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Comparative Analysis of Import Payable Transactions at the Time of Open Position and the Use of Hedging Currency Techniques [Case Study : PT. PINDAD (Persero)]

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Abstract. ***Indonesia began to implement a system of free floating exchange rate (submit entirely with market mechanism) in the period of 1997 until now. Since mid-July 1997, rupiah is under pressure, caused by the currency turmoil that hit Thailand and spread to another ASEAN countries, including Indonesia. The exchange rate crisis is not only resulted in soaring prices, but also resulted in enough contraction of the economy. The depreciation of the exchange rate also has a major impact on the financial condition of companies that conduct international trade, especially for companies that has debt in foreign currency, because the amount of debt to be paid increases. As a SOE (State Owned Enterprises) PT. PINDAD in its business practices are still using imported materials from abroad because domestic industry has not been able to produce it domestically. With this import mechanism and Rupiah trends is tend to depreciate against USD in past few years (2013 – 2016), PT.PINDAD suffered transaction exposure from foreign exchange transaction. This research purpose is to make an analysis of best hedging strategy to minimize the transaction exposure borne by PT.PINDAD at minimum cost. This research is using historical data method of import debt of PT.PINDAD period of May 2013 until October 2016. This study compared the PT.PINDAD import debt at the time of open position and when using hedging techniques namely forward contract hedging and money market hedging. Furthermore, statistical analysis used in this research is t-test, to observe whether a statistically significant difference exist between different technique. More over, risk measurement is conducted using average range of exchange rate and its standard deviation between L/C issuing date and L/C expired date of PT. PINDAD. The results of this research show that, based on the analysis and calculation of total value of debt to be borne by PT.PINDAD at the time of open position and when using forward hedging and money market hedging respectively Rp. 1.514.926.444.680.02; Rp 1.465.477.258.983 and Rp 1.466.280.938.298,96. More over this analysis shows that using hedging technique is more beneficial when Rupiah is depreciate against USD within the PT.PINDAD import transaction. Vice versa not doing hedging technique is more beneficial when Rupiah apreciate against USD. In addition, the t-test results shows that each method of Open Position, Forward Hedging and Money Market Hedging have significant differences with each other. Furthermore, from the result of risk measurement, the least risky hedging method is forward hedging, its proved by the value of the average range of exchange rate and standard deviations of forward hedging has the smallest value compared to other methods used in this research with value. In conclusion this study suggests PT. PINDAD to conduct forward hedging when Rupiah is likely to depreciated against USD. In contrast Open Position is more beneficial when Rupiah is likely to apreciated.***

Keywords: Hedging technique, Market Risk, Currency Risk, Exchange Rate

1. Introduction

Indonesia began to implement a system of free floating exchange rate (submit entirely with market mechanism) in the period of 1997 until now. Since mid-July 1997, rupiah is under pressure, caused by the currency turmoil that hit Thailand and spread to another ASEAN countries, including Indonesia[1]. One of the effect of this pressure resulting in the weakening of the Rupiah against the USD

According Educational Center and Financial Study of Bank Indonesia, empirical data show that the exchange rate crisis negatively affect the economy of a country, as it has been perceived by some Asian countries in 1998. The exchange rate crisis is not only resulted in soaring prices, but also resulted in enough contraction of the economy. The weakening of the exchange rate resulted in imported goods, such as raw materials, capital goods, and consumer goods more expensive and result in an increase in prices of goods in the country.
In addition of this crisis, the depreciation of the exchange rate also resulted in many industries in the country have difficulty, especially industriay that depend on import raw materials. This has a major impact on the financial condition of companies that conduct international trade, especially for companies that has debt in foreign currency, because the amount of debt to be paid increases. This crisis led companies to bear substantial losses and led to many of companies in Indonesia faced bankrupty because they can not pay the debt in the form of foreign currency on the foreign creditors[2].

International trade has some risks, the most obvious risks to be faced is the currency risk as the part of market risk, this risk is came from the exchange rate of the currency of a country always fluctuated against other currencies. The fact the exchange rate of each country continues to fluctuate with each other to make this situation creates uncertainty for those involved in international trade. The value of transactions that have been done can be changed according to fluctuations in currency exchange rates between each party that involved. Companies that conduct international trade especially for company that has debt in foreign currency has a very high risk in this matter, especially when the country's currency depreciates against their counterpart currencies, so the debt value to be paid is increase as the depreciates of the domestic currency against foreign currency, and this is a loss for the company.

In order mitigate this market risks, Ministry of SOEs of Republic Indonesia issued a regulation for hedging for state-owned enterprises as stated in PER-09 / MBU / 2013 on general policy of hedging transactions on SOEs. Under this rule in article 1, paragraph (1) states that SOEs are required to effectively identify, measure, monitor and control market risk in order to mitigate market risk. Furthermore, in paragraph (2) of this rule mentioned that one of the market risk to be controlled is currency risk. More over described in paragraph (3) of this rule, the controlling of market risk as referred to in paragraph (1) can be done through Hedging Transaction. Further in paragraph (4), the Object of the Underlying Transaction may be in the form of assets, liabilities, revenues and / or cash flows.

As a SOE (State Owned Enterprises) which is mainly engaged in Alutsista (Main Equipment Weapons System) and commercial products, PT. PINDAD in its business practices are still using imported materials from abroad because domestic industry has not been able to produce it domestically. With this import mechanism and Rupiah trends is tend to depreciate against USD in past few years (2013-2016), PT.PINDAD suffered transaction exposure from foreign exchange transaction. In order to manage this exposure, the company should be able to make calculations about how to minimize the transaction exposure at minimum cost, so at the end PT. PINDAD could minimize the risk that can lead to substantial loses for PT. PINDAD.

Based on this condition, due to huge amount of import debt borne by PT.PINDAD and due to the Rupiah condition in period of May 2013 to October 2016 shown depreciated trends against USD. PT.PINDAD suffered transaction exposure to foreign exchange transaction. In order to manage foreign currency transaction exposure. PT. PINDAD can use hedging strategies to their transaction exposure so that their value is not highly influenced by exchange rates. Researcher will use hedging strategies namely forward hedging and money market hedging on historical debt of PT.PINDAD via L/C (Letter of Credit) period of May 2013 to October 2016, in order to analyse the practice that PT. PINDAD use to manage their transaction exposure year behind, and researcher could evaluate PT.PINDAD practice to manage their transaction exposure that could potentially impact to financial loss for PT. PINDAD and make improvement from it.

2. Basic Theory and Methodology

2.1 International Trade

2.1.1 Definition of International Trade

The existence of differences in demographic, sociological, the price level and the GDP (Gross Domestic Product) of a country to another cause differences produced goods, quality and even the costs needed. So sometimes a country has an advantage in certain products to other countries and also has the ability of different purchase power as well. To get products from other countries, one the way is by doing trade between countries or the so called export-import. International trade is a trade in which made by a resident of a country with another resident of another country on the basis of mutual agreement. Resident in this statement are can be either indiviual to individual, individual to a government of a country or government to government[3].

2.1.2 Risk that occur in international trade

The main risk that will occur when conducting international trade compared to domestic trade caused by the uncertainty of the exchange rate[4]. Parties that conducting international trade in this case export or import, will be heavily influenced by exchange rate fluctuations. if the local currency depreciated by foