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# Analysis of Determinants of Private Investment on Economic Growth in North Sumatra

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The Research discusses the determinants factors of analysis which influence private investment and its subsequent influence upon the rates of economic growth and employment in North Sumatera. he method conducted in this research was the survey method by using an explanatory approach and time series data. This research also utilised a simultaneous method with a two-stage least squares analysis. The conclusions of this research are as follows. Firstly, economic growth, (Product domestict regional bruto) exchange rate, and investment credit provide a positive influence upon private investment, whereas government investment, investment interest rate, inflation, international interest rates, and economic crisis have a negative influence on private investment in North Sumatra. Secondly, private investment, government investment, the total of the labour, and the human capital provide a positive influence on the economic growth in North Sumatra, whereas export and economic crisis influence towards a negative economic growth. Thirdly, the economic growth, export, and economic crisis provide a positive influence on the employment in North Sumatera, whereas private investment provides a negative influence on the employment in the region. Fourth and lastly, economic growth, employment, and exchange rate provide a positive influence on exports in North Sumatera, whereas private investment and economic crisis provide a negative influence on exports.

**Keywords:** *Private investment, Economic growth, Employment, Export.*

## Introduction

### Problem Background

Investment activity is generally undertaken in two main sectors, namely the government sector, and private sector. Investments which are made by the Government are generally carried out in the construction of infrastructure and production facilities, both physical and non-physical, and that generally cannot be financed and undertaken by the private sector. Adequate Infrastructure is one form of incentive that can encourage investment and industry attractiveness.

However, the reality is that the Government's ability to build production facilities and infrastructure is relatively limited due to its limited development budget, which is yet to be realised. The scarcity of government capital causes low physical infrastructure support as a driving force for the business world to carry out economic activity. In terms of economic activity, the development budget is one of the keys to allocating infrastructure development that will support the smooth running of the business world. A lack of physical infrastructure support is a disincentive to create private investment and often becomes a weakness in the macroeconomic competitiveness of a country.

The presence of private investment in Indonesia is especially important and highly expected because private investment, both domestic investment dan foreign investment, can make a doubled contribution to the national or regional economy. Specifically, its contribution to the gross domestic product and/or gross regional domestic product , encouraging increased exports, opening new jobs, and actively providing goods and services for the needs of the people that are not provided by the Government, and at the same time, stabilising general prices or inflation. In particular, foreign investment can have various positive impacts, such as the influx of experts, technical skills, product renewal, organisational and management experience, market information, and training of local workers, all of which can accelerate the development of a region, which is also known as the tricle-down theory of development.

The economic crisis that unfolded from 1997 to 2003, in which the situation of polytic instability continued with the replacement of the national leadership, resulted in domestic private investment in North Sumatra being reduced dramatically by 560.08 %. In contrast to foreign investment, foreign investors have previously predicted that there will be turmoil in Indonesia. Thus, since 1996, the decline in foreign investment in North Sumatra has occurred at a rate of 1,017.30 %. Likewise, in 2008 there was an extraodinary decrease in invesment of 1025,12 % the occurrence of the global crisis which alsi affected the economic activities of North Sumatera

Ribeiro, Teixeira, Jongwanich, and Kohpaiboon in Suhendra (2009) said private investment is influenced by government investment, investment loans for the sector private sector, and economic growth. However, in the case of North Sumatra, government investment shows the opposite condition. In relation to economic growth, investment affects economic growth and is the focus of attention of economists, including Krishna, 2004 and Schularick and Steger, 2007. Private investment is greatly affected by the economy in North Sumatra. This is evident from the contribution of various sectors to the GDP formation in the Province of North Sumatra.

**Research purposes**

1. To examine the effects of economic growth, government investment, interest rates, exchange rates, investment credit, inflation, international interest rates and the economic crisis on the development of private investment in North Sumatra during the research year.
2. To examine the effects of private investment, exports, government investment, labor, human capital and the economic crisis on economic growth in North Sumatra during the study period.
3. To examine the effects of private investment, economic growth, exports, wage levels and the economic crisis on employment opportunities in North Sumatra during the study period.
4. To examine the effects of private investment, economic growth, employment opportunities, exchange rates and the economic crisis on exports in North Sumatra during the study period.

**Research Methods**

The data used in this study as a whole is secondary data with the time period 1980 - 2011 (time series). Many of the variables studied were 14 variables to estimate the factors affecting the private sector and their impact on economic growth, employment opportunities and exports of North Sumatra. Data sourced from the North Sumatra Central Statistics Agency (BPS) in various editions, the North Sumatra Province Investment and Promotion Board, North Sumatra Financial Statistics Report in various editions and Bank Indonesia (BI).

**Discussion**

**Similarities in the Determinants of Private Investment in North Sumatra**

***Economic Growth Factors***

One of the results of this study is that economic growth has a positive and insignificant effect on private investment in North Sumatra. The results of this study indicate that an increase in economic growth can increase private investment in North Sumatra. On the other hand, a decrease in economic growth will cause a decrease in private investment. The results of previous research support the results of this study, including those conducted by Carruth, Dickerson and Henley (1998); Dehn (2000); Seruvatu and Jaya Raman (2001); Ribeiro and Teixeira (2001); Quattara (2004); Valila and Mehrotra (2005); Acosta and Roza (2005); Lesotiho (2006); Jongwanich and Kehpaiboon (2006); Khan (2007); Dwi Tantiasti (2007);

Emtiaz Ahmad and Abdul Qayyum (2007); Emtiaz (2008); Yuliani Retno (2008); Indra Suhendra (2009); Afrizal (2010); and Alkhatib, Altaleb, Alokor (2011), who stated that economic growth has a positive effect on private investment.

North Sumatra's economic growth value during the study year tended to increase, except for the period of 1998–2000, when Indonesia experienced an economic crisis. The positive impact of economic growth on private investment growth in North Sumatra is that regarding economic growth, it should be able to spur private investors to increase their investment. However, the effect of economic growth on private investment is not significant because during the 32 years of the study period, the largest part of the total of economic growth was used for consumption. For example, in 2011, of the total economic growth of North Sumatra of 69.74 per cent was used for consumption, while only 20.54 per cent was used for capital formation. This reflects that North Sumatra cannot yet be categorised as an investment destination. The people's income should be partially saved and then reinvested, which will encourage new investment in the following year, however, some large-scale national and international cash entrepreneurs are not willing to invest in North Sumatra but invest outside North Sumatra or abroad.

To increase quality economic growth, the Government of North Sumatra, together with the central government, should promote policies to improve the investment climate; accelerate infrastructure development; empower micro, small, and medium enterprises ; and strengthen financial sector reform

***Government Investment Factor***

The empirical finding is that government investment has a negative effect on private investment in North Sumatra. These findings indicate that the occurrence of a 'crowding-out' between government investment and private investment means that government investment shifts investment. Meanwhile, government intervention, which remains dominant in managing the production sector such as state-owned enterprises will shift the private sector to invest in this sector in North Sumatra.

The limited investment spending of the North Sumatra government for the provision of road, bridge, electricity, irrigation, health and communication infrastructure has resulted in the provision of this infrastructure not running well.

**Table 1:** Realisation of Capital Expenditures for Regional Government Infrastructure Procurement in North Sumatra Province by Type of Expenditure 2008–2011 (Rp. 000)

| No. | Description | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|
| 1. | Road construction | 256,862,336 | 224,936,938 | 222,142,983 | 375,685,579 |
| 2. | Bridge construction | 40,113,664 | 55,995,758 | 60,336,228 | 43,151,957 |
| 3. | Irrigation network | 93,025,742 | 88,227,595 | 91,967,373 | 142,028,397 |
| 4. | Telephone electrical installation | 21,072,671 | 20,843,361 | 16,773,302 | 6,021,838 |
| 5. | Building construction | 12,961,840 | 101,610,945 | 119,894,041 | 123,704,560 |

Source: Regional Financial Statistics, Central Bureau of Statistics Jakarta.

Although there was an increase in government investment from 2010–2011 for road infrastructure, this expenditure tended to improve roads that connect between districts, and connected districts and sub-districts, which were generally not well implemented. Thus, in 2011, only 41.71 per cent of road infrastructure was considered good, 21.99 per cent was considered to be in moderate conditions, and 36.29 per cent were considered to be in bad condition. Meanwhile, there is little to build new roads to production centres that can support private investment. Likewise, electrical energy is extremely limited due to limited budgets and it tends to decline. The existing budget is only for repairing damaged machines, while building a new power plant is not sufficient. Therefore, electricity in North Sumatra remains relatively limited. As a result, in 2011, of the 1,873.4 megawatts installed, most of it was used for housing needs, while industry and business needs were relatively small.

***Interest Rate Factor***

Furthermore, the results of this study also prove that the interest rate has a negative and significant effect upon private investment at the level of 90 per cent. This result means that low interest rates will increase the demand for credit to increase investment In the effort to continue and develop the business, capital is the most important factor, while the source of additional capital is investment credit from banks with a certain interest rate. With relatively low interest rates (below 20 per cent) in North Sumatra — although not as low as the international interest rate — private entrepreneurs can still borrow from banks based on a project feasibility study, which examines whether the investment project is feasible or not. The lower interest rates from 2001–2011 prompted the private sector to increase their lending, so that the realisation of investment credit during that period increased. The results of this study are in line with the results of previous studies from Chhiber and Wijnbergen (1988); Carruth, Dickirson, and Henley (1998); Dehn (2000); Seruvatu and Jayaraman (2001); Agrawal (2001); Susi Suwarsih (2004); Valila and Mehrotra (2005); Lesothlo (2006); Khan and Khan (2007); Wiwin Setyari et al. (2008); and Dwi Tantiasi (2008), which state that the loan interest rate has a negative effect on private investment.

***Exchange Rate Factor***

The exchange rate variable has a significant positive direction towards private investment in North Sumatra. The results of this study are not in accordance with the proposed hypothesis. This means that an increase in the exchange rate (depreciation) can lead to an increase in private investment. Conversely, a decrease in the exchange rate (appreciation) can cause a decrease in private investment. Several of the results of empirical studies in this research were research conducted by Agrawal (2001), Lesotlho (2006), Jongwanich and Kohpaiboon (2006), Tadjuddin Parenta (2008), and Indra Suhendra (2009), which state that exchange rates increase (depression) the exchange rate and this has a positive effect on private investment. While empirical research does not support this, Ribeiro and Teixeira (2001), Acosta and Roza (2005), Khan (2007), and Wiwin Setyari (2008) states that an increase in the exchange rate (depreciation) affects negatively upon private investment, and vice versa, a decrease in the exchange rate (appreciation) has a positive effect on private investment, which is unacceptable. The positive effect of exchange rates upon private investment contains two definitions.

***Investment Credit Factor***

The next variable is the positive and insignificant effect of investment credit on private investment. The results of this study support the results of previous empirical studies conducted by Chhiber and Wijbergen (1988), Dehn (2000), Seruvatu and Jayaraman (2001), Ribeiro and Teixeira (2001), Ouattara (2004), Acosta and Roza (2005), Lesothlo (2006), Jongwanich and Kohpaiboon (2006), Khan da Khan (2007), and Indra Suhendra (2009), who concluded that investment credit has a positive effect on private investment.

