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Impacts of Monetary Policy and Exchange Rate on Green Investment in Pakistan

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Abstract- This study aims to analyze the role of the domestic and foreign financial market in the determination of Green Investment for Pakistan. For sustainable growth, it is essential to check the domestic impacts of monetary policy and GDP with green investment. While the exchange rate and FDI are used to examine the foreign financial impacts on green investment. The model takes Green Investment as a dependent variable while Broad money, interest rate, GDP, foreign direct investment, and exchange rate as the independent variables. The annual time series data have been used from 1972 to 2018. The data have been taken from international financial statistics (IFS) and world development indicators (WDI). The ARDL and error correction model (ECM) approach has been used to find out the long-run and short-run relationship respectively. The results show that monetary policy variables, GDP, FDI, and the bilateral exchange rates are significant in the long run as well as in the short run. The analysis also shows that the speed of adjustment is 86 percent from disequilibrium for Green investment of the previous year to the current year.

Keywords: international financial statistics (IFS), error correction model (ECM), world development indicators (WDI).

I. INTRODUCTION:

Developing countries are highly affected by climate change and the top ten countries are mostly influenced by the consequences of climate change, unfortunately, Pakistan is one of them. Human health, nature, and climate change are opposite to each other. The rising of the world's temperature is a threat to communities' survival. The protection of the communities, nature, and their survival needs enough investment in a green energy production system. The term green investment or green finance means that type of financial investment that is used for those projects that are helpful in sustainable development. The concept of sustainability, genuine savings, and green GDP is explained by (Hartwick 1977). The term genuine, net, and green investment is the same concept as explained by (Hamilton & Clemens 1999). Investment and monetary policy play an important part in the development, they are correlated with each other. Despite controlling inflation, however, to stabilize an economy, monetary policy has a significant role in this process. Monetary policy works not only in the domestic market but also influence foreign markets and exchange rate (Lashkary & Kashani 2011) and (Shah, Hyder, & Pervaiz 2009). Investment does not affect by monetary policy or interest rate alone, so many other domestic and foreign factors that affect the level of investment. The aim of this research paper examines the domestic and foreign financial influences on the green investment of Pakistan. The study analyzed the domestic impacts through monetary policy tools and gross domestic product, while foreign impacts are analyzed through the exchange rate and foreign direct investment. It checks the empirical impacts of domestic financial variables like monetary policy, GDP, and foreign financial impacts of, FDI, and exchange rate on green investment. The study further analyzed the complementary and substitution hypothesis of the FDI for Pakistan. The chain of government policies and green finance is a high-interest-able area for researchers. Therefore, it is essential to fill this gap and provide a background for policymakers of the SBP and Pakistan Environmental Protection Agency to delineate a rational policy for the sustainability of the country.

The remaining part of the paper is organized as under. Section 2 provides the brief literature. The third section discussed the theoretical background and research methodology. Section four explains the

outcomes of the empirical analysis while sections five and six discussed the results, conclusion, and recommendations respectively.

II. LITERATURE REVIEW

The monetary policy's effectiveness is a good debate full question. It is a long-standing issue among the economist. The arguments of the economists are mixed. In line with classical economists, the first standard theory of money presented by Fisher in an equation form is the quantity theory of money. Later it was modified by Alfred Marshall and A. C. Pigou (Galí 2008). Fisher states that money velocity and output level are constant and stable; and money supply has a proportional relationship with the general price level, which can cause inflation or deflation in the economy. But Keynes criticized their theory of money in two means. First, he objected to the concept of velocity, that the money's velocity is not constant and stable. However, the second way he objected to the relationship between inflation and output. He criticized that the Fisher equation does not show the trade-off between output and inflation (Johnson, Ley, & Cate 2001). Keynesian for the first time contemplates demand as an internal variable that relies on income level and interest rate through their proper channel. As income increase, savings increase which is used for investment (Rasche & Williams, 2007). Keynesian thought that the market rate of interest is a monetary event because it can be determined at that point where the demand and supply of money equal each other. In the line of Keynes theory which he named liquidity preference theory assumes that money supply is external like classical. This theory explains that a high supply of financial capital decreases the rate of interest and investment was increased which pumps the production level (Chowdhury, Fackler, & Mcmillin 1986). Later the idea of a constant velocity of money given by classical economists gets the support of monetarists. They worked on Phillip's curve by adjusting real wages instead of nominal wages and argue that at only natural rate equilibrium in the labor market is possible. Monetarists believed impacts of monetary policy on the level of output are temporary in the period of short-run with the presence of nominal wages. However, they concluded, monetary policy had no effects on actual variables in the long run (Williamson & Wright 2010).

To secure environmental degradation green financing is a beneficial step. Green investment is the combination of two words that are green and investment. Defining green is a broader concept. (Inderst, Kaminker, & Stewart, 2012) Define "green" as any activity which improves natural resources and helps in sustainable development. By green means environment-friendly activities that have less harmful impacts on mankind. While investment is defined as the activities which involve money or capital in a project or business to obtain additional income or profit. So green investment can be defined as those financial terms and contributions use to invest in green projects for the renewable energy process and lower carbon dioxide emission. (Mumtaz & Smith, 2019) Analyze the green finance process for sustainable growth in Pakistan. The SBP implemented green financial guidelines in 2017 which concentrate primarily on a risk management mechanism that monitors and evaluates the environmental risks that can be created by business operations. Now developing countries also adopting green practices (Alhadid & Abu-rumman, 2014). The results of their study show the positive effect on the organization of green product innovation. It provides investors with new funding sources and low-interest loans. Green investment has been a prime mover of the energy sector and china is now driving its rapid growth much of the time (Zhang, 2018). Green investment is also recommended by (Eyraud, Clements, & Wane, 2013) they also came to the end that the promotion of green finance encourages the growth of economic activities, an optimal financial system is productive and effective in low-interest rates and high fuel prices. The plenty use of fossil fuels is dangerous to climate change weaken (Johnsson *et al.,* 2019). While climate change has critical impacts on the safety of the financial system (Aglietta & Étienne Espagne 2016).

(Dafermosa, Nikolaidi, & Galanis, 2018) Analyzed the relationship between global warming and financial strengthens. The responsibility of global warming and sustainable development are interlinked (Beg et al. 2002). Because of high temperatures, climate change will seriously impact the global economy. Green investment is important for sustainability or raising the level of output without harming nature and would also increase the level of profit by reducing carbon taxes (Datta 2017). For economic development, the level of production should be increased because high productivity increases the per capita income which may lead to an increase in the aggregate demand, and indirectly savings and investment will be improved (Deutsch & Syrquin 1989). The level of investment has a positive role in economic development. Foreign investment, home investment, and level of production have directly interlinked. High productivity improves the amount of employment, per capita income, a rate of savings which can

further be used as resources for development activities (Wang 2010) and (Luqman, 2012). The study conducted by (Alam & Waheed 2006) analyzed the role of monetary policy in seven non-identical zones of the economy. Evidence of the results shows few zones are highly affected by the tightening of the monetary mechanism. Interest rate is the charge of investment, a higher duty of interest in the country raised the real cost of capital goods and it lowers the investment level and a lower interest rate will carry up the investment level (Malawi & Bader 2010). The study also tested the hypothesis of the inverse relationship of rate of interest level of investment for Jordan over 1990-2005. Interest rate also significantly affects the investment level in Pakistan as explained by (Muhammad et al. 2013). They investigate the association between the level of investment and real interest rate. Controlling inflation and stabilizing economic expansion and upswing is the basic goal of the monetary policy explained by (Munir & Qayyum, 2013) and (Qayyum 2002). While the monetary authority uses tighten policy for controlling the expansionary impacts of government spending it is said to be policy conflict (Demid, 2018). The level of investment is affected by monetary policy, further, it also influences the exchange rate of a country as analyzed by (Zettelmeyer, 2003). The study explores that if the interest rate increased it appreciates the exchange rate and results in capital inflow take place because of capital gains people follow the way at which they earn high interest. According to (Dilmaghani & Tehranchian, 2015) monetary policy is the most important variable and the factor which influences the exchange rate and it has different influences on the country's exchange rate according to the economic system of the country. The exchange rate of a country is significantly linked with the country's monetary policy as analyzed by (Saibu, 2014). On the other hand in the context of Pakistan (Hafeez & Hussain, 2015) and (Saeed and Awan 2012) explore the correlation linking monetary variables and the rate of exchange. They concluded to urge that a weak link uniting the exchange rate and instruments of monetary policy. The result shows that variables are statistically insignificant. The amount of investment is not only set on by the rate of interest but also affected by many other economic and social factors as investigated by (Chaudhry, Malik, & Ramzan 2009). Their study estimates the impact of foreign debt, real savings, and real GDP on the investment level and concludes that foreign debt, real interest rate, and real GDP have favorable influences on the amount of investment in Pakistan. However, the effects of FDI on home investment are ambiguous; it is according to the situation, it may have "crowding out" effects or "crowding in" effects on domestic investment based on the competition of home industries and government tax policies. (Haq, 2016) Examine the relationship between the investment from foreign countries and domestic investment for India and Pakistan. The findings of the study assert that FDI has complementary and substitution effects with domestic investment in the case of India and Pakistan respectively.

