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Impact of Natural Disasters on Foreign Direct Investment in South and South-East Asian Countries

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Abstract: *This paper examines the empirical relationship between natural disasters and FDI in 14 South and South-East Asian countries, 7 from South Asia, are Bhutan, Bangladesh, India, Maldives, Nepal, Pakistan and Sri Lanka and the rest 7 from South East Asian countries, these are Cambodia, Indonesia, Lao PDR, Malaysia, the Philippines, Thailand and Vietnam taking panel data from 2000-2011. The two key variables are used in the analysis, foreign direct investment is the dependent variable; the total net inflows of FDI as a percentage of GDP is taken. The second key variable indicates natural disasters, the independent variable. Fixed effects model and Heteroskedasticity-Autocorrelation-Consistent (HAC) standard error are employed to estimate lagged and immediate impact of natural disaster on FDI. The empirical results show that natural disasters have a negative and statistically significant impact on FDI with two years of lag. The results indicate that post disasters management matters for attracting FDI inflow. Post disasters recovery systems and relevant policies should be able to improve the confidence of foreign investors and attractiveness of affected areas by establishing reliable and strong infrastructures and institutions. This would guide the policymakers for better fiscal decisions, mainstreaming the economic impacts of natural disasters in long-term economic planning for attracting FDI inflows and preparedness aftermath of natural disasters.*

Keywords: *Foreign Direct Investment; Natural disasters; Panel data; Fixed effects model; HAC standard error*

I. INTRODUCTION

Natural disasters are destructive forces (Mechler, 2003). It may have a devastating impact on economies and the populations of countries in general, and specifically, it can have significant impacts on GDP, capital stock, labour, and social infrastructures such as transport and communication networks. Though economic research on the impact of natural disasters on the economy as a whole is only in its infancy stage, some researchers have tried to examine the impact of natural disasters on economic growth and GDP. Even though the occurrence of natural disasters increases steadily over the years, however, their effects on economic growth remain ambiguous, some researchers find negative, others report no, or even positive impacts. For example, using an Auto-Regressive Distributed Lags (ARDL) model in 1978-2004 on the Iranian economy Sadeghi, Sefiddasht & Nezhad (2009) find that natural disasters hurt per capita investment and per capita GDP. In contrast, Loayza, Olaberria, Rigolini & Christiaensen (2009) conclude that moderate disasters affect economic growth positively but severe disasters have negative effects. They also observe that the GDP growth of developing countries is affected more than other macroeconomic variables by natural disasters. Similarly, according to Kellenberg and Mobarak (2011) of the various effects of natural disasters, the most significant impacts are found on GDP, physical capital, human capital and the labour and real estate markets. Mechler (2003) describes that natural disasters cause human suffering and immediate loss. He also finds that disasters have macroeconomic impacts on GDP growth, the balance of trade, the public deficit and indebtedness. Countries' bilateral trade reduces with the increase in disasters or political risk (Mabey & MacNally, 1999). Taking into account the type of disaster and the population at risk Strömberg (2007) argues that significantly more people are affected and killed in disasters hitting low or middle-income countries. Noy (2009) finds that natural disasters have a statistically significant impact on the macro economy. He also finds that a disaster of similar relative magnitude affects the macro economies of developing countries much more than those of developed countries. Countries having higher literacy rates, higher per capita income, better financial institutions, a greater degree of openness to trade, and smaller governments are better able to cope with the losses from disasters (Toya & Skidmore, 2007). Using provincial data for primary and secondary industries in Vietnam Noy and Vu (2010) estimate the impact of disasters on the macro economy. They find that more destructive disasters, in terms of affected people and persons killed, are responsible for lower output growth, conversely, more costly disasters, in terms of capital loss accelerate the economy in the short run.