The insignificant result of investment credit against private investment is that even though the bank has provided large amounts of credit, investors are partly prevented from obtaining it because of the strict requirements set by the bank to avoid bad credit. However, total investment credit in North Sumatra has continued to increase, except for the period of 1999–

2000 during the economic crisis. However, this amount was still relatively low compared to the needs of investors.

According to Chhiber and Wijnbergen (1988), increasing the role of banking in investment financing through banking investment credit to the business or real sector will increase the level of investment and economic growth. Likewise, Dehn (2000) states that there is a relationship between the availability of credit financing for investment purposes with private investment growth and economic growth. Seruvatu and Jayaraman's (2001) empirical results also explain that the increase in investment credit financing has encouraged investors to invest. Meanwhile, Ribeiro and Teixeira (2001) state that the larger portion of bank funds provided to support investment credit will encourage private investment growth. This opinion is also supported by Outtara (2004), who states that private investment in the country will increase if there is sufficient funding available, and this role is carried out by the banking sector by providing investment credit facilities for investors. Acosta da Roza (2005) explains that the provision of banking investment credit plays an especially important role in determining the level of private investment and the rate of economic growth. The results of his study have proven the positive impact of banking system credit financing upon private investment and economic growth.

***Inflation Factor***

The results also show that inflation (INF) has a negative and significant effect at the level of 90 per cent on private investment. These empirical results are in line and consistent with the empirical results of Seruvatu and Jayaraman (2001), Ribeiro and Teixeira (2001), Roberts (2003), Acosta and Roza (2005), Lesothlo (2006), Jogwanich and Kopaiboon (2006), Wiwin Setyari et al. (2008), and Indra Suhendra (2009), where the inflation rate has a negative effect on the development of private investment.

***International Interest Rate Factor***

Furthermore, the variable of the international interest rate has a negative and insignificant effect on private investment in North Sumatra. Several previous researchers conducted empirical research that supports the results of this study, namely Chibber and Wijnbergen (1988), Kennedy (1998), Chibberdan Wijnbergen (1988), Carruth Dickirson and Henley (1998), Firmansyah (1998), Muhammad Kholis (2002), Robert (2003), and Sunike (2006), who proclaimed that interest rates have a negative effect on private investment. The results of this study are in accordance with Keynes' investment theory (MEC), and the proposed hypothesis, where an increase in interest rates will result in reduced investment spending or if the interest rate is high, the desire to invest will decrease.

***Economic Crisis Factor***

The result of further research is the negative effect of the economic crisis upon private investment in North Sumatra. The economic crisis coefficient of -0.757966 indicates that if an economic crisis occurs by one per cent, it will result in a decrease in private investment by 0.76 per cent or vice versa, each one per cent decrease in the economic crisis will increase private investment by 0.76 per cent. Previous research conducted by Heliati (2007) concluded that the economic crisis had a negative effect on private investment in seven districts in West Java.

**Economic Growth Equation**

***Private Investment Factors***

One of the important results in this study is that private investment has a positive and significant effect on economic growth in North Sumatra at the level of 90 per cent. The results of this study mean that any increase in private investment will result in an increase in economic growth. Previous studies which support the findings of this research are Khan and Reinhart (1990); Strum, Kuper, and Haan (1996); Lachler and Aschauer (1998); Krishna (1997); Sonik and Nuryadin (2005); M, Amanja and Morrisey (2006); Suhendra (2009); and Betterment, Afifuddin, and Pratomo (2010), who found empirically that private investment has a positive effect on economic growth. Private investment, which is driven investment, can only develop if the Government provides investment that is able to encourage private investors through the provision of adequate infrastructure, including roads and bridges, electricity, telecommunications networks, clean water facilities, toll roads, railways, and ports (sea and air). North Sumatra's economic growth during the period of 1980–2011 — which tended to increase, except in 1988 — is believed to be the result of the contribution of private investment in the production sectors, especially within the industrial sector; the agricultural sector; and the trade, hotel, and restaurant sector. Therefore, to ensure a higher and higher quality economic growth, efforts are required to stimulate private investment in North Sumatra through improved infrastructure, efficient bureaucracy, legal certainty for business, and safe social conditions.

***Export Factor***

The results also show that exports have a negative and insignificant effect on economic growth in North Sumatra. The results of the research are not in accordance with Keynes' theory or the results of empirical research conducted by previous researchers, such as Khan and Reinhart (1990), Sinha (1999), Saepudin (2001), Setyowati (2001), Sodik and Nuryadin (2005), and Betterment, Afifuddin, and Pratomo (2010), who state that the value of export-import has a positive effect on economic growth. The development of exports in North Sumatra is strongly influenced by developments in government investment and private investment. The availability of government investment in the provision of adequate infrastructure will encourage private investment to produce outputs of goods and services that will be marketed in local and overseas markets (exports). However, limited government investment in the provision of infrastructure has resulted in underdeveloped private investment, the number of products produced is limited, and the volume of exports is also limited, so that the value of exports only develops slowly and tends to fluctuate. Moreover, the effect on economic growth is still relatively small compared to the influence of other variables. The slow development of exports from North Sumatra is also influenced by the relatively high production costs, so that the selling price is not able to compete in the international market with the same products from other countries. The increase in domestic production costs cannot be separated from the availability and development of government investment in providing inadequate infrastructure, and the use of relatively simple equipment, so that the production costs to be borne are quite high. In addition, the nature of North Sumatra's export products, which are raw goods and semi-finished goods, has an impact on the relatively weak ability to determine prices on the international market. Therefore, even though North Sumatra's export volume has increased, it is seen from its value that it is less developed.

***Government Investment Factor***

The results also show that government investment has a positive and significant effect on the economic growth of North Sumatra. Several previous research findings that support the results of this study are Reinhart (1990); Cullison (1993); Sturm, Kuper, and Haan (1996); Morrisey (2006); Lachler and Aschauer (1998); and Suhendra (2009), which show empirically a positive effect and significant government investment upon economic growth.

***Human Capital Factor***

Judging from the aspect of accelerating the improvement of the quality of human resources, North Sumatra is experiencing changes for the better. Improving the quality of human resources is inseparable from the National Education System, which is improving the 12-year compulsory education government policy, Law number. 14 of 2005 concerning teachers and lecturers which requires teachers to be at least undergraduate level (S1), and lecturers to be at least masters level (S2), who can spur the population to improve their education to a higher level. The percentage of the workforce in North Sumatra, according to education, shows improvement with human capital at 8,91 per cent or average of junior high school completion. Meanwhile, in 2011, the condition of the workforce in North Sumatra comprised graduating from tertiary education at 8.40 per cent, completing high school at 32.73 per cent, and completing graduated from junior high school 23.97 per cent. In this regard, the labour force participation rate has increased. In 2000, it was 57.34 per cent, while in 2011, it was 72.09 per cent. The human capital variable, which shows a higher number, indicates that human capital in North Sumatra through the education level can drive an increase in income, and so on, can encourage private investment in this area. Therefore, it is hoped that the quality of the workforce from North Sumatra can continue to be improved with foreign workers who come and compete to seize business opportunities and work abroad.

### *Economic Crisis Factor*

The economic crisis variable has a negative effect on economic growth in North Sumatra. The economic crisis that hit Indonesia since 1997-2003 had an impact on the economy of the North Sumatra region as seen from the economic growth which had decreased even minus by 10.90 percent from 1997-1998 . Even though from 1999–2003 the economic growth of North Sumatra has shown positive figures, the size of this growth has not shown any economic recovery, as it was before the economic crisis. The negative economic growth during the economic crisis was the result of a decrease in private investment, both domestic investment, and foreign investment. Therefore, efforts to avoid the economy from a crisis anticipate that the regional government will cooperate with the central government to build solid economic fundamentals through strengthening investment (private and public), and increasing human resources, employment opportunities, and exports.

## Equal Employment Opportunities in North Sumatra

### *Private Investment Factors*

One of the results of this study is that private investment has a negative and significant level of 90% on job opportunities, this means that increasing private investment will lead to reduced employment opportunities. The negative effect of private investment on employment opportunities indicates that private investment in this area has been managed capital intensive. The results of this study are not consistent with previous studies from Bromstrom and Kokko (1997), Fitzroy and Funke (1999), Jayaraman and Singh (2007), and Suhendra (2009), which state the positive influence of private investment on job opportunities.

### *Economic Growth Factors*

The results of this study indicate that economic growth has a positive and significant effect on job opportunities. The results of this study are consistent with the empirical findings of Waterskirchen (1999), Boyke TH Situmorang (2005), Choi (2007), and Jayaraman and Singh (2007). The estimation results show that the income received by the community from the production sector is partly reinvested (capital formation) through a multiplier effect, which causes economic growth to be even greater. Furthermore, if this portion of income is reinvested in the form of additional investment, it will absorb more labour. This result is supported by the Solow model (Mankiw, 2006), which states that every year people will save from their income. Community savings are capital formation, where capital formation will absorb labour, and in the end, will increase the national output.

***Export Factor***

The result of further research is that exports have a positive and insignificant effect on employment opportunities in North Sumatra. This result means that an increase in exports results in increased employment opportunities. The positive influence of exports on job opportunities is closely related to the positive influence of private investment and government investment on economic growth, because economic growth has a positive effect on employment opportunities. However, because private investors have turned to capital intensive in producing goods and services that are marketed in the domestic market or marketed abroad (exports), it means that they produce export products with less physical labor, as a result exports are unable to suppress the increase in employment opportunities that are quite a lot, but with an increase in exports of one percent only able to increase employment opportunities by 0.046 percent and not significant. In this regard, it is hoped that to encourage an increase in the gross regional domestic product through private investment, private investment must improve the quality of products that are competitive with the application of more modern technology.

***Wage Factor***

The next independent variable is wages, which has a significant negative effect at the level of 90 per cent upon job opportunities. A negative wage coefficient means that if there is an increase in labour wages, it will reduce employment opportunities. Conversely, if there is a decrease in wages, it will increase employment opportunities. The results of this study consistently support the empirical results of Bromstrom and Kokko (1997); Fitzroy and Funke (1999); Bambang, Setiaji, and Sudarsono (2004); Suedekum and Blien (2005); Boyke T. H Situmorang (2005); Sri Roshidayati (2006); Choi (2007); and Indra Suhendra (2009), who say that wage has a negative effect on job opportunities.

***Economic Crisis Factor***

The economic crisis had a positive and insignificant impact on job opportunities in North Sumatra. This means that even though the economic crisis has occurred, it will not have a significant effect on employment and employment opportunities. During the economic crisis period of 1997–2003, the most negative impact was large companies, while MSMEs were still able to survive. Small and medium enterprises that produce daily necessities, especially consumer goods, are still vibrant despite high inflation and interest rates, and can support the economy of North Sumatra.

**The Export Equation in North Sumatra**

***Private Investment Factors***

The estimation results of the research conducted show that private investment has a negative and insignificant effect on exports in North Sumatra during the period of 1980–2011. This means that the increase in the amount of investment in North Sumatra has not been able to encourage an increase in exports. The results of this study do not support the empirical findings of Majeed and Ahmad (2006), Evory (2007), and Deviyanti (2012), which state that private investment has a positive effect on exports.

Private investment, both domestic investment and foreign investment, as the results of the previous analysis, have a positive and significant effect on gross regional omestic product in North Sumatra, followed by an increase in economic growth, which results in the creation of goods and services to be marketed in domestic and overseas markets. Therefore, the increase in private investment should be able to boost exports, but this was not achieved in North Sumatra.

