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BALANCING ECONOMIC GROWTH: GREEN ECONOMY, FOREIGN INVESTMENT, URBAN SPRAWL, AND HUMAN RESOURCES DYNAMICS

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Abstract. This study aims to answer the influence of the green economy, foreign investment, and urban sprawl on the economic growth of the special region of Yogyakarta by using human resources as a moderating variable. This study uses a quantitative method with statistical procedures, the data used is secondary data obtained from systematic recording results in the form of annual data from 1992-2021. The method used in data collection is documentation, namely searching for data in the form of records, transcripts, newspapers and so on, data analysis methods used include descriptive statistical analysis of classical assumption tests, hypothesis testing including moderated regression analysis, partial significance test, simultaneous testing, and analysis of the coefficient of determination. The results of this research show that the green economy has a significant effect on economic growth with a probability value of 0.003 < 0.05, foreign investment has a significant effect on economic growth with a probability value of 0.002 < 0.05, urban sprawl has a significant effect on economic growth with a probability value of 0.000 < 0.05. However, resources are able to moderate the green economy, foreign investment and urban sprawl on the economic growth of the special region of Yogyakarta.

Keywords: Green Economy, Foreign Direct Invesment, Urban Sprawl, Economic Growth, Human Resources

I. INTRODUCTION

According to Chollisni, et al. (2022) development is all efforts to realize people's welfare, increase income, combine the diversity, and aspirations of life in all economic, social and political dimensions. Therefore, there is no region that does not carry out development, development must be able to create a change towards something better than the previous situation (Rosana, 2018). Development has 3 important roles, namely as an allocator of resources owned by the state, as the establishment of economic balance through a monetary fiscal approach and as a distribution of resources. These three roles aim to advance the economy, especially developing countries. The results of development must be felt by all fairly and equally as a form of increasing physical and spiritual well-being (Llena-Nozal, 2019). In development, equality is needed in all aspects, things like this need to be done to avoid the impact of inequality. Development must be emphasized more in the economic sector, because this is one of the areas that must be made a priority, which will bring change and progress (Chen, et al., 2018).

Based on reports from the *Badan Pusat Statistik* (BPS) on the island of Java, the Special Region of Yogyakarta (DIY) has had the lowest per capita income since 2011-2021, below Central Java and East Java. Apart from that, the *Produk Domestik Regional Bruto* (PDRB) of DIY province from 2010-2021 continues to increase every year, and in 2021 experienced the highest increase of IDR 107,308,555. However, the increase in PDRB is also accompanied by an increase in the number of poor people in DIY Province, it can be seen that from 2020 to 2021 there has been an increase of 31 thousand poor people. On several occasions, the number of poor people in DIY Province has always been higher than national poverty.

According to Bulturbayevich & Jurayevich (2020) regional economic growth cannot be separated from the existence of natural resources and human resources to utilize. Halliru (2020) said that the increasing economic production activities of the community will cause increasing environmental problems, in other words, as regional production increases, the environmental degradation that will be received will be greater (Beyene & Kotosz, 2019). The Yogyakarta Special Region Province is no exception, one of whose regions is affected by environmental damage, along with the increase in community economic activity, high production is also accompanied by an increase in the value of natural damage in DIY province because community economic activity also increases (Wicaksono, 2020). Data released by BPS DIY shows that water, soil and air pollution in DIY occurs in all districts. Several rivers in DIY show mild to heavily polluted status, while the IKA value of 10 indicates the river's status is heavily polluted, 30 is moderately polluted, the number 50 shows light polluted status. Tobacco forests and coral reefs from 2018-2021 show a constant area. Likewise with the workforce, where the number of people working every year increases and this is also accompanied by the unemployment rate which continues to increase drastically.

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This indicates that economic growth is still focused on conventional production patterns, not the other way around. Supported by research by Calero & Turner (2020), it was found that the economic growth of each region currently tends to still be in a conventional economic growth pattern where the main target in production is to produce as many products as possible, consumers are pursuing the highest possible economic growth, ignoring the environment, and the essence of life is simply ignored. An economic activity should not have a bad impact on society and should not prioritize its own interests (Vives, 2022). But we must prioritize the environment in order to fulfill human needs to improve life and welfare (Amaruzzaman, 2017). The loss of natural resources as development capital is never taken into account in PDRB reports (Setyarko, 2018).

According to Hickel & Kallis (2020) if natural resources are not managed well, these resources will run out and result in environmental pollution with high intensity, very serious damage, therefore development must be shifted towards sustainability. Silvestre & Ţîrcă (2019) explain sustainability as the capacity to provide prosperity for future generations, which can be demonstrated by a comprehensive measure of inclusive wealth, which includes market and non-market assets. The concept of sustainable development is interpreted as development for the present and future (Suparmoko, 2020). In 2015, sustainable development SDGs were released and ratified by the UN as part of the 2030 agenda (United Nations, 2015). Sustainable development has the aim of maintaining the economic welfare of the community on an ongoing basis, maintaining the sustainability of the social life of the community, maintaining the quality of the environment as well as inclusive development and implementing governance that is able to maintain the improvement in the quality of life from one generation to the next (Boluk, et al., 2019). This is stated in 17 goals (SDGs) and 169 targets which cover all aspects of sustainability (Fleming, et al. 2017) and are ambitious actionable steps for sustainable development (United Nations, 2019).

One of the concepts in sustainable development is the green economy, this concept was introduced through the Rio+20 conference (Dogaru, 2021). Where the green economy has become mainstream in various kinds of economic problems currently being felt by international organizations (Yeschenko, et al., 2019). Green economy takes three approaches, namely environmental protection, social development and economic development (Hapsoro & Bangun 2020). The green economy is considered a path to sustainability by international organizations such as the World Bank and the United Nations environmental program, besides that the green economy has been widely used to overcome the financial crisis and climate change (Chomsky & Pollin, 2020). Green economy is recognized as a solution to align ambitions for economic growth and environmental protection against the constraints of a linear economy (Mihai & Ulman, 2023).

Mikhno, et al. (2021) explains that the green economy has 7 targets to be achieved, including: sustainable construction and conservation of natural resources, implementation of renewable energy sources, sustainable infrastructure development, improving water management, implementation of waste management systems and residue minimization, management of land resources rational and controlling urbanization, preserving existing species and controlling their populations. A green economy is needed to form a society that is more efficient in saving resources (Pan, 2018). Characterized by low carbon, reduced environmental damage and more social inclusion (Outka, 2018).

The development of the DIY province's green economy during 2010-2021 experienced various obstacles, such as the quality of the environment continuing to decline and waste continuing to increase. From 2010-2021 DIY's IKLH value has decreased, where DIY province from 2017 and 2019 got very poor with an IKLH value below 50, for the ranking of DIY province it was ranked 32nd out of 33 provinces in Indonesia after DKI Jakarta province because of the polluted environment in DIY, in the same year DIY Province produced 407,880 tonnes of waste originating from household activities, traditional markets, commerce, public facilities and offices, while the highest figure was shown in 2020 at 491,750 tonnes.

The strength of a regional economy cannot be separated from what is called globalization, where the economic interconnectedness of a country becomes increasingly tight as a result of reduced trade boundaries and high capital flows across economies (Storper, 2018). One of the most important sources of financing for a country and region is foreign direct investment which is not vulnerable to economic turmoil (Nasir, et al., 2019). Investment activities are absolutely necessary because basically a region needs to implement growth to catch up with other regions (Asamoah, et al., 2019).

The mechanism for foreign investment in regions, especially the Yogyakarta Special Region Province, has been regulated in the 2013 regional regulation number 4 regarding the provision of incentives and convenience in investment, namely that it must be in the form of a limited liability company. Services for requests for investment approval at the provincial level are carried out by regional officials, especially in the investment sector (PDPPM). For DIY province, foreign investment is felt to have a relatively effective function in driving the community's economy, foreign investment is able to have a good impact in increasing provincial development, although it does not always increase (Janah & Mutiarin, 2020).

Based on data sourced from BKPM, foreign investment that provides capital for environmental sustainability is only in 10 sectors, judging from 2011-2021, foreign investment entering the green sector only covers 20 percent of the 36 percent targeted. Food crops, plantations and livestock are the largest sectors entered by foreign capital, while the forestry, geothermal and waste processing tourism sectors are still empty. This shows a real gap. Meanwhile, for the industrial sector, the largest is the mining sector, almost every year large amounts of foreign capital enter, and the green sector in the industrial sector only covers 3 percent.

Supported by research from Tanesib (2019), it was found that there were many problems related to foreign investment in DIY, these problems were constructive obstacles to economic progress. Obstacles encountered by foreign investors when investing in the Special Region of Yogyakarta Province include several investment problem formations, namely the unequal distribution of investment between

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districts and cities, investment being dominated by the construction sector, limited land: area and competitiveness, less than optimal industrial area development strategies. , geographic location that does not accommodate access to product distribution (current ports are only in Surabaya and Semarang, there are no investment project proposals available (ready to offer), licensing problems related to relations between provinces and city districts, as well as problems with institutions infrastructure such as regional and drinking water companies, state electricity companies and environmental agencies. This results in investment targets not being achieved optimally.

According to Nguyen (2018), economic growth is said to be good if there is equality within an area, such as population movement from villages to cities, where cities play an important role in the economic structure and society will develop by providing opportunities for people to enjoy educational and employment services (Liang & Yang, 2019). With population movement, facilities such as education, health, roads and entertainment services will increase along with increasing market coverage (Gross & Ouyang, 2021). Urbanization has an impact on increasing the number of residents in urban areas which influences many things. Based on 2013 provincial data, the number of residents living in cities or urban areas in DIY province reached 68.02% of the total population of DIY province totaling 3,594,854 people, it can be seen that in 2021 74.9% are urban residents, which has exceeded the national level of 53%. The need for housing and the availability of housing in DIY from 2010-2021 shows an imbalance.

According to BPS data (2021), in 2030 it is estimated that there will be 4,220,000 people living in DIY, 36% living in the provincial capital area. Cookson & Pishue in their Inrix research (2017) report stated that traffic jams have become a phenomenon commonly experienced by the city of Yogyakarta. Main roads such as Magelang road, Godean road, Kaliurang road, and Adi Sucipto road also become traffic jams every time you go to or from work. The capacity of Yogyakarta City's roads for motorized vehicles is considered to have exceeded capacity, with Yogyakarta occupying the 60th position as the most congested city in the world and the top 5 in Indonesia after Jakarta, the city of Bandung and the city of Malang. Khaerunnisa, et al. (2020) see that the congestion that occurs in access to the city center is caused by rapid population growth in urban areas of the Special Region of Yogyakarta province, thus affecting the quality of the environment both within and around its outskirts, which has the potential to cause a high number of slum settlements with illegal status (Roitman, 2019).

The rapid expansion of the area causes land use to be characterized as sprawl, because there is still a lot of undeveloped land that can be developed for housing (Khasanah & Astuti 2020). Haliru, et al. (2020) Sprawl is often described as increasing pollution, energy use, traffic congestion and a decline in community characteristics resulting in land use conflicts between agricultural activities and urban vertical housing oriented towards rural environments (Helda et al, 2018). These spatial changes show that the characteristics of the urban sprawl phenomenon generally lead to areas of high accessibility (Bagheri & Tousi, 2018). Urban sprawl is the development of rural areas into urban areas characterized by the spread of population at low density and characterized by the change of non-built-up land into built-up land (Wei & Ewing, 2018). If not managed well, urban sprawl can trigger environmental degradation and increase segregation, destroying the vitality of existing urban areas and penetrating for aesthetic reasons.

Based on the background above, researchers are interested in conducting research with the title "The Effect of Green Economy, Foreign Investment and Urban Sprawl on Economic Growth Using Human Resources as a Moderating Variable." The framework for this research is as follows:

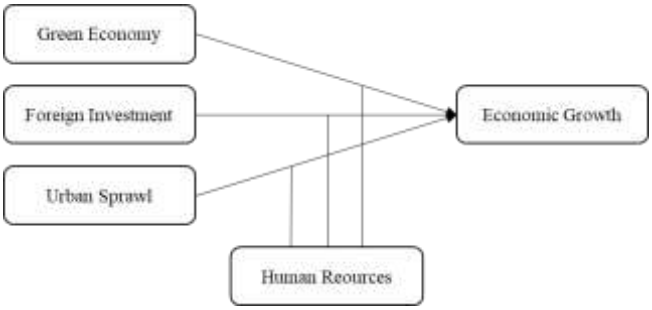

Figure 1. Research Framework

The hypotheses in this research include:

H1 : The green economy is thought to have a positive effect on economic growth

H2 : Foreign investment is thought to have a positive effect on economic growth

H3 : Urban sprawl is thought to have a positive effect on economic growth

H4 : Human resources strengthen the relationship of the green economy to economic growth

H5 : Human resources are thought to strengthen the relationship between foreign investment and economic growth

H6 : Human resources are thought to strengthen the relationship between urban sprawl and economic growth

II. RESEARCH METHODS

This research uses a quantitative approach. This research intends to see whether or not there is a direct influence between the independent variables in the form of green economy, foreign investment, and urban sprawl with the moderating variable of human resources on the dependent variable, namely economic growth which is carried out based on secondary data. The location of this research was carried out in the Special Region of Yogyakarta Province. The reason for choosing the Yogyakarta Special Region Province was the many problems experienced by the DIY province, consisting of high economic growth but still not being able to show real prosperity for the people of DIY.

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The population used is all available data, namely time series data in the form of green economy, foreign investment, urban sprawl, economic growth and human resources for the province of Yogyakarta Special Region. Meanwhile, for the sample, the saturated sampling method was used. The number of samples (n) consists of all time series data for the period 1992-2021 in this research. Several criteria for taking samples are data published by central BPS, BPS DIY, Bank Indonesia DIY, BKPM DIY (Investment Agency), PUP-ESDM DIY, and DLHK DIY.

The time series data analysis technique determined to answer and resolve the problems in this research is descriptive statistical analysis. The analysis carried out is classical assumption testing and hypothesis testing. Statistical tests used to determine how big the relationship is between variables include normality tests, heteroscedasticity tests, multicollinearity tests and autocorrelation tests. Hypothesis testing is carried out using MRA (Moderated Regression Analysis), which is a special application for multiple linear regression with the aim of testing the impact of the independent variables required in this research. MRA (Moderated Regression Analysis) contains a moderating variable component or there are interaction elements such as the multiplication of two or more independent variables. The reason for using the MRA (Moderated Regression Analysis) analysis tool is because in the research a moderating variable was found. Tests carried out through MRA include partial significance tests (t test), simultaneous tests (F test), and analysis of the coefficient of determination (R2).

III. RESULTS AND DISCUSSION

Special Region of Yogyakarta (DIY) is a province located in the southern part of the island of Java between Central Java Province and East Java Province. DIY is one of the regions in Indonesia which holds the title of Special Region because this region is a royal region which is still led by a sultan or known as Sultan Hamengkubuwono. Geographically, DIY Province has administrative boundaries, including in the north of DIY Province with Magelang Regency and Boyolali Regency which are separated by Mount Merapi. To the south, DIY province borders the Indian Ocean. To the west, DIY borders Magelang district and Purworejo district. To the east, DIY borders Klaten Regency and Wonogiri Regency. When viewed from an astronomical perspective, the DIY province is located between 7°.33 - 8°. 12 South Latitude and 110°.00 - 110°.50 East Longitude.

Conditions from 2010-2021 show that the population of DIY is increasing every year, most of which is concentrated in Sleman district, in 2021 it has reached 1,265,429 people and Bantul 1,050,308 people. Meanwhile, Kulonprogo Regency has the lowest population, namely 442,724. If we look at the population density in DIY province in 2021, it is 1,185 people per km, the highest density occurs in Yogyakarta City, namely 12,350 people per km with an area of only around 1% of the area of DIY province. Sleman Regency with 2,150 people per Km. Bantul Regency with 2,050 people per Km. Kulonprogo Regency with 791 people per km. Meanwhile, Gunung Kidul district, which has an area of 46.63%, is inhabited by an average of 495 people per km.

To create quality human resources, a region definitely needs a good and adequate level of quality education. DIY Province can be said to be a student city because the existing level of education can be provided both by the public and the private sector. The level of education in DIY can be seen in the following table.

Table 1
Education Level in Special Region of Yogyakarta (DIY)

Educational level	School/University (Units)	Students (Person)	Teacher
Elementary school	2,027	303,047	22,175
Junior high school	568,0	157,510	11,220
Senior high school	229,0	76,896	4,464
Vocational School	219,0	91,314	6,852
College	136	389,699	12,908

The research data used in this research includes the level of green economy, foreign investment, urban sprawl, economic growth, and human resources. The data to be processed is presented in the following table.