There is an important and significant connection linking the quantity of investment and the volatility of the rate of exchange. Interest parity condition explains that whenever the interest rate decline or low rather than the foreign interest rate, the process of capital outflow take place and the exchange rate appreciate and the domestic currency depreciated and vice versa (Hayes 2019). Several studies empirically explore the consequences of the bilateral rate of exchange on investment from abroad. (Kiyota and Urata 2004) examine the influences of the bilateral rate of exchange on investment directly made from foreign countries and concluded that depreciation of home currency attracts foreign investment but in case of much volatility in exchange rate discourages the foreign investment. (Oskooee & Hajilee, 2013) Thoroughly examine the correlation between volatility of exchange rate and domestic investment. The analysis shows the volatility of the exchange rate has significant impacts in a period of short-run on home investment in the sample of 27 countries. The stable exchange rate encourages investment level as investigated by (Ahmad, Palwishah, & Ahmad, 2014). They determine the influences of the rate of bilateral exchange on the Balance of Payment. Findings of the analysis conclude a remarkable, significant, and positive correlation uniting the rate of exchange and balance of payments that both are correlated to each other.

III. THEORETICAL FRAMEWORK

This research study utilizes two theories; the first one is the conventional theory of monetary policy transmission mechanism related to interest rate and investment (Mishkin, 2004). The second theory which is utilized in the current study is the model of genuine savings because genuine savings are equal to genuine investment (Hamilton & Clemens 1999). The genuine/green savings or genuine investment explained sustainable development is a constant state of human welfare and economic growth which does not decline over time. This model assumes closed economy, single inputs, and economic agents optimize the objective function under the constraints of rationality. Since the study uses the Genuine Savings Model

to assess the term genuine/ green investment. In this perspective, aggregate saving and investment are considered to be the same. The net national savings and expenditure on human capital are added to the genuine savings. While depletion of natural resources and capital variables would be subtracted. Applying the current condition gives the Hamiltonian techniques i.e.

GS = NS + EE – ED – MD – FD – EN

Where Genuine Saving (GS) is the sum of National Savings (NS) and expenditure on education (EE), minus energy depletion cost (ED), mineral depletion (MD), net forest depletion (FD), and damages from carbon dioxide emission.

3.1 Data and Methodology

The study considers green investment as a dependent, while, money supply, interest rate, FDI, GDP, and exchange rate are taken as the independent variables. The study used yearly time-series data for the analysis from the period of 1972-2018 and taken from the World Development Indicators (WDI) and International Financial Statistics (IFS). Due to the lack of data for the green investment, we will use the formula of the genuine savings, for the genuine/green investment provided by many researchers. This study illuminates that genuine savings accounts are considered as a genuine or green investment (Hamilton & Clemens 1999), (WorldBank, 2012) & (Hanley, Dupuy, & McLaughlin, 2015). The study takes the genuine saving formula as a genuine investment because economic theory postulates that savings are equals to investment (S=I) (Keynes 1936). The data for particulate emission is missing in the case of Pakistan, therefore the study takes green investment (net savings), excluded particulate emission. The green investment variable is created with the help of the following formula used by (Hamilton and Clemens 1999).

$Genuine\ Savings = National\ Savings + Education\ Expenditure - Energy\ Depletion - Mineral\ Depletion - Net\ forest\ Depletion - Damage\ from\ Corbon\ dioxide\ emission$[1]enuine Savings=National Savings+Education Expenditure-Energy Depletion-Mineral Depletion-Net forest Depletion-Damage from Corbon dioxide emission

The genuine savings equation helps in the construction of green investment. All variables of the study are inflation-adjusted except exchange rate and foreign direct investment. The integration level of the data has been checked with the help of the ADF test. The augmented Dickey-Fuller (ADF) test is applied at the level and first differences for checking the problem of a unit root. The ADF results show that variables are integrated at the level and first difference, and suggest the bound testing approach of the ARDL model for the long-run analysis and error correction model for the short-run analysis. For the selection of maximum lag, Akaike proposed a technique formally known as Akaike information criteria (AIC). According to the criteria of AIC, the finest model is one that has minimum value among many other competing models. Based on the lag selection summary the study utilizes a maximum of two lags and then reduced them to one and zero lags for different variables. For the validity and significance of the model, this study performs Wald tests and diagnostic tests on the variables of the study. To utilize the variables the study suggests the following functional form of an econometric model.

$\ln\ _GI = \beta_0 + \beta_1(MMR) + \beta_2\ (\ln\ _RGDP) + \beta_2\ (\ln\ _MS) + \beta_3(\ln\ _FDI) + \beta_4(\ln\ _ER) + \varepsilon$n β_0+ β_1MMR +β_2 (ln_RGDP) +β_2 (ln_MS) +β_3(ln_FDI)+β_4(ln_ER) +ε

Whereas

MMRMR Real Money Market rate

ln_RGDPn_RGDP Real GDP

$ln - MS$n-MSlog of Money Supply

FDIDI log Foreign Direct Investment

ERR log of FDI

[1] The formula of green investment construction is taken from the research paper published by (Hamilton and Clemens 1999),

ε = error term

IV. Econometric Analysis

A significant aspect of any research that specifies the findings and course of a research study is data analysis. This chapter analyzes the relationship between the study variables and linked them with the objectives and research hypothesis of the study. It applies econometric techniques and it also various tests to see the balance and accuracy of the model.

4.1 The Augmented Dickey-Fuller (ADF) Test Results

Table1. *Unit root results*

S.No.	Variables	Symbols	P-value at level	P-value at 1st difference
1	Log of real Green Investment	LNRGI	0.6615	0.0000
2	Real interest rate	RIR	0.0043	0.0000
3	Log of Real Money Supply	LNRMS	1.0000	0.0010
4	Exchange Rate	EXR	1.0000	0.0093
5	FDI	FDI	0.0344	0.0000
6	Log of real GDP	LNRGDP	0.5201	0.0005

Based on the outcomes of the ADF test, the null hypothesis of the test has been rejected. Because findings of the ADF test given in table 1 reveal that some variables are stationary at the first difference and some of them like interest rate and foreign direct investment are stationary at level.

4.2 ARDL Bound Test

Table2. *Results of ARDL Bound Test*

F-Bounds Test				
Test Statistic for bound	Values	Significance	I(0)	I(1)
F-statistic for bound	4.55053	5%	2.39	3.38
K	5			

The bound test of the ARDL determines the F-statistics value for the study model to observe the variables' long-run relationships. The estimation of the Bound testing approach in table 2 shows the computed F-statistics value which is 4.55; this value is greater than the lower bound value 2.39 and the upper bound numbers 3.38 at a 5% level of significance. It culminates that there is a long-run relationship among the variables.

4.3 ARDL Long-run Analysis

Table3. *Results of ARDL Long-run analysis*

Repressor	Coefficients	Standard Error	t-Statistic	Probability.
Constant	1.44	8.125	0.17	0.8506
LNRGDP	0.26	1.121	3.38	0.0020
LNRMS	0.69	1.115	2.19	0.0363
RIR	-0.02	0.017	1.44	0.0394
EXR	-0.01	0.005	-2.91	0.0066
FDI	-3.28	7.651	-4.28	0.0002