***Economic Growth Factors***

Furthermore, the results of the study indicate that there is a positive and insignificant relationship with economic growth upon exports. The results of this study highlight that an increase in economic growth results in an increase in exports. The results of this study are supported by Anagaw and Demessie (2001), Huda (2006), Muhammad Tariq Majeed and Eatzaz Ahmad (2006), Ai-Shwaryar (2011), and Deviyanti (2012), who state that economic growth has a positive effect on exports. Previous research conducted by Siregar (2010) stated that gross domestic product, exchange rate, foreign exchange reserves and inflation had a positive effect on exports. The results of this study are also in accordance with the concept of macro theory, that economic growth is a function of consumption, investment, government spending, and exports ($Y = C + I + G + X - M$), which means that exports are positively related to national income (Y).

***Employment Opportunity Factor***

The results also show that employment opportunities and exports have a positive but insignificant relationship. This result means that higher employment opportunities will increase exports. The results of previous research support the research conducted by Betterment, Afifuddin and Pratomo (2010), which states that the effect of labour on exports is positive and significant.

Harrod-Domar (Todaro, 2003) states that the rate of economic growth is determined together by the national saving ratio, and the national capital-output ratio. Furthermore, it is said that without government intervention, the growth rate of national income is directly proportional to the saving ratio, meaning that the more shares of GNP that are saved and invested, the greater the growth rate of the national income will be. The relationship with exports and employment opportunities shows that the greater the share of the national income which is saved, the greater the stock capital is, and subsequently, stock capital becomes an additional investment to produce larger goods and services, some of which will be exported. Meanwhile, a greater investment will use more labour, and therefore, exports are strongly influenced by employment opportunities. Meanwhile, ML. Jingan (2207) stated that when the economy of a country experiences a trade surplus, where the ratio of investment to output is high, economic growth will increase.

### *Exchange Rate Factor*

The results of further research indicate that there is a positive effect on the exchange rate with exports, which means that the higher the exchange rate, it will cause the exports to be greater. The results of this study are supported by the results of previous research conducted by Anagaw and Demessie (2001), Muhammad Tariq Majeed and Eatzaz Ahmad (2006), Mabun (2006), Evory (2007), and Betterment, Afifuddin, and Pratomo (2010), who stated that exchange rates have a positive effect on exports. Devaluation policy is a government policy to reduce the rupiah currency against the United States dollar with the aim of increasing exports.

A devaluation policy is a government policy to reduce the rupiah exchange rate against foreign currencies, with the aim of increasing exports. The 1983 devaluation policy per one United States (US) dollar was reduced from Rp. 625 to Rp. 970, as well as the 1986 devaluation package, in line with the fall in the price of oil on the international market, by lowering the rupiah exchange rate from Rp. 1,134 to Rp. 1,664 per US dollar, which was able to increase North Sumatra's exports and was also able to increase investment, even though it was a little slow.

### *Economic Crisis Factor*

The economic crisis has a negative and significant effect on exports in North Sumatra. This means that the economic crisis will reduce the export value of North Sumatra. On the other hand, the decline in the economic crisis or the absence of an economic crisis will increase exports.

Several arguments can provide to complement the results of this study. Firstly, the economic crisis had a negative effect on exports. Secondly, with the economic crisis, the growth of private investment, and domestic and foreign investment in North Sumatra has decreased. Thirdly, the decline in private investment has resulted in economic growth, which is seen from a decrease in the value of GRDP and job opportunities. In the end, the decline in economic growth and employment opportunities will result in a decline in export value.

## Conclusion

Based on the results of an analysis of the factors that influence private investment and its impact on economic growth and employment opportunities in North Sumatra, several conclusions can be drawn, as follows:

1. Related to the analysis of the effect of economic growth, government investment, interest rates, exchange rates, investment credit, inflation, international interest rates, and the economic crisis on private investment:

    a. The government investment variable has a negative and significant effect on private investment. Thus, that even though government investment increases, it is unable to encourage private investment, and private investment will decrease. On the other hand, if government investment decreases, private investment will increase.

    b. The interest rate has a negative effect on private investment. Thus, if the interest rate increases, private investment will decrease. On the other hand, if the interest rate decreases, private investment will increase.

    c. The exchange rate of the rupiah (Rp) has a positive effect on private investment, so that if the exchange rate increases, private investment will increase, on the other hand, if the exchange rate decreases, private investment will decrease.

    d. Inflation has a negative effect on private investment. Thus, if inflation rises, private investment will decrease. On the other hand, if inflation falls, private investment will increase.

2. Related to the analysis of the effect of private investment, exports, government investment, labour, human capital, and the economic crisis upon economic growth in North Sumatra:

    a. Private investment has a positive effect on economic growth. Thus, if private investment increases, economic growth will also increase. On the other hand, if private investment decreases, economic growth will also decrease.

    b. Government investment has a positive effect on economic growth. Thus, if government investment increases, economic growth will increase. On the other hand, if government investment decreases, private investment will also decrease.

c. Labour has a positive effect on economic growth. Thus, if the workforce increases, economic growth will increase. On the other hand, if the workforce is reduced, economic growth will decrease.

d. Human capital has a positive effect on economic growth. Thus, if human capital increases, economic growth will increase. On the other hand, if human capital decreases, economic growth will also decrease.

e. The economic crisis has a negative effect on economic growth. Thus, if an economic crisis occurs, the economic growth decreases.

3. Related to the analysis of the effect of private investment, economic growth, exports, wages, and the economic crisis upon employment opportunities:

    a. Private investment has a negative effect on employment opportunities, where if private investment increases, employment opportunities will decrease. On the other hand, if private investment decreases, employment opportunities will increase.

    b. Economic growth has a positive effect on employment. This means that the economic growth that increases the chances of work will increase, but if the economic growth is declining, then employment will decline as well.

    c. The wage rate has a negative effect on job opportunities. Thus, if the wage rate increases, the job opportunity will decrease. On the other hand, if the wage rate decreases, the job opportunity will increase.