Table 2. Research data

Year	*Green Ekonomy* (Point)	Foreign Investment (IDR)	*Urban Sprawl* (Hectare)	Economic Growth (%)	Human Resources (People)
1992	51.07	144,867,333,089	56.341	7.39	1,556,842
1993	52.37	230,693,441,126	56.908	6.40	1,512,323
1994	52.77	368,896,541,139	57.622	8.11	1,463,926
1995	55.11	126,867,558,198	58.327	8.09	1,415,529
1996	56.83	127,721,625,217	58.766	7.80	1,453,218
1997	57.23	133,863,780,256	59.393	5.22	1,476,648
1998	60.21	126,458,165,543	60.651	-11.36	1,450,952
1999	59.61	114,693,831.421	61.322	2.96	1,524,870
2000	58.82	112,892,434,331	62.119	4.01	1,678,329
2001	59.08	116,197.280,000	63.213	4.26	1,630,168
2002	60.18	120,959,769,112	64.238	4.50	1,644,190
2003	59.23	126,372.679,451	65.305	4.81	1,692,040
2004	51.65	295,625,029,987	66.109	5.12	1,701,802
2005	55.67	475,579,930,987	66.771	4.73	1,710,310
2006	53.52	495,963,360,987	67.351	3.70	1,750,575
2007	54.19	880,226,583,062	68.290	4.31	1,774,225
2008	50.11	961,273,289,850	69.541	5.03	1,892,205
2009	71.91	1,025,017,482,634	70.619	4.39	1,895,648
2010	53.52	1,199,493,477,447	71.983	4.88	1,775,148
2011	68.89	3,873,176,318,230	72.561	5.17	1,839,824
2012	50.15	4,550,929,909,262	73.456	5.32	1,906,145
2013	51.81	5,203,115,642,883	74.102	5.40	1,886,071
2014	49.33	5,955,853,842,883	75.642.	5.20	1,956,043
2015	50.99	7,271,740,783,735	76.334	4.95	1,891,218
2016	51.37	7,554,841,971,335	77.467	5.05	2,042,400
2017	49.50	8,036,525,361,335	108.580	5.26	2,053,168
2018	61.69	9,126,508,161,335	114.942	6.20	2,151,252
2019	61.05	9,309,955,161,335	145.259	6.60	2,174,712
2020	61.60	9,485,961,961,335	170.449	2.69	2,126,316
2021	60.53	9.803.584.430.503,	184.324	5.53	2,228,523

The results of the analysis used in this research are descriptive statistics, aimed at clarifying the results of the description of all research variables, namely looking for the level of Green Economy, Foreign Investment, Urban Sprawl, Economic Growth and Human Resources. The values observed from descriptive statistics are the maximum, minimum, average (mean) and standard deviation values. Data analysis in this study is presented in the following table.

Table 3. Descriptive statistics

	NE	Minimum	Maximum	Mean	Std. Deviasi
Green Economy	30	49.33	71.91	56.3330	5.59272
Foreign Investment	30	112892000000.00	9803580000000.00	2911862100000.0000	3617891842175.93750
Urban Sparwl	30	56.34	184.32	79.2662	32.78540
Human Resources	30	1415529	2228523	1775154.00	238876.555
Economic Growth	30	-11.36	8.11	4.7240	3.31549
X1*M	30	77251375.02	136316047.68	100116294.0573	17968232.16681
X2*M	30	174893.44	21847503.51	5910313.5029	7669088.79774
X3*M	30	82563559.98	410770273.45	146695031.8892	83266274.83596
Valid N (listwise)	30				

The table above explains that the minimum, maximum, mean and standard deviation values for all research variables from 1992 to 2021 include the following:

1) Green Economy

The green economy variable data used in this research study is the environmental quality index value which is clarified in the form of points for the years 1992-2021. Based on the results from the table above, the minimum Green Economy value is 49.33, the maximum value is 71.91, the average is 56.3330, and the standard deviation is 5.59272.

2) Foreign Investment

The foreign investment variable data used in this research study is the value of the total realization of foreign investment made by investors, clarified in rupiah units during 1992-2021. Based on the results of the table above, it is found that the minimum value of foreign investment is IDR 112,892,434,331, the maximum value of foreign investment is IDR 9,803,584,430,503, and the average value of foreign investment is 2,911,862 with a standard deviation of IDR 3617891842175.93750.

3) Urban sprawl

The Urban Sprawl variable data used in this research study is the amount of land use specified in hectare units during 1992-2021. Based on the results from the table above, the minimum urban sprawl value is 56.36. The maximum value of urban sprawl is 184, the average value of urban sprawl is 79.2662 with a standard deviation of 32.78540.

4) Human Resources

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The human resource variable data used in this research study is the workforce specified in percent (%) during 1992-2021. Based on the results of the table above, the minimum value for human resources is 1415529, the maximum value for human resources is 2228523, and the average value for human resources is 1775154.00, with a standard deviation of 238876.555.

5) Economic Growth

The economic growth variable data used in this research is *Produk Domestik Regional Bruto* (PDRB) which is specified in % units during 1992-2021. Based on the results of the table above, the minimum value of economic growth is -11.36%, the maximum value of economic growth is 8.11%, the average value of economic growth is 4.73%, with a standard deviation value of 3.31549.

The classical assumption test is used because in the regression model it is necessary to pay attention to any deviations from the classical assumptions. The classic assumption tests used in this research are the normality test, heteroscedasticity test, multicollinearity test, and autocorrelation. The normality test in this study used Kolmogorov Smirnov (one-sample K-S). The normality test result of the Kolmogorov Smirnov Sig value is 0.946, so the normality assumption is met. Heteroscedasticity test uses the Glejser Test. The results of the heteroscedasticity test obtained a probability value for the green economy of 0.473, foreign investment 0.416, urban sprawl 0.373, X1 for M 0.578, X2 for M 0.898, and The multicollinearity test can be carried out using the calculation of the Variance Inflation Factor and tolerance (α) values. The results of the multicollinearity test obtained values for green economy tolerance 0.514 and VIF 1.994, foreign investment tolerance 0.751 and VIF 1.331, urban sprawl tolerance 0.674 and VIF 1.485, X1 for M tolerance 0.514 and VIF 1.944, X3 for M tolerance is 0.573 and VIF is 1.746 so it can be concluded that in this study there was no multicollinearity. The autocorrelation test can be carried out by detecting the Durbin-Watson experiment (DW Test). The results of the autocorrelation test showed that the Durbin Watson value was 2.027, which was between the DU values of 1.931 and (4-DU) 2.069, so there was no autocorrelation.

Hypothesis testing in this research was carried out using the Moderated Regression Analysis (MRA) analysis model which was tested simultaneously (F test) and partially (t test). The results of the Moderated Regression Analysis (MRA) analysis can be seen in the following table 4.

Table 4. Moderated Regression Analysis (MRA) Analysis Results

Variable	B	t count	Sig t	Information
(Constant)	1.037			
Green Economy	0.179	3.282	0.003	Signifikan
Human Resources	0.184	3.580	0.002	Signifikan
Urban Sparwl	0.172	6.635	0.000	Signifikan
X1*M	-0.026	-3.153	0.004	Signifikan
X2*M	-0.029	-2.447	0.022	Signifikan
X3*M	-0.024	-5.233	0.000	Signifikan
F count	11.743			
Sig F	0.000			
Adjusted R Square	0.690			

Partial Hypothesis Testing (t Test)

The partial t test was carried out to determine the partial influence between the independent variable and the dependent variable.

1) Based on table 4 above, it can be seen that the results of the significance test show that there is a probability value of 0.003 < 0.05. This value can prove that Ha1 is accepted, which means that "Green Economy has a significant and positive effect on Economic Growth".
2) Based on table 4 above, it can be seen that the results of the significance test show that there is a probability value of 0.002 < 0.05. This value can prove that Ha2 is accepted, which means that "Foreign Investment has a significant and positive effect on Economic Growth".
3) Based on table 4 above, it can be seen that the results of the significance test show that there is a probability value of 0.000 < 0.05. This value can prove that Ha3 is accepted, which means that "Urban Sparwl has a significant and positive effect on Economic Growth".
4) Based on table 4 above, it can be seen that the results of the significance test show that there is a probability value of 0.004 < 0.05. This value can prove that Ha4 is accepted, which means that "Human Resources are able to moderate the Green Economy on Economic Growth".
5) Based on table 4 above, it can be seen that the results of the significance test show that there is a probability value of 0.022 > 0.05. This value can prove that Ha5 is rejected, which means that "Human Resources are unable to moderate Foreign Investment on Economic Growth".
6) Based on table 4 above, it can be seen that the results of the significance test show that there is a probability value of 0.000 < 0.05. This value can prove that Ha6 is accepted, which means that "Human Resources are able to moderate Urban Sparwl on Economic Growth".

Simultaneous Testing (F)

From the F test results in table 4, the calculated F is 11,743 and the probability is 0.002. Because sig 0.000 < 0.05, it can be concluded that Green Economy, Foreign Investment, Urban Sprawl, X1*M, X2*M, and X3*M together influence Economic Growth.

Coefficient of Determination (Adjusted R2)

Based on table 4, it shows that the coefficient of determination (Adjusted R2) = 0.466, meaning that the variables Green Economy, Foreign Investment, Urban Sparwl, X1*M, X2*M, and X3*M together influence the Economic

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Growth variable by the remaining 69% 31% is influenced by other variables not included in this research model.

Green Economy has a Positive Influence on Economic Growth

Based on the results of the analysis, it can be seen that the Green Economy has a significant and positive effect on Economic Growth. The green economy concept is an economic system that is more efficient, environmentally friendly and resource-saving technology to reduce emissions and reduce the impact of climate change in the long term even though in the short term it requires large costs in the transition process (Amaruzaman, 2017). This green economy concept can be a driving force for economic growth and development. Green economy provides new, better hope for the implementation of sustainable development because there is a goal to internalize environmental aspects into economic activities so that in turn it will increase economic growth while still having concern for environmental sustainability. This is in line with Wijayanti & Ramlah (2022) who in their research found that the implementation of a green economy can have a positive effect on society's economic growth. This was also followed by research conducted by Dogaru (2021) who in his research found that the implementation of a green economy in the short term would have an impact on reducing economic growth. However, in the long term, the GDRP green economic performance measurement approach will have an impact on improving the quality of sustainable development. Implementation of cleaner production that is more preventive in preventing environmental risks and synergy with creative economy programs will be able to more quickly improve the quality of economic growth.

Foreign Investment Has a Positive Influence on Economic Growth

Based on the results of the analysis, it can be seen that foreign investment has a significant and positive effect on economic growth. Incoming foreign investment will be very helpful and increase job opportunities so that people's income will also increase. Apart from that, in a broader scope, incoming foreign investment will increase a country's national income. This increase in the number of capital goods allows the economy to produce more goods and services in the future (Arsyad, 2019). With this additional capital, it can encourage economic growth in a region or country because the wheels of the economy will be able to move better, the speed and output of production will increase with the addition of raw materials and equipment that supports increased production. This is in line with Ningsih & Hodijah (2020) who in their research concluded that foreign investment has a positive and significant effect on economic growth. Supported by research by Almfaraji & Almsafir (2014) examining the relationship between foreign investment and economic growth from 1994 to 2012. The results show that the main findings of the relationship between foreign investment and economic growth are significantly positive.

Urban Sprawl Has a Positive Influence on Economic Growth

Based on the results of the analysis, it can be seen that Urban Sparwl has a significant and positive effect on Economic Growth. With the construction of new supporting facilities and infrastructure, the economic area will continue to develop. This in turn will create the emergence of new economic centers which can have an influence on improving the region's economy. The wheels of the economy are turning more and more in several places, not just focused on the city center, meaning that the economy of border areas will also experience quite a significant increase. This proves that urban sprawl has a positive effect on economic growth. The positive value obtained from urban sprawl is that with the increase in population and land consumption, there is a shift in urban functions to suburban areas (urban fringe). This has a positive value in improving the economy as seen from the GDP value of each region in the border region. In line with Al Karim, et al. (2019) who in their research found that urban sprawl has a positive effect on economic growth. Supported by research conducted by Zhang, et al. (2022) found that urban sprawl can contribute and be a solution to urban problems by examining the target contribution of urban sprawl to economic growth. This research also found that city governments are facing real obstacles to their economic growth targets.