However, these researchers do not examine the impact of natural disasters on FDI though it has become an integral part of domestic economies because the world has experienced a significant increase in FDI flows from 0.5 per cent of GDP in 1980 to 4 per cent in 2007(World Bank, 2012) and thus FDI plays a significant role in promoting economic growth of developing countries (Quazi & Mahmud, 2006; Sahoo, 2006). There are only very few researchers who examine the impact of natural disasters on FDI. Among them, Wang (2011) has tried to examine the impacts of political instability and natural disasters on the stock market and FDI in Japan and its neighbouring countries. However, he focuses only on a limited data set, he examines only the impact of earthquakes occurring in Japan and its neighbouring countries and the results are ambiguous and unclear. Considering the relation between FDI in 94 countries between 1984 and 2004 and the number of disasters striking those countries Escaleras and Register (2011), on the other hand, observe by using a variety of empirical tests that the natural disasters are negatively and statistically significantly correlated with a country's FDI. However, they consider a wide variety of countries to examine the relationship between natural disasters and FDI. Moreover, their sample period is different; they do not consider the lagged impact of disasters; they observe the average impacts of natural disasters and FDI regardless of the type of country and their economic development. From the above review, I find that some researchers establish the empirical relationship between FDI and GDP and its growth rate. Most of them identify that FDI inflows have a positive relationship with countries national market size in terms of GDP and growth. On the other hand, researchers' work on the impact of natural disasters on economies mostly finds a negative relationship between natural disasters and GDP. From this viewpoint, it may be predicted that natural disasters may have an impact on FDI. Since very little researches have been conducted in the past to find out the empirical relationship between natural disasters and inward FDI, hence the purpose of this research is to establish an empirical relationship between natural disasters and FDI in South and South-East Asian countries. To address the above gaps, the present study provides a new look at the impact of natural disasters on FDI by employing panel data from 14 South and South-East Asian countries, namely Bhutan, Bangladesh, Cambodia, India, Indonesia, Lao PDR, Malaysia, Maldives, Nepal, Pakistan, the Philippines, Sri Lanka, Thailand and Vietnam. These countries are more or less identical in respect to the stage of economic development and are frequently affected by natural disasters. In addition, these countries are mostly developing countries and predominantly depend on agriculture. Natural disasters such as floods, storms, etc. frequently hit these countries almost every year and cause severe economic damage and kill thousands of people.

II. METHODOLOGY

The purpose of this research is to test for an empirical relationship between FDI and natural disasters. In doing I analyze panel data on 14 countries: 7 from South Asia, these are Bhutan, Bangladesh, India, Maldives, Nepal, Pakistan and Sri Lanka and rest 7 from South East Asian countries, these are Cambodia, Indonesia, Lao PDR, Malaysia, the Philippines, Thailand and Vietnam during the period 2000-2011. The two key variables are used in the analysis, foreign direct investment is the dependent variable; I take the total net inflows of FDI as a percentage of GDP. The second key variable indicates natural disasters, the independent variable. I use three variables relating to natural disasters that explain its impact: (1) total number of people killed by natural disasters, (2) the number of total affected people, and (3) the number of incidences of disasters occurring during the sample period.

The control variables complete the structure of basic empirical model. It is described in the introduction that market size, physical capital, human capital and labor are the most commonly and consistently found correlates with FDI. I consider market size in two ways, GDP per capita and GDP growth, as taken from the World Bank's 2013 *World Development Indicators*.

The final three control variables incorporated in to the basic model are: (1) inflation, (2) gross capital formation, and (3) total labor force. These variables enter to control of the economic conditions and status.

I use country fixed effects to catch hold any unobserved country heterogeneity that is relatively fixed over time and I use year fixed effect to address any time specific effects that deviate the level of FDI for all countries. In all cases, I apply the clustered standard error to address the heteroskedasticity and autocorrelation. The model estimations of my research are as follows:

$$FDI_{it} = \beta_0 + \beta_1 \text{Log (No of people killed)}_{it} + \beta_2 \text{Controls}_{it} + \text{Country}_i + \text{Year}_t + \varepsilon_{it} \text{-----}[1]$$

$$FDI_{it} = \beta_0 + \beta_1 \text{Log (No of affected people)}_{it} + \beta_2 \text{Controls}_{it} + \text{Country}_i + \text{Year}_t + \varepsilon_{it} \text{-----}[2]$$

$$FDI_{it} = \beta_0 + \beta_1 \text{(No of incidences)}_{it} + \beta_2 \text{Controls}_{it} + \text{Country}_i + \text{Year}_t + \varepsilon_{it} \text{-----}[3]$$

Where FDI is the net inflows as percentage of GDP for country i in year t.

Since natural disasters are more likely to have lagged impact as it takes some time from decision to invest and actual inflow of investment hence I employ the following lagged impact model:

$$FDI_{it} = \beta_0 + \sum_j \gamma_j \text{Log}(\text{No of people killed})_{it-j} + \beta_2 \text{Controls}_{it} + \text{Country}_i + \text{Year}_t + \varepsilon_{it} \text{-----}[4]$$

$$FDI_{it} = \beta_0 + \sum_j \gamma_j \text{Log}(\text{Total affected people})_{it-j} + \beta_2 \text{Controls}_{it} + \text{Country}_i + \text{Year}_t + \varepsilon_{it} \text{-----}[5]$$

$$FDI_{it} = \beta_0 + \sum_j \gamma_j (\text{No of incidence})_{it-j} + \beta_2 \text{Controls}_{it} + \text{Country}_i + \text{Year}_t + \varepsilon_{it} \text{-----}[6]$$

Where, j is from 0 to 2.

In this research, I take the data on macroeconomic indicators, such as GDP per capita, GDP growth, inflation, total labour force, and gross capital formation from the World Bank’s 2013 *World Development Indicators*. The sample has a balanced panel with 140 country-year observations. The data I use on natural disasters are taken from the Emergency Events database-EM-DAT collected and compiled by the Center for Research on the Epidemiology of Disasters, CRED. Since 1988 CRED has been maintaining an EM-DAT, with the support of the WHO and the Belgian Government. EM-DAT contains essential core data on the occurrence and effects of over 18,000 mass disasters in the world from 1900 to the present; of them, this research covers the following disasters: droughts, earthquake, epidemics, extreme temperature, floods, insect infestation, landslides, tidal surges, storms, wildfires, and windstorm. The database was compiled from various sources – such as UN agencies, NGOs, insurance companies, research institutes and press agencies and was considered as the most reliable and commonly used database in disaster research. CRED has a long history of standardized data compilation, validation and analysis of data on the human impact of disasters, such as the number of people killed, injured or affected and EM-DAT provide disaster-related economic damage estimates and disaster-specific international aid contributions.

III. RESULTS AND DISCUSSION

Results of the estimation of equations [1] to [3] are depicted in tables I to III respectively. The first column of each table shows the regression outcome without fixed effect, the second column depicts the regression results of country fixed effect, the third column indicates the regression outcome of year fixed effect, the fourth column presents the regression result of both year and country fixed effect, and the fifth column shows the result of clustered standard error. It is seen from the fourth and fifth columns of tables I and II that the outcome has a positive sign on the two disaster variables which are not significant. However, there exists a negative sign on the total number of incidences (Table III). Further, the coefficients on the disasters variables gradually fall, when the measure is log of people killed the coefficient is 0.129, when disasters variable is log of total affected people, it is 0.017 and when disasters variable is the total number of incidences the coefficient is -0.004. This result suggests that current disasters have a positive impact on current FDI. The GDP growth and GDP per capita which are the measures of the country’s national market size, as expected, are consistently positive and the GDP per capita is significant as well. It clearly indicates that countries whose national market sizes are larger and that are growing fast are attracting more FDI.

TABLE I
Relationship of Number of People Killed During Natural Disasters With FDI

VARIABLES	(1) FDI	(2) FDI	(3) FDI	(4) FDI	(5) FDI
Log of number of people killed	-0.0810 (0.076)	0.118* (0.065)	-0.052 (0.080)	0.129** (0.060)	0.129 (0.078)
Inflation	0.041 (0.057)	0.050 (0.032)	-0.006 (0.054)	0.027 (0.028)	0.027 (0.030)
Log of total labor force	0.088 (0.140)	-2.403 (3.085)	0.035 (0.152)	6.113** (2.880)	6.113 (3.589)
GDP growth	0.331*** (0.073)	0.126 (0.082)	0.346*** (0.076)	0.085 (0.076)	0.085 (0.082)
Log of GDP per capita	0.566*** (0.169)	5.363*** (1.670)	0.407** (0.204)	9.063*** (1.576)	9.063*** (1.791)
Gross Capital Formation	-0.001 (0.030)	0.055 (0.044)	-0.014 (0.028)	0.062* (0.032)	0.062* (0.032)
Constant	-4.777 (2.909)	4.061 (42.38)	-2.413 (3.317)	-162.3*** (48.79)	-162.3** (60.00)
Year FE	No	No	Yes	Yes	Yes
Country FE	No	Yes	No	Yes	Yes
Observations	140	140	140	140	140
R-squared	0.176	0.732	0.279	0.808	0.808

