Ordanini, 2016).

Second, as a technological business frequently undertakes a high number of innovations and projects with high risk that include long and serious research procedure prior last production, fiscal marketplaces capacity of assessing long haul and dangerous plans and expanding risk will urgently influence the innovation financing. Henceforth, in this work we study whether technological business innovation high in a country with progressively created fiscal marketplaces when contrasted with such enterprises in the country having fewer progressed money related

marketplaces. At the point while our analysis, such two financial apparatus, we separate the equity marketplace impacts progress and credit marketplace improvement on innovation. This work recommends that various credit and equity marketplaces impacts could be because of diverse settlement structures to both equity and credit suppliers. This work additionally proposed hypothesis which are testable in this part.

We gather innovation and fiscal progress information for thirty two economies from NBER patent databank, the World Scope (WS) databank, and the World Development Indicators and Global Development Finance (WDI/GDF) databank. Our sample is inclusive of developed nations, for example, the US, the UK, and Japan, just as developing countries, for example, Brazil, Russian States and also India, and. Following Rajan and Zingales (1996), in this investigation we accept that US fiscal marketplaces are generally frictionless and enlightening, thus we utilize US information for the formation of benchmark proportions of industry-level fiscal systems. At the point while our analysis, such two financial apparatus, we separate the equity marketplace impacts progress and credit marketplace improvement on innovation. This work recommends that various credit and equity marketplaces impacts could be because of diverse settlement structures to both equity and credit suppliers (Starks & Carroll, 2018). This work additionally proposed hypothesis which are testable in this part. This study findings show that enterprises which are progressively subject to outside investment and that are all the more competitive edge concentrated display disproportionately more innovation levels in nations with properly shaped equity marketplaces. Though, better formed credit marketplaces appear to dismantle fortitude innovations in organizations with these features. We lead various vigor checks to analyze whether our fundamental outcomes are

hearty to elective econometric determinations, elective intermediaries for fiscal market progress, elective intermediaries for technological intensiveness, and substitute innovation intermediaries characterized at technical class level. Altogether, these examinations help us comprehend where the variety that run our primary outcomes starts (Coventry, 2018).

This work proposed new understandings about the genuine impacts of money related progress and is identified with two findings of the literature. To start with, it adds into financial and development literature. Beginning with Schumpeter (1912), a huge amount of works has attempted to comprehend the connection between fiscal arrangement and economic development. The existing theoretical work demonstrates two possible connections among finance and growth. Bencivenga and Smith (1991) contend that money related marketplaces matter by influencing the volume of reserve funds accessible to fiscal speculations, while Greenwood and Jovanovic (1990) recommend that the fiscal marketplaces matter by expanding venture efficiency. Second, this investigation also an addition to the developing finance and innovation literature which inspects different systems for innovations promotion. A study by Dunphy, Boo, Dallamaggiore, and Morrissey (2016) contends that management agreements that accept disappointment in the short run and prize accomplishment over the long-haul are most appropriate for innovation propelling. Additionally, Ferreira, Manso, and Silva (2012) demonstrate that private, not open, proprietorship spikes advancement. Nanda and Nicholas (2014) recommend that "hot" instead of "cold" money related markets help advance innovation. Unlike prior examinations, we utilize a rich cross country informational collection to inspect explicit fiscal tools through which fund influences innovation and display the

differentiating effects of value market and credit showcase improvement (Anning-Dorson, 2017).

This work is particularly from, yet in addition, integral to, a couple of ongoing examinations. Utilizing an example of a US first sale of stock (IPO) firms, finds that opening up to the world altogether lessens the firm's development quality. While this outcome is significant, we accept this discovering relies upon the presence of a well-created equity advertises in the US. At the end of the day, the negative impacts of open value advertises on advancement along the concentrated edge would not occur to a similar degree along the broad edge in different nations with equity marketplaces that are fewer in innovation. Then, Nanda and Nicholas (2014) studies that the troubles of the bank through the strong depression decreased both the amount and nature of organization protecting, recommending credit positive role in development (Nawaz, Afzal, & Shehzadi, 2013). Whereas they center around United States marketplaces while an uncommon duration, our examination depends on an example of 32 nations over a later 31 year time span (Overall, 2015).

A study by Craddock (2017) utilizes a cross sectional static impacts recognizable proof methodology in the period in between 1985 to 1994 and discover that both value and credit marketplaces increment development amount however that value markets, not acknowledge markets, are related with increasingly extreme advancement. Not the same as his work, we receive a board based fixed impacts recognizable proof technique and look at two particular monetary systems through which the advancement of value and credit markets influences development in an unexpected way. At long last, Ayyagari, Demirgüç-Kunt, and Maksimovic (2011) practice administrator review information from 47 rising nations to express that increasingly creative companies are described by private

possess, exceptionally instructed chiefs, and access to outside money. They also discover that both value and credit marketplaces increment development amount however that value markets, not acknowledge markets, are related with increasingly extreme advancement. Not the same as his work, we receive a board based fixed impacts recognizable proof technique and look at two particular monetary systems through which the advancement of value and credit markets influences development in an unexpected way. Not at all like the information utilized in their investigation, our information incorporate both rising and created nations, and we look at the effects of money related advancement on innovation at the total level. The paper remainder is composed as pursues.

## **2. Literature Review**

We proposed a testable hypothesis by discussing about two monetary components through which money related market advancement influences mechanical innovation, putting together these theories with respect to financial hypotheses and exact discoveries. In the first place, we look at whether money related market improvement is especially valuable to businesses that are increasingly reliant on outer account. Second, in this work we investigate whether fiscalmarketplaceinnovation isspecifically valuable to businesswhich are all the competitive edge serious. In talking about these two financial systems, we underline the heterogeneous jobs that value damage kits and credit marketplaces play. Finance related innovationliterature recommends, marketplaces significant capacity is to over-come the selections on unfavorable basis and good danger issues, in this way diminishing an organization's cost of capital fromexternal sources. The fundamental work of Rajan and Zingales (1996)displays that fiscalinnovation advances monetary development in sectors that are increasingly reliant on outsourced capital by

giving lower financing cost to these segments. In any case, equity and credit marketplaces could assume various jobs in deciding financing cost and, eventually, having impact oninnovation(Tsai & Wang, 2017).

Equitymarketplaces are bound to positively affect innovation in progressively external sourced finance subordinate Indus-goes after for 3 reasons. In the first place, as Brown, Fazzari, and Petersen (2009) recommend, value showcase speculators share upside returns and there are no security prerequisites for equitybase financing. At the point when extra value is required, equityfinancing would not expand a firm's likelihood of financial trouble(Weerawardena, Mort, Salunke, Knight, & Liesch, 2015). Second, equitymarketplaces capacity of creating data could be especially helpful with regards to fund innovation. An outstanding element of value deface kits is that, under sane desires, speculators can extricate the applicable yet uproarious data from equilibrium costs (Grossman, 1976). In this way, equity markets give an instrument that could make speculators feel progressively great in giving up their control of reserve funds.

Third, equitymarketplaces encourage the input impacts of marketplace security costs. Allen and Gale (1998)contend that innovative tasks are typically hard to assess, as data about their possibilities is also meager or difficult to procedure, which frequently brings about large scope of conclusions. Since equitymarketplaces give auspicious harmony security costs, the innovation of value marketplaces permits significant data almost the possibilities of organization's contribution chances to influence firm manager's genuine contributionpicks. Since ventures that are profoundly reliant on external finance commonly have different imaginative speculation openings went with scanty information, created value markets should subsidize inventive undertakings more and



accomplish the progressively productive resource assignment(Ma et al., 2018).

Credit markets, on the other hand, are less inclined to advance innovation in ventures that are increasingly reliant on outside fund for two reasons. To start with, the criticism impacts highlighted in loud normal desire harmony is missing in bank financing. They also discover that both value and credit marketplaces increment development amount however that value markets, not acknowledge markets, are related with increasingly extreme advancement. Not the same as his work, we receive a board based fixed impacts recognizable proof technique and look at two particular monetary systems through which the advancement of value and credit markets influences development in an unexpected way. Not at all like the information utilized in their investigation, our information incorporate both rising and created nations, and we look at the effects of money related advancement on innovation at the total level. The paper remainder is composed as pursues. Rajan and Zingales (2001) propose it, because of an absence of equity signals, banks may keep financing firms, in any event, for ventures with negative returns(Zehir, Can, & Karaboga, 2015). Along these lines, as Beck and Levine (2002) contends, bank-based economic frameworks might hinder the productive progression of financefrom external sources to the freshest, most creative undertakings. 2nd, innovative firms frequently have insecure and constrained measures of inside produced incomes to support obligation(Brown, Martinsson, & Petersen, 2012). Additionally, the information resources that exploration and creating (R&D) speculation makes are typically immaterial and mostly implanted in human capital. In this way, the constrained insurance estimation of impalpable resources to a great extent confines the utilization of obligation (Brown et al., 2009), which discloses why banks like to utilize physical

resources rather than R&D venture to verify credits. These contentions propose that equity issues instead of obligation matters are likely the primary negligible wellspring of R&D account for firms that are subject to capital from external source. The above debate prompts our first theory Speculation

**H1:** Development of equity marketplaces will promote innovation in the ASEAN countries of the world.

A significant capacity of budgetary markets is to help display members differentiate their hazard,which is especially significant for sustaining technological development. Competitive edge organizations for the most part are occupied with the structure, improvement, and presentation of new items or imaginative assembling forms through the precise utilization of logical and technical information. Because of this commitment, development with a competitive edge and novel technological substance is less secure and more peculiar than routine undertakings. In addition, vulnerability can be extraordinary and would not be a basic matter of a well-determined appropriation with a mean and change. In this way, businesses that are more innovative concentrated are commonly more hazardous than enterprises that are fewer inclined to moreinnovations(Hussain, Mosa, & Omran, 2017).

Equity markets could be especially useful to innovation in competitive edge enterprises. To start with, equity markets give a rich arrangement of hazard the board devices, urging financial specialists to move their portfolios toward ventures with higher hazard as well as higher anticipated returns, i.e., innovative undertakings. Second, existing literature shows that equity markets can offer higher stock costs to imaginative firms and energize innovation. For instance, Kapadia (2006) finds that stock financial specialists lean toward the positive Skewness in

stock returns that are generally given by innovative ventures comprising of effective companies. Likewise, Pástor and Veronesi (2009) contend that identified with new advances described by high vulnerability and more prominent efficiency are valued higher when stock speculators get familiar with their innovations. Because of this commitment, development with a competitive edge and novel technological substance is less secure and more peculiar than routine undertakings. Moreover, contend that such vulnerability can be extraordinary and would not be a basic matter of a well-determined appropriation with a mean and change. In this way, businesses that are more innovative concentrated are commonly more hazardous than enterprises that are fewer inclined to more innovations (Hussain, Mosa, & Omran, 2018).

Contrasted and equity marketplaces, credit marketplaces are fewer inclined to advance innovation in Competitive edge businesses for ahead given two reasons. Initially, banks are too much worried about evading dangerous exercises and disappointments. Along these lines, their control could lead firms to under-put resources into creative tasks with high vulnerability (Stiglitz, 1985). Numerous research's strengthen this contention: Berger and Udell (1990) locate that unsafe firms regularly need to vow assure to acquire obligation finance, which is hard for creative businesses described by high immaterial resource (e.g., R&D info or licensed innovation) esteem just as more prominent vulnerability; Weinstein and Yafeh (1998) discover that banking instructions, as significant obligation containers, are probably be more hazard loath as compare to value holders; and recommends that organizations with fast relations with banking institutions are more outlandish than different organizations to take part in dangerous activities. Hence infer that credit marketplaces having a natural inclination

toward moderate speculations, which demoralizes organizations from putting resources into creative undertakings and urges them to all the more readily shut down continuous inventive ones (Hussain, Musa, & Omran, 2019).