4. Related to the analysis of the effect of private investment, economic growth, employment opportunities, exchange rates, and last year's economic growth on exports:

    a. The exchange rate has a positive effect on exports. Thus, if the exchange rate increases, exports will increase. On the other hand, if the exchange rate decreases, exports will also decrease.

    b. The economic crisis has a negative effect on exports. Thus, if an economic crisis occurs, exports will decrease. On the other hand, if there is no economic crisis, then exports will increase.

**REFERENCES**

Acosta, Pablo. & Andres Roza. 2005. Sort and Long Run Determinants of Private Investment in Argentina. Journal of Applied Economics Vol VIII.

Afonso, Antonio. & Ludger Schuknecht. & Vito Tanzi. Income Distribution Determinants and Public Spending Policy. Working Paper Series No. 861, January 2008.

Aftrizal, 2010, Analysis of Investment in Indonesia: A Dynamic Model Approach, Journal of Business Economics and Entrepreneurship, Vol.1, Faculty of Economics, University of Tanjungpura.

Ahmadi Rilam. 1997. The Effect of Foreign Direct Investment on Indonesia's Economic Growth: 1969-1993 Period. Dissertation Not published.

Ahn, Kookshin. 1997. Trends in and Determinants of Income Distribution in Korea. Journal Of Economic Development. Volume 22. Number 2. December 1997.

Alamyin, 2012, Human Capital and Economic Growth, http: //www.alamyin com.

Investment Coordinating Board. Realization of PMA and PMDN Investments in Indonesia. various editions.

Bambang Setiaji & Sudarsono. 2004. The Effect of Wage Differentiation between Provinces on Employment Opportunities. Journal of Development Economics: Economic Studies of Developing Countries. Vol. 117.

Bank Indonesia. Bank Indonesia Annual Report. Various editions.

_______________. Indonesian Economic and Financial Statistics. Various editions.

Belayneh Kassa Anagaw and Wondaferahu Mullugata Demissie. 2001. Determinant of Export Performance Ethiopia: Var Model Analysis; Abhnan, National Mouthly, Journal of Research in Commerce & Management. Vol. No. 2, Issue No. 5.

Bhatta, Saurav Dev. 2001. Are Inequality and Poverty Harmful for Economic Growth: Evidence from the Metropolitan Areas of the United States. Journal of Urban Affairs. Volume 23.Number 34.

Bhinadi Ardito, 2003, Disparity of Economic Growth in Central Java and Outside Central Java, Journal of Development Economics, Economic Studies of Developing Countries. Vol. 8 No.1.

Bigsten, Arne & Jorgen Levin. 2000. Growth and Income Distribution. Working Paper in Economics No. 3. November 2000.

Blanchard, Oliver. 2000. Macroeconomics. Second Edition. New Jersey: Prentice- Hall, Inc.

Blejer, Mario I. & Isabel Guerrero. 1990. The Impact of Macroeconomic Policies on Income Distribution: An Empirical Study of the Philippines. The Review of Economics and Statistics, Aug. Vol. 72., No. 3.

Bobby Kresna Dewata, I Wayan Yogi Swara, 2013, Contributors of Total Exports, Libor, and Wages of Labor Against Foreign Direct Investment in Indonesia, Journal of Development Economics at Udayana University, Vol. 2 No.8.

Boyke T. H. Situmorang. 2005. Job Opportunity Elasticity of Economic Growth, Minimum Wages and Interest Rates in Indonesia. Journal of Agro Economics, Volume 24 No. 1, May 2005.

Bromstrom, Magnus. & An Kokko. 1997. Private Investment, Employment and Wages in Swedish, World Bank Policy Research Working Paper, No. 1432 (Wahsington. World Bank, March)

Carruth, Alan. & Andrew Dickerson. & Andrew Henley. 1997. Econometric Modeling of UK Aggregate Investment: The Role of Profits and Uncertainty. NBER Working Papers Series Number 6950. July.

Chhibber, Ajay. & Sweder Van Wijnbergen. 1988. Public Policy and Private Investment in Turkey. PPR Working Papers 120. October. pp. 1-29.

Choi, Chang Kon. 2007. The Employment Effect of Economic Growth: Identifying Determinants of Employment Elasticity. The Economist 1454, December, pp. 35-36.

Cullison, William E. 1993. Public Investment and Economic Growth. Federal Reserve Bank of Richmond Economic Quarterly Volume 79/4.

Cziraky, Dorio. 2004. Fiscal Policy & Growth: Theoretical Background. Via http://www.policy.hu/cziraky/Rp_FT.pdf.[05/12/2003].

Dehn, Jan, 2000.Private Investment in Developing Countries: The Effects of Commodity Shocks and Uncertainty. WPS / 2000-11. May.

Ministry of Finance of the Republic of Indonesia. Indonesian Financial Notes. various editions.

Dong Kee Rhe, 2009. Trend and Determinant of Korean Outtward Foreign Direct Investment ,. The Copenhagen Journal of Asian Studies 27 (1).

Dorbuseh, Rudiger. and Stanley Fischer. 1994. Macro Economics. International Edition. McGraw-Hill Inc.

Dwi Tantiasti. 2008. Analysis of factors affecting private investment in Indonesia. Bulletin of Indonesian Economic Studies. 45 (3).

Efori Talang Banua, 2010. Analysis of Export Determinants of North Sumatra Province, Gravity Model Approach, QE Journal Vol. 02, No. 02 - 40. Postgraduate, Economics, Medan State University.