Note. Robust standard error in the parenthesis

***p<0.01, **p<0.05, *p<0.1

TABLE II
Relationship of Total Affected people During Natural Disasters with FDI

VARIABLES	(1) FDI	(2) FDI	(3) FDI	(4) FDI	(5) FDI
Log of total affected people	0.021 (0.059)	0.035 (0.043)	0.0023 (0.054)	0.017 (0.038)	0.017 (0.035)
Inflation	0.044 (0.058)	0.047 (0.032)	-0.007 (0.055)	0.025 (0.029)	0.025 (0.030)
Log of total labor force	-0.062 (0.143)	-2.421 (3.146)	-0.038 (0.139)	6.306** (2.975)	6.306* (3.400)
GDP growth	0.336*** (0.074)	0.140* (0.079)	0.349*** (0.076)	0.096 (0.072)	0.096 (0.079)
Log of GDP per capita	0.599*** (0.161)	5.414*** (1.738)	0.423** (0.198)	9.173*** (1.839)	9.173*** (1.952)
Gross Capital Formation	-0.003 (0.031)	0.056 (0.043)	-0.015 (0.029)	0.061* (0.032)	0.061* (0.034)
Constant	-3.082 (2.790)	4.113 (42.99)	-1.536 (3.171)	-165.9*** (51.03)	-165.9*** (56.12)
Year FE	No	No	Yes	Yes	Yes
Country FE	No	Yes	No	Yes	Yes
Observations	140	140	140	140	140
R-squared	0.173	0.727	0.278	0.801	0.801

Note. Robust standard error in the parenthesis

***p<0.01, **p<0.05, *p<0.1

TABLE III
Relationship of Total Number of Incidence of Natural Disasters with FDI

VARIABLES	(1) FDI	(2) FDI	(3) FDI	(4) FDI	(5) FDI
Total number of incidences	0.004 (0.036)	0.023 (0.031)	0.012 (0.039)	-0.004 (0.034)	-0.004 (0.024)
Inflation	0.043 (0.058)	0.046 (0.031)	-0.0073 (0.054)	0.025 (0.029)	0.025 (0.030)
Log of total labor force	-0.031 (0.144)	-2.392 (3.110)	-0.075 (0.162)	6.340** (3.037)	6.340* (3.522)
GDP growth	0.331*** (0.074)	0.134* (0.081)	0.345*** (0.076)	0.099 (0.071)	0.099 (0.077)
Log of GDP per capita	0.593*** (0.159)	5.348*** (1.685)	0.408** (0.195)	8.951*** (1.693)	8.951*** (1.803)
Gross Capital Formation	-0.004 (0.029)	0.055 (0.044)	-0.019 (0.027)	0.060* (0.032)	0.060* (0.034)
Constant	-3.298 (3.031)	4.336 (42.72)	-0.779 (3.669)	-164.8*** (51.58)	-164.8*** (57.18)
Year FE	No	No	Yes	Yes	Yes
Country FE	No	Yes	No	Yes	Yes
Observations	140	140	140	140	140
R-squared	0.172	0.726	0.278	0.801	0.801

Note. Robust standard error in the parenthesis

***p<0.01, **p<0.05, *p<0.1

Of the other three variables, inflation is consistently positive but not significant. Though FDI promotes economic growth (Agrawal, 2009; Sahoo, 2006), economic growth is generally associated with inflationary pressure expected to be consistently positive and significant. In this case, the result implies that countries that attract FDI may face inflationary pressure though the outcome is not significant. The gross capital formation, as expected, is consistently positive and significant (Tables 1 to III). A 1 per cent increase in the ratio of FDI to GDP is related to about 0.60 per cent increase in gross capital formation. Countries that attract more FDI can generate more capital. Similarly, total labour forces are consistently significant and positive too.

TABLE IV

Relationship of the Number of People Killed During Natural Disasters with FDI with 2 Years of Lag