Second, credit marketplaces could be less ready to beat data and office issues in innovative businesses., Brown et al. (2009) studied that obligation is a weak replacement for value in financing innovative firms, because of the antagonistic choice that outcomes from the inborn peril of R&D venture, just as good danger issues, since competitive edge firms can all the more effectively substitute high-chance for okay tasks. Mechanical speculation is an impalpable resource that is difficult to gauge, firm-or industry-explicit, and exorbitant to re-convey. Besides, innovation contribution is dependent upon organization issues to a more noteworthy degree when administrators are likewise investors (Hussain et al., 2012). The abovementioned data and office issues are much progressively extreme for competitive edge projects. In this way, banks and other obligation holders would abstain from giving resources to these competitive edge firms because of a paranoid fear of manager's and equity container's export overinvestment. Moreover, banks could unfavorably influence innovations because of their own instructive focal points. For instance, Rajan (1992) find that powerful banks much of the time smother innovation by separating rents through their data creation. All in all, these examinations and our related exchange lead to our subsequent theory (Hussain, Musa, & Omran, 2018).

**H2:** Development of credit marketplaces will promote innovation in the ASEAN countries of the world.

### 3. Research Methods

The present study aim is to examine the impact of development of marketplace on the innovation of ASEAN countries around the globe. The data

were extracted from the World Bank database from 2001-2017 and logistic model was used and STATA was employed for the analysis. The innovation variables used in the study is measured by the average of number of citations and patent applications. The equity market place measures by the No of shareholders (NSH), net assets with respect to equity (NAE) and total amount of equity (TAQ) while credit market place measures by the No of creditors (NC), net assets with respect to creditors (NAC) and total amount of credit (TAC). The equation of the study is developed as under:

$$\begin{aligned} Innovation_{it} = & \beta_0 + \beta_1 NSH_{it} + \beta_2 NAE_{it} \\ & + \beta_3 TAQ_{it} + \beta_4 NC_{it} + \beta_5 NAC_{it} \\ & + \beta_6 TAC_{it} \end{aligned}$$

#### 4. Findings

The outcomes consist upon the descriptive statistics, correlation matrix, all four assumptions and path analysis along with Hausman test. Firstly, the descriptive statistics includes the mean values, standard deviation and minimum and maximum values of the constructs. Table 2 presented the descriptive analysis of the study.

Table 2: Descriptive Analysis

Variable	Orbs	Mean	Std. Dev.	Min	Max
Innovation	170	1.618	.567	-.179	3.437
NSH	170	1.191	.205	.021	1.771
NAE	170	.249	.256	0	.846
TAQ	170	.158	.214	0	.983
NC	170	4.974	.841	2.862	6.399
NAC	170	11.564	23.847	-	65.89
			203.023		
TAC	170	10.541	.214	201.212	321.025

The correlation matrix describe the correlation among the variables and statistics exposed that no issue of multicollinearity of the constructs that means variables are not highly correlated. Table 3 presented the correlation matrix of the study.

Table 3: Correlation Matrix

Innovat	TA	NC	NA	TA
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Variables	NSH	NAE	TAQ	NC	NAC	TAC
Innovation	1.000					
NSH	-0.173	1.000				
NAE	0.099	0.241	1.000			
TAQ	-0.054	0.005	0.064	1.000		
NC	0.013	0.179	0.161	-	1.000	
NAC	0.249	0.137	-	-	-	1.000
TAC	-0.049	0.540	-	0.006	0.170	0.275

The variance inflation factor (VIF) has employed to test the multicollinearity and statistics indicated no issue with multicollinearity. Table 4 presented the VIF of the study.

Table 4: Variance Inflation Factor (VIF)

	VIF	1/VIF
NSH	1.579	.633
NAE	1.241	.806
TAQ	1.217	.822
NC	1.169	.855
NAC	1.096	.912
TAC	1.245	.745
Mean VIF	1.26	.

The normality is also checked by the Skewness and Kurtosis and statistics show that data has abnormality problem but when the observation more than 100, the abnormality could not affect the results. Table 5 presented the Skewness and Kurtosis.