The outcomes for the long-run economic relationship between green investment and other independent variables such as GDP, money supply, interest rate, FDI, and exchange rate are illustrated in table 3. The outcomes of the ARDL long-run model are interpreted by (Al-Malkawi, Marashdeh, and Abdullah 2012), (Ibrahim & Khan 2019), (Khan, Teng, & Khan 2019), and (Saeed & Awan 2019). Therefore this study also

interprets the ARDL long-run results. If green investment takes as an endogenous variable then GDP is positively significant and has a value of 0.26, which means that if there is a 1% increase occur in the GDP it increases green investment by 0.26%. The broad money at 5% is positively significant having a value of 0.69. The interest rate is negatively related and significant at 5%, with green investment having a coefficient of -0.02. FDI having a value of -3.28, is also negatively significant. This implies that it discourage green investment by 3.28 percent if FDI increases by 1 percent. The negative FDI sign shows that in case of Pakistan FDI have substitution impacts on green investment. The study performs the Wald test for the significance of the ECM results on Broad money, interest rate, FDI, and exchange rate separately. The probabilities are less than 5%, and the results of the Wald test indicate that coefficients of the cointegration and ECM are statistically significant.

4.4 Error Correction Model (ECM) for short-run analysis

***Table4*:** *Results of ECM of ARDL (1,2,2,0,1,2) Model*

Regrissor	Coefficient	Standard. Error	t-Statistic	Probability.
CointEq(-1)*	-0.8629	0.116	-7.42	0.0000
D(LNRGI(-1))	0.137	0.147	0.92	0.0350
D(LNRGDP)	13.64612	2.404429	5.675409	0.0000
D(LNGDP(-1))	6.897352	2.894416	2.382985	0.0235
D(LRGDP(-2))	6.897352	3.769703	1.829680	0.0769
D(LNRMS)	1.318245	0.536954	2.455042	0.0199
D(LNRMS(-1))	1.796671	0.523157	3.434289	0.0017
D(LNRMS(-2))	1.796671	0.793821	2.263322	0.0308
D(RIR)	-0.020447	0.014100	-1.450134	0.0371
D(FDI)	-5.67110	7.92211	-7.161707	0.0000
D(FDI(-1))	-2.84710	1.09010	-2.603659	0.0140
D(EXR)	-0.050074	0.013347	-3.751755	0.0007
D(EXR(-1))	-0.034519	0.014208	-2.429500	0.0211
D(EXR(-2))	-0.034519	0.021346	-1.617084	0.1160

The Error Correction Model (ECM) is performed to find the relationship for the period of the short-run. Table 4 shows the outcomes of the short-run ECM model and the dependent variable is LNRGI. The result shows that LNRGI is positively significant at a 5% significance level at lag (-1). The LNRGDP is positively significant at a level and also at lag (-1)(-2). Broad money is a significant and positive sign at the level and (-1) and (-2) lag. The real market rate of interest is significant and has a negative sign. FDI is negatively significant at (-1) lag. The FDI is also significant with negative impacts at a 5% significance level. The (Cointeq(-1)) is known as error correction term and also known by the term as the speed of adjustment, is negative and less than one and also significant. It means that there are convergence and movement towards the long run.

4.6 Diagnostic test

Table 5: *Diagnostic Tests Results*

Tests	Value	Probability
Jarque-Bera	0.6000	0.7400
Breusch-Godfrey Serial Correlation LM Test	0.86	0.43
Heteroskedasticity	0.944	0.5224

The study also performs multiple diagnostic tests for the validity of the outcomes. The normality of the model is checked by the Jarque-Bera test. The Breusch-Godfrey Serial Correlation LM Test is performed to check autocorrelation. Breusch-Pagan-Godfrey test has been used for the checking of heteroskedasticity. The outcomes of the tests are shown in Table5, and it is satisfying that the model is free from autocorrelation, heteroskedasticity, and normally distributed.

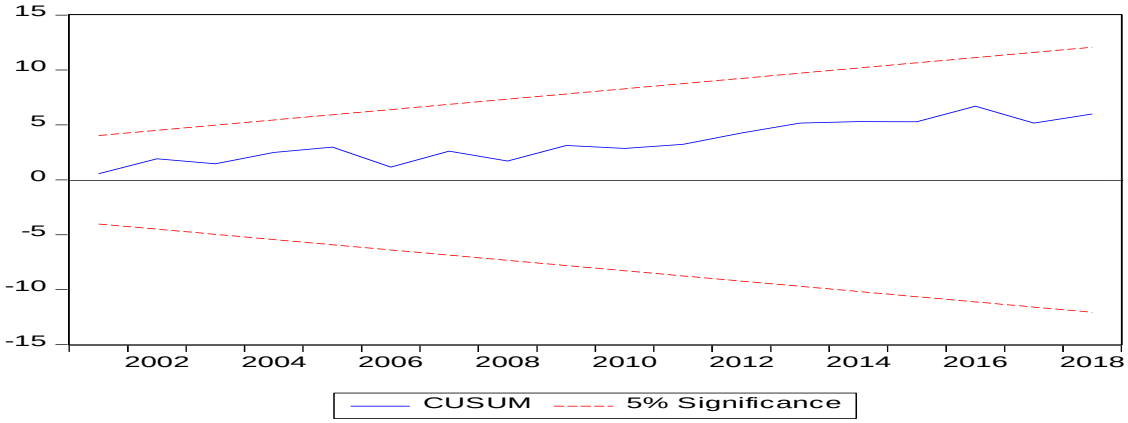

Figure3: *CUSUM test for Stability*

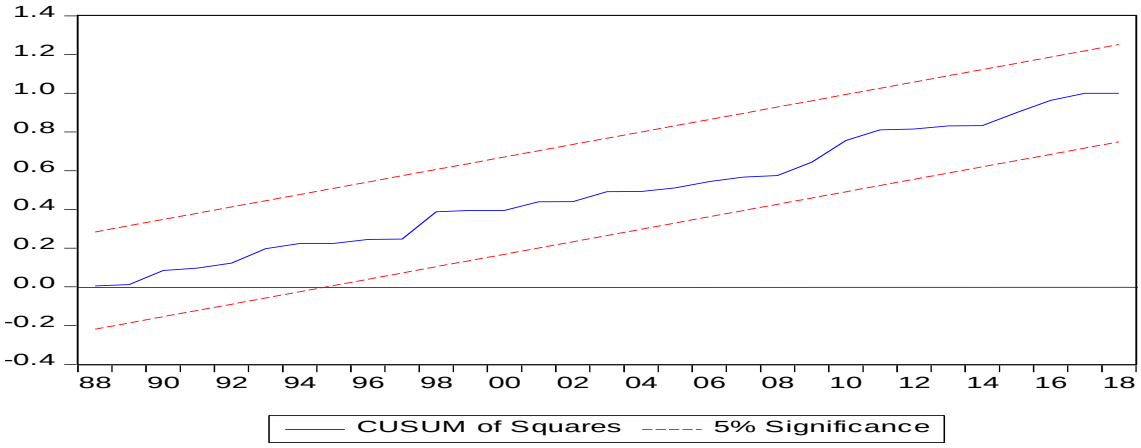

Figure4: *CUSUM square test for Stability*

The stability of the model was also checked with the use of the CUSUM test and CUSUM square test. The findings indicate that the model is stable and the results are shown in figure3 and figure4.

4.7 Robustness test (Granger Causality test)

It is known through different tests that the model of the study is stable and reliable. However, we further want to check the reliability of the model and results through the granger causality test. It will show the direction of the relationship that whether our variables are unidirectional, bidirectional, or spurious relationship. The granger causality test is performed and their results are in table 6 shows that money supply has significant impacts on green investment and the relationship is unidirectional. GDP and green investment have a significant and bidirectional relationship, both variables affect each other. The outcome of FDI shows a unidirectional correlation with green investment. Overall the findings show that our regression is unbiased and consistent, and the model is not spurious. All the variables are correlated significantly.

Table 6: *Granger Causality Tests Results*

Null Hypothesis:	Obs	F-Statistic	Prob.
LRM2 does not Granger Cause LRGI	46	11.55502	0.0091**
LRGI does not Granger Cause LRM2		1.25606	0.2686
LRGDP does not Granger Cause LRGI	46	8.09382	0.0068**
LRGI does not Granger Cause LRGDP		7.48637	0.0294*
FDI does not Granger Cause LRGI	46	4.75280	0.0348*
LRGI does not Granger Cause FDI		2.11323	0.1533
EXR does not Granger Cause LRGI	46	5.68549	0.0011**
LRGI does not Granger Cause EXR		1.20534	0.2784
RIR does not Granger Cause LRGI	46	6.03409	0.0181*
LRGI does not Granger Cause RIR		1.24732	0.2703

V. Results and Discussion

The objectives of the study are to find out the domestic and international impacts of the financial sector on genuine/green investment. The monetary policy is used for the estimation of domestic influences while exchange rate and foreign direct investment are used to check the international impacts on green investment. Monetary policy has significant impacts on investment as explained by (Chowdhury, Fackler, & Mcmillin 2020). Money supply and interest rate are used as the tools of monetary policy. The findings of the study support the theory of transmission mechanisms. According to the theory when the money supply increases the interest rate declines and it uplifts the level of investment. (Alam and Waheed 2006) explore the real positive shocks of money supply and interest rate on different sectors of Pakistan, and shows that monetary policy has positive impacts on the economy. Likewise, the coefficient of money supply in this study having positive 0.69 shows that monetary policy is effective in the green economy. Traditional economics argues that income increases, the percentage of marginal propensity to save will be improved and savings will directly move to investment. Therefore real GDP has a positive effect on investment. As (Greene & Villanueva 1991) estimated a positive link between real GDP and per capita income with a private income. However, the interest rate has negative impacts on the dependent variable in the long run as well as in the short run. This means a higher interest rate discourages green investment in Pakistan. Investment has many obstacles in Pakistan as explained by (Muhammad et al. 2013) but interest rate has significant inverse impacts on investment. FDI shows the negative and significant result with green investment. In practice, it is seen that most of the projects for the evolution of the green economy are made with the help of foreign donors. But the findings of the current study support the substitution hypotheses of FDI. A study is conducted by (Haq, 2016) for India and Pakistan to estimate the effects of FDI and asserted that in the case of Pakistan FDI has substitution impacts. However, these findings contradict the study of (Ahmad et al. 2020) and (Liobikienė & Butkus 2018). This should be possible because most of the foreign investments are made for conventional industries to made higher profits, and those foreign investments increase carbon emission, climate change, deforestation, mineral depletion, and energy depletion as explained by (Nasir et al., 2019). The exchange rate shows the negative impacts on green investment. It means that when the exchange rate increases the local currency depreciated and green investment declines. The indirect impacts of the exchange rate are due to the uncovered interest rate parity condition. The uncovered interest parity condition assumes that the country with a higher interest rate will experience the depreciation of domestic currency relative to the foreign currency. In developed countries like Pakistan, most of the capital and machinery are import from other countries. When the exchange rate increases the prices of the imported machinery used for green projects like electric vehicles and solar panel system also increases. This behavior of exchange rate in the trade sector is also explained by (Bilawal et al. 2014) and (Iqbal & Sattar 2005).

VI. Conclusions

The basic objective of this study is to scrutinize the role of domestic and foreign financial impacts on green investment for Pakistan. The domestic impacts are estimated through monetary policy and GDP, while foreign impacts are estimated through FDI and exchange rate. The results of the study find out that domestic impacts of money supply and GDP have an effective and significant part in determining green investment. While the rate of interest has inverse impacts on green investment, that demonstrate the economic theory that money supply and GDP have a positive relationship with investment, while interest rate and investment have negative relation. The foreign factors like FDI and the exchange rate show significantly negative impacts on green investment. There is a reason behind the negative impact of the exchange rate on green investment due to the uncovered interest parity condition. In the case of Pakistan, FDI has negative impacts on green investment, as find out by (Haq, 2016). The reason behind these negative impacts of FDI is the privatization policy of major companies and industries. The dependency of the industrial sector of developing countries like Pakistan is on imported machines or foreign investment which is made for these machines and capitals. Further, these industries increase the carbon emission level and discourage domestic green investment.

VII. Recommendations

It is verified, in the light of the current study findings, that monetary policy is fruitful in the long-run period as well as in the short-run in enhancing green investment. The green investment that contributes

to sustainable development must be encouraged by the authorities. The hypothesis of foreign investment has been tested in the study, and it is verified that FDI has substitution impacts on green investment. Therefore it is recommended to enhance the green investment; the government has to check the level of foreign investment that has been used in the emission and degradation of the natural environment. It is also fruitful for the green investment that the exchange rate should be maintained because a higher exchange rate reduces the level of green investment.

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