VARIABLES	(1) FDI	(2) FDI	(3) FDI	(4) FDI	(5) FDI
Log of number of people killed	-0.090 (0.083)	0.151* (0.077)	-0.060 (0.083)	0.104* (0.060)	0.104 (0.063)
L.log of number of people killed	-0.079 (0.098)	0.105 (0.075)	-0.047 (0.097)	0.071 (0.062)	0.071 (0.061)
L2.log of number of people killed	-0.137 (0.102)	-0.021 (0.061)	-0.186* (0.095)	-0.093* (0.051)	-0.093 (0.061)
Inflation	0.0730 (0.072)	0.0547 (0.038)	0.0231 (0.073)	0.0324 (0.035)	0.0324 (0.047)
Log of total labor force	0.412* (0.212)	-3.423 (4.268)	0.389* (0.208)	7.103* (3.670)	7.103 (5.271)
GDP growth	0.285*** (0.083)	0.138 (0.095)	0.305*** (0.082)	0.090 (0.086)	0.090 (0.081)
Log of GDP per capita	0.527** (0.220)	6.409*** (2.291)	0.356 (0.251)	11.96*** (2.018)	11.96*** (3.187)
Gross Capital Formation	0.0051 (0.033)	0.057 (0.049)	-0.003 (0.029)	0.074* (0.038)	0.074* (0.038)
Constant	-8.962** (3.644)	13.33 (58.38)	-7.038* (3.979)	-198.3*** (62.63)	-198.3** (89.48)
Year FE	No	No	Yes	Yes	Yes
Country FE	No	Yes	No	Yes	Yes
Observations	116	116	116	116	116
R-squared	0.178	0.745	0.288	0.836	0.836

Note. Robust standard error in the parenthesis; ****p<0.01, **p<0.05, *p<0.1

TABLE V
Relationship of Total Affected People During Disasters with FDI Taking 2 Years Lag

VARIABLES	(1) FDI	(2) FDI	(3) FDI	(4) FDI	(5) FDI
Log of total affected people	0.008 (0.055)	0.033 (0.043)	-0.037 (0.053)	-0.009 (0.037)	-0.009 (0.042)
L.log of total affected people	0.043 (0.085)	0.028 (0.045)	0.053 (0.079)	0.039 (0.033)	0.039** (0.017)
L2.log of total affected	-0.124** (0.063)	-0.123** (0.048)	-0.083 (0.064)	-0.087** (0.034)	-0.087** (0.035)
Inflation	0.077 (0.071)	0.067* (0.037)	0.023 (0.070)	0.042 (0.035)	0.042 (0.045)
Log of total labor force	0.166 (0.210)	-2.302 (4.136)	0.153 (0.192)	7.842** (3.476)	7.842 (4.823)
GDP growth	0.300*** (0.089)	0.149 (0.092)	0.329*** (0.086)	0.094 (0.081)	0.094 (0.083)
Log of GDP per capita	0.613*** (0.201)	5.479** (2.250)	0.440* (0.238)	11.65*** (2.328)	11.65*** (3.399)
Gross capital formation	-0.013 (0.033)	0.052 (0.047)	-0.017 (0.031)	0.069* (0.035)	0.069* (0.035)
Constant	-5.606 (3.399)	2.526 (56.09)	-4.029 (3.697)	-207.6*** (60.31)	-207.6** (83.21)
Year FE	No	No	Yes	Yes	Yes
Country FE	No	Yes	No	Yes	Yes
Observations	116	116	116	116	116
R-squared	0.181	0.754	0.279	0.837	0.837

Note. Robust standard error in the parenthesis

***p<0.01, **p<0.05, *p<0.1

TABLE VI
Relationship of Total Number of Incidences of Disasters with FDI Taking 2 Years Lag

VARIABLES	(1) FDI	(2) FDI	(3) FDI	(4) FDI	(5) FDI
Total number of incidences	-0.0563 (0.043)	-0.006 (0.029)	-0.057 (0.037)	-0.035 (0.032)	-0.035 (0.032)
L. total number of incidences	0.045 (0.053)	0.044 (0.036)	0.035 (0.046)	0.018 (0.026)	0.018 (0.019)
L2. total number of incidences	0.073 (0.054)	0.062 (0.041)	0.048 (0.052)	0.042 (0.042)	0.042 (0.041)
Inflation	0.071 (0.070)	0.050 (0.036)	0.093 (0.067)	0.028 (0.034)	0.028 (0.049)
Log of total labor force	-0.212 (0.219)	-3.632 (3.994)	0.114 (0.208)	7.849** (3.632)	7.849 (5.257)
GDP growth	0.319*** (0.087)	0.162* (0.091)	0.362*** (0.075)	0.0986 (0.085)	0.0986 (0.079)
Log of GDP per capita	0.513** (0.207)	6.518*** (2.131)	1.180*** (0.276)	13.16*** (2.204)	13.16*** (3.129)
Gross Capital Formation	-0.025 (0.030)	0.058 (0.048)	-0.032 (0.024)	0.072* (0.036)	0.072 (0.041)
Constant	0.307 (4.224)	16.29 (55.29)	-17.23*** (5.609)	-218.6*** (63.86)	-218.6** (91.31)
Year FE	No	No	Yes	Yes	Yes
Country FE	No	Yes	No	Yes	Yes
Observations	116	116	116	116	116
R-squared	0.178	0.743	0.418	0.832	0.832