Table 5: Skewness and Kurtosis Test

Variable	Orbs	Pr(Skewness)	Pr(Kurtosis)	adj_chi2(2)	Prob>chi2
Innovation	170		0.036	5.420	



tion		0.311		0.066
NSH	170	0.000	27.660	
NAE	170	0.002	26.130	
TAQ	170	0.000	64.410	
NC	170	0.003	20.610	
NAC	170	0.000		
TAC	170	0.000		

The present study run both the models fixed and random effect to check the appropriate model for the study that is checked by Hausman test. Table 6 and Table 7 presented the both the models fixed and random effect given below:

Table 6: Fixed Effect Model

Innovati on	Coef	S.E	t- valu e	p- valu e	L.L	U.L.	Si g
NSH	1.037	.201	5.16	.000	.641	1.433	**
NAE	-.138	.337	-.41	.683	-.801	.526	
TAQ	.951	.251	3.80	.000	.458	1.445	**
NC	-.368	.095	-3.87	.000	-.555	-.18	**
NAC	.014	.002	7.65	.000	.01	.018	**
TAC	.017	.003	7.55	.000	.02	.016	**
Constant	1.909	.547	3.49	.001	.832	2.987	**
R-squared		0.460	Prob > F			0.000	

\*\*\*  $p < .01$ , \*\*  $p < .05$ , \*  $p < .1$

Table 7: Random Effect Model

Innovati on	Coef.	S. E.	t- valu e	p- valu e	L.L	U.L.	Si g
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NSH	.958	.188	5.06	.000	.582	1.319	**
NAE	-.039	.201	-0.19	.846	-.433	.355	
TAQ	.597	.197	3.03	.002	.211	.983	**
NC	-.032	.062	-0.51	.611	-.154	.091	
NAC	.015	.020	8.50	.000	.012	.019	**
TAC	.014	.020	8.48	.000	.011	.018	**
Constant	.357	.436	0.82	.413	-.498	1.212	

Overall r-squared	0.312	Prob > chi2	0.000
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\*\*\*  $p < .01$ , \*\*  $p < .05$ , \*  $p < .1$

The Hausman test is used to take the appropriate model for the study and statistics shows that probability values are less than 0.05 that reject the random effect model. Table 8 presented the Hausmantest.

Table 8: Hausman Test

	Coef.
Chi-square test value	11.743
P-value	.038

The results indicated that all the predictors such as NSH, TAQ, NC, NAC, and TAC have positive link with innovation because beta has positive sign while NAE has negative association with innovation. In addition, all the predictors such as NSH, TAQ, NC, NAC, and TAC have significant link with innovation because probabilities values are less than 0.05 and t values are greater than 1.64 while NAE has insignificant association with innovation. Table 9 presented the regression analysis with logistic model.

Table 9: Regression Analysis (Logistic Model)

Innovatio n	Coef	S.E.	t- value	P>t	L.L.	U.L.
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s						
NSH	1.03	0.12	8.070	0.00	0.75	1.32
	7	8		0	4	0
NAE					0.64	
	0.43	0.23	1.902	0.03	7	0.37
	8	1		4		2
TAQ	0.95	0.21	4.540	0.00	0.49	1.41
	1	0		1	0	3
NC					0.84	
	0.66	0.21	3.078	0.00	4	0.10
	8	7		2		9
NAC	0.01	0.00	4.530	0.00	0.00	0.02
	4	3		1	7	1
TAC	0.01	0.00	4.520	0.00	0.00	0.02
	3	2		0	6	0
_cons					0.34	
	1.90	0.92	2.070	0.03	0	4.15
	9	2		9		9

## 5. Discussions

The present study aim is to examine the impact of development of marketplace on the innovation of ASEAN countries around the globe. The data were extracted form the World Bank database and logistic model was used and STATA was employed for the analysis. The outcomes exposed that positive nexus among the development of marketplace on the innovation of ASEAN countries. This study exposed that the development of marketplace increase the business financial performance and financial position that increase the company's interest in the innovation that is the reason the equity and credit marketplace have positive link with innovation in ASEAN countries.

### 5.1 Policy Recommendation

This study guided to the regulators that the enhance the focus on the development of equity marketplace that enhance the innovation in the organization the ultimately improve the competitive advantage of the firm in the country.

## 5.2 Conclusion

The present study concluded that if the country have developed marketplace both equity and credit then the financial position of the firm increases that enhance the interest of the management towards innovation adoption. This study is fruitful for the companies that have financial abundance and needs to increase the innovation in the company.

## 5.3 Limitations and Future Directions

The present study also has some limitation like it investigate only the ASEAN countries and ignore other countries and further study may include other countries in their analysis. Moreover, current study take the 2001 to 2017 period in its examination and prospective study may add more period in their analysis.

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