FitzRoy, Felix. & Michael Funke. 1999. Real Wages, Investment and Employment: New Evidence from West Gennan Sectoral Data. De Economist 164, 487-495, June 1999.

Galli, Rossana and Roiph van der Hoeven. 2001. Is Inflation Bad for Income Inequality: The Importance of the Initial Rate of Inflation. Employment Paper, 2001/29.

Glomm G. & Ravikumar B. 1992. Public and Private Investment; Implications for Income Distribution. Journal of Political Economy. Vol. 100-4.

Gujarati, Damodar. 2003. Basic Econometrics. 4th Edition. Singapore: McGraw- Hill International Editions.

Gylfason, Thorvaldur. & Gylfi Zoega. 2000. Natural Resources and Economic Growth: The Role of Investment. CESIFO Working Paper No. 542. April. pp. 19-45.

H. Amiruddin, Syaat, Afifuddin, Iskandar Syarif, Sirojuzilam, 2010, Analysis that Affects Investment Development, Journal of USU's Economic Mepa.

H. Youn Kim, 2003, Adinamic Analysis of Investments q and Capacity Utilization, Department of Economics, Western Kentucky University Bowling Green, KY42101 USA.

Harvey Kusumah. 1988. Inflation and Indonesia's Export Import Performance. Bulletin of Indonesian Economic Studies, 25 (1). Thing. 1-37.

Hazem B. Al Khatib, Gassan S. Alkhateb, Samer.M. Alokor, Economic Determinant of Domestic Investment, European Scientific Journal, April Edition Vol. 8 No.7

Heliati Ratni, 2007 ,. Factors that affect foreign direct investment and its influence on economic growth in seven districts in West Java, Dissertation, Padjadjaran University, Bandung.

Indra Suhendra, 2009. Determinants of Private Investment and Its Effect on Economic Growth, Job Opportunities and Income Distribution in Indonesia (Studies in 26 Provinces in Indonesia for the Period 1990-2006), Doctoral Program in Economics, Faculty of Economics, Padjadjaran University Bandung.

Irawan Kadiman, 2001, Theory and Indicators of Development of Level III PIM Training Materials, LAN RI, Jakarta.

Jamzani Sodik, Didin Nuryadin, 2008, Investment Determinants in Regions: A Case Study of Provinces in Indonesia, Journal of Development Economics, Faculty of Economics, UPN "Veteran" Yogyakarta.

Jayaraman, T.K. and Baijeet Singh. 2007. Foreign Direct Investment and Employment Creation in Pacific Island Countries: An empirical study of Fiji. Working Paper Series. No. 35. May. pp. 33 - 65.

Jha, Sailesh K. 1998. Fiscal Policy, Income Distribution, and Growth. Asian Development Bank. EDRC Report Series. No. 67.

Jhingan, 2000. Development Planning. Singapore: The Mc.Graw-Hill Companies. Inc.

Jhingan, M.L. 1999, Development Economics and Planning, Translator D. Guritno, Sixteenth Edition, PT. Raja Grafindo Persada, Jakarta.

Jongwanich, Juthathip. & Archanun Kohpaiboon. 2006. Private Investment: Trends and Determinants in Thailand. Journal of Economics 0970. December.

Karbasi, A. & S. Mojarad. 2008. Impact of Public Investment on Iran Rural Income inequality. American-Eurasian Journal Agriculture and Environmental Science. Vol. 2.

Keizer, Norman F. 1995. Macroeconomics. New York: Random House, Inc.

Khan, Mohsin S. & Carmen M. Reinhart. 1990. Private Investment and Economic Growth in Developing Countries. World Development: Vol. 18, No. 1.

Khan, Sajawal. & Muhammad Arshad Khan. 2007. What Determines Private Investment? The Case of-Pakistan. PIDE Working Papers. 2007: 36.

Klaus, Peter Kriegsmann. 2003. Asia Development Bank Report. Via <http://www.adb.com.

Krishna, K. L. 2004. Patterns and Determinants of Economic Growth in Indian States. Working Paper No. 144. September.

Krugman, Paul R. & Obsfeld, Maurice. 2001. The International Economic, Theory and Policy. Addison- Wesley Publishing Company.

Lachler, Ulrich. & David Alan Aschauer. 1998. Public Invest

Lesotlho, Patrick. 2006. An Investigation of the Determinants of Private Investment: The Case of Botswana. Policy Research Working Paper No. 2123.

M'amanja, Daniel. & Oliver Morrissey. 2006. Foreign Aid, Investment, and Economic Growth in Kenya: A Time Series Approach. CREDIT Research Paper No. 06/05.

Makmun. 2004. The Effect of Labor Availability and Value Added on Investment in the Industrial Sector (Batam City Case Study). Ministry of Finance Jakarta: Journal of Economic and Financial Studies. March. Vol 8.No. 1.

Mankiw, N. Gregory, 2000, Macroeconomic Theory, Translated by Imam Nurmawan, Erlangga Jakarta.

Mankiw, N. Gregory. 2001. Macroeconomics. 5th edition. New York: Worth Publishers.

McGregor, Lanchian. 2000. Economic Implications of Floating Exchange Rate. Journal of Economic. Australian Monash University. August 2000.

Mendenhall, William. & Terry Sincich. 2003. A Second Course in Statistics Regression Analysis. Sixth Edition. USA: Pearson Education, Inc.

Mishkin, Frederic S, 2001, The Economics of Money, Banking and Financial Markets, United States of America.

Mudrajat Kuncoro, 1997, Economic Development of Problem Theory and Policy, First Edition, YKPN Company Management Academy, Yogyakarta.

Muhammad Tariq Majeed and Eatzaz Ahmad, 2006, Determinant of Export in Developing Countries, The Pakistan Development Review 45: 4 Part II (Winter 2006) pp. 1265-1276.

Nachrowi D. Nachrowi and Hardius Usman. 2008. Popular and Practical Approaches, Econometrics to Economic and Financial Analysis. Jakarta: Publishing Institute, Faculty of Economics, University of Indonesia.

Ouattara, Bazoumana. 2004. Modeling the Long Run Determinants of Private Investment in Senegal. CREDIT Research Paper No. 04/05. November.

Pohan Aulia. 2008. Portrait of Indonesian Monetary Policy. Jakarta: PT Raja Grafindo Persada.

Prasetiantono. Tony. A. 2001. There is a stretch, but the Rupiah Crisis is Worrying. Economics 2001 and Prospects for 2002. Compilation of Articles. Jakarta: PT Gramedia Indonesia.

Record, Richard. & Simon Davies. 2007. Determinants and Impact of Private Sector Investment in Malawi: Evidence from the 2006 Investment Climate Survey. March 2007. Papers of Center for the Study of African Economies (CSAE) Conference on Economic Development in Africa at St. Catherine's College. Oxford: UK: 1920th March.

Ribeiro, Marcio Bruno & Joanillio Rodoipho Teixeira. 2001. An Econometric Analysis of Private Sector Investment in Brazil. CEPAL Review 74. August.

Roberts, M. John. 2003. Modeling Aggregate Investment: A Fundamentalist Approach. Journal of Economic 0922. March.

Robinson, Joan. 2004. Growth Centers, Rural Development and National Urban Policy: A Defense. International Regional Science Review 3 (2): 134.

Romer, David. 2006. Advanced Macroeconomics. McGraw Hill International Book Company.

Rulan, D. 2003. Application of Optimal Control Model for Analysis of the Impact of Economic Policy on Indonesia's Economic Performance, Dissertation, Postgraduate Program, Padjadjaran University, Bandung.

Sarel, Michael. 1997. How Macroeconomics Factors Affect Income Distribution: The Cross-Country Evidence. IMF Working Paper. Vol. 97. No. 152.November 1997.

Schularick, Moritz. & Thomas M. Steger. 2007. Financial Integration, Investment, and Economic Growth. Evidence from Two Eras of Financial Globalization. CESIFO Working Paper No. 1691. April.

Now, Uma. 2000. Research Method For Business: A Skill-Building Approach, USA: Thon Wiley & Sons.

Seruvatu, Elenoa. & T. K. Jayaraman. 2001. Determinants of Private Investment in Fiji. Working Paper 2001/02. May.

Sinha, Dipendra & Tapen Sinha 1997. Openness, Investment and Economic Growth in Asia. The Indian Economic Journal Volume 49. No.4.

Sinhà, Dipendra. 1999. Export Instability, Investment and Economic Growth in Asian Countries: a Time Series Analysis. Center Discussion Paper No. 79.

Siti Parhah. 2006. The Effect of Indonesian Macroeconomic Variables on Income Distribution in Indonesia. Journal of Economics. Vol. XXXL No. 12, February.

Sri Roshidayati. 2006. Penganth Economic Growth and Real Wages on Employment Opportunities. Bandung: Campus Journal. VoL LXL Number 3. Padjadjaran University.

Sritua Arief. 1993. Economic Research Methodology. Jakarta: University of Indonesia Publishers.

Stiglitz, Joseph E. 2000. Economics of the Public Sector. Third Edition. New York / London: W.W. Norton and Company.

Sudarsono, 2004. Structure of Employment and Labor Force Participation in Indonesia. Jakarta: Ghalia Indonesia Publisher.

Suedekum, Jens & Uwe Blien. 2005. Wages and Employment Growth: Disaggregated Evidence for West Germany. IZA DP No. 1128, April 2004

Suryana, 2000. Economic Development Problems and Approaches, Selemba Empat, Jakarta.

Susi Suwarsih. 2004. Factors Affecting Private Investment in Indonesia. Journal of Development Economics Vol. 10. No. 2, December 2004.

Sutoyo. 2005. Development Strategy and Manpower Planning. UGM Press. Yogyakarta.

Syamsul Huda, 2006. Analysis of Factors Affecting Indonesia's Non-Oil and Gas. Journal of Economics, Volume 6 No. 2, Faculty of Economics, UPM "Veteran". East Java.

Todaro, Michael P. & Stephen C. Smith. 2003. Economic Development. Eighth Edition. The Addison-Wesley.

Todaro, Michael. P, 1980, Economics Development, Sixth Edition, Longman, London and New York.

Tulus Tambunan. 2007. Indonesian Economy. Some Important Issues. Jakarta: Ghalia Indonesia Publisher.

Tutik Wursi Arliani. 2007. Analysis of Factors Affecting Investment in Yogyakarta Special Province: Bulletin of Indonesian Economic Studies. 43 (1).

Valila, Timo & Aaron Mehrotra. 2005. Evolution and Determinants of Public Investment in Europe. Economic and Financial Report 2005/01.

Walterskirchen, Ewald. 1999. The Relationship Between Growth and Employment. Austrian Institute of Economic Research. Vol. 45 No. 554. Vienna, September 1999.

Wilsa Road Betterment Sitepu, Sya, ad Afifuddin Sembiring, Wahyu Ario Pratomo, Analysis that Affects Singapore's Economic Growth, Journal of Development Economics, Postgraduate School, University of North Sumatra.

Winardi. 1995. Macroeconomic Theory. Tarsito Bandung.

Wiwin Setyari. Lilis Dariani & Firman Gunawan. 2008. Determinants of Private Investment in Indonesia. Bulletin of Indonesian Economic Studies.

Zali Fabrezi Ahmad, 1999. Distribution of Indonesia's Income and the Factors that Affect It. Bandung: Campus Journal Vol. XXXII. Number 4. Padjadjaran University.