Note. Robust standard error in the parenthesis

***p<0.01, **p<0.05, *p<0.1

Since the results show that current disasters have a positive correlation with current FDI and result are not significant, hence the lagged impact estimation of natural disasters on FDI are examined. Results of the lagged estimation of equations [4] to [6] are presented in tables 4 to 6 respectively. Now the results have changed in comparison to previous results. It is observed that there is a negative sign on disaster variable i.e., several people killed by disasters are negatively correlated with FDI with two years of lag and, which is significant at least at the 10% level when regression is run with year-country fixed effects (Table 4). This result indicates that when the number of people killed by a natural disaster is increased by 1 per cent, it decreases FDI by 0.9%.

It is observed that there is a consistently negative sign on the disasters variables in year 1 though the results are not significant (Table V & VI). However, the outcome of most importance is the consistently negative sign on the number of total affected people, which is significant at the 5% level when two years lag is taken (Table V). These results imply that when the number of people killed by natural disasters is increased by 1 per cent, it decreases FDI by 0.87%.

GDP growth and GDP per capita show similar results as previous. These two measures of the national market size, as expected, are positively correlated with FDI and GDP per capita is significant at a 1% level of significance. Whereas inflation and total labour force are positively correlated with FDI as previous.

Gross capital formation on the other hand has a positive relationship with FDI, which is significant at least at the 10% level of significance. These results endorse the findings of Krkosk (2002), according to him, gross capital formation facilitates social and physical investments and interaction between FDI and gross capital formation promotes countries saving and thus accelerate growth. These empirical results show that FDI is an important financing source for capital formation.

Taken together, a reasonable conclusion to be that there is a measurable, statistically significant impact of natural disasters on FDI, specifically a result that remains quite robust when total affected people are taken into consideration with two years of lag.

Using the OLS method, Kukułka (2014) shows that there is a negative correlation between FDI inflow and the occurrence of natural disasters for Thailand and Malaysia. A similar study reveals that natural disaster matters for FDI flows. By applying/using the simultaneous equation approach, it is observed that the higher severity of the natural disaster, captured by constructed composite index, tends to lower FDI flows into Thailand, other things remain equal (Anuchitworawong & Thampanishvong, 2015). Using novel panel algorithms including, Generalized Method of Moment (GMM), Cross sectional Augmented Autoregressive Distributed Lags (CS-ARDL), and Driscoll & Kraay (DK) in Belt and Road initiative countries (B&RIC) over 1990–2018 Khan, Chenggang, Khan, & Muhammad (2020) observe that severe natural disasters hurt economic growth that transmitted to fiscal balance and foreign direct investment in the long run. The outcome of their study further explores that foreign direct investment is more elastic in response to natural disasters in these countries. Therefore, they recommend that the policymakers in B&RI countries should mainstream the economic impacts of natural disasters in long term economic planning. They also suggest that it would guide the policymakers for better fiscal decisions, attracting FDI inflows and preparedness aftermath of natural disasters.

IV. CONCLUSION

As it is mentioned in the introduction that the natural disasters may have a devastating impact on economies and the populations of countries in general, and specifically, they can have significant impacts on GDP, physical capital, labour, and social infrastructures such as transport and communication networks. Given this fact, it would seem reasonable for policymakers to consider natural disasters while taking an investment decision. By considering natural disasters occurring from 2000 to 2011 in 14 South and South-East Asian countries this proposition has been examined. The countries that have complete data are considered. This leads to a balanced sample of 140 observations. The estimation technique is two-way fixed effects, at the country and year levels, with robust, lagged impact estimations, and clustered standard errors. Finally, I find that natural disasters have a negative and statistically significant impact on FDI with two years of lag. This empirical analysis has some policy implications. It is evident that post disaster management matters for attracting FDI. Policymakers should assure and relieve foreign investors by establishing reliable and strong infrastructures and institutions so that they can invest more. More investments in the post-disaster recovery systems and relevant policies should be able to improve the confidence of foreign investors and the attractiveness of the affected area. The policymakers should mainstream the economic impacts of natural disasters in long term planning. This would guide the policymakers for better fiscal decisions, attracting FDI inflows and preparedness aftermath of natural disasters.

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