Human Resources Moderate the Relationship of Green Economy to Economic Growth

Based on the results of the analysis, it can be seen that Human Resources are able to moderate the Green Economy on Economic Growth. The better the human resources a region or country has, the more important it is to implement a green economy for the economic growth of a region or country. Because basically humans are an important factor and actor in the success of implementing a good economic system while still paying attention to environmental conditions and the surrounding ecosystem. Human resources who have good knowledge about the green economy are believed to be able to increase the commitment of economic actors in preserving the environment. Every individual in society plays an important role in focusing change towards sustainability, because they can influence production processes and products as well as policies and institutions through their demand and awareness of environmental resilience (Kristianto, 2020). So it can be concluded that human resources will strengthen the relationship between the green economy and economic growth. These results are in line with research conducted by Wijayanti & Ramlah (2022) which states that a sufficient number of human resources will strengthen the influence of the green economy on economic growth. Supported by research conducted by Soomoro et al (2021) which found that having sufficient human resources is very necessary in developing a green economy, non-linear findings conclude that human resource productivity has positive changes and negative effects on CO2. This research also focuses on policy makers who must focus on the amount and productivity of human resources, natural resources, green business and ecosystem protection.

Human Resources Moderate the Relationship between Foreign Investment and Economic Growth

Based on the results of the analysis, it can be seen that Human Resources are able to moderate Foreign Investment on Economic Growth. It is believed that increasing foreign investment can have a big role in a country's economic growth. The existence of foreign investment will have a positive

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impact on countries that lack capital, namely economic growth. Apart from that, one of the central factors in economic growth is human resources, apart from physical capital which has an effect on economic growth. Human resources can be measured through the number of workers a country has. These results are in line with research conducted by Munir (2020) who in his research concluded that human resources are able to moderate the relationship between foreign investment and economic growth.

Human Resources Moderate the Relationship of Urban Sprawl to Economic Growth

Based on the results of the analysis, it can be seen that Human Resources are able to moderate Urban Sparwl on Economic Growth. Every development that is being actively implemented by developing countries aims to increase individual and group income (Nasaruddin, et al., 2019). Quality human resources will be able to organize good city governance, so that newly developed areas can also have good economic growth, because newly developed areas will also require good adaptability from the people who inhabit them. The quality of human resources can be measured through the knowledge or competencies possessed by each individual. Having high knowledge or competence will have an impact on increasing productivity (Munir, 2020). Therefore, human resources have an important role in the development of urban sprawl so that it influences increasing economic growth. It can be concluded that human resources are able to moderate the relationship between urban sprawl and economic growth. In line with Al Karim, et al. (2019) who in their research stated that quality human resources will strengthen the relationship between urban sprawl and economic growth.

IV. CONCLUSIONS

Based on the Hypothesis Test Results and Discussion, it can be concluded that (1) Green economy is formulated as an economic system that does not damage the environment but adheres to three main pillars, namely the economic pillar, social pillar and environmental pillar. Based on the results of research that has been carried out, it proves that the Green Economy has a significant and positive influence on the economic growth of the Special Region of Yogyakarta Province. (2) The results of the research that has been carried out prove that foreign investment has a significant and positive influence on the economic growth of the Yogyakarta Special Region Province. (3) The urban sprawl that is occurring in the city of Yogyakarta must be resolved immediately. The main problem is how to manage urban sprawl so that its development can be reduced to a minimum. The results of this research prove that urban sprawl has a significant and positive influence on the economic growth of the Special Region of Yogyakarta Province. (4) Human resources and the green economy have an influence on each other. By relying on the availability of human resources as a form of utilizing and activating human potential, it will provide positive value for the welfare and standards of the economy and the welfare of society. The higher the number of human resources, the greater the influence of the green economy on economic growth. (5) Human resources can moderate foreign investment on economic growth. This shows that the large number of human resources can be a benchmark for increasing economic growth, several additional factors are needed to form human resources that are ready to compete. (6) Human resources are able to moderate urban sprawl on economic growth. Having a sufficient number of human resources will be able to organize good city governance, so that newly developed areas can also have good economic growth, because newly developed areas will also require good adaptability from the people who inhabit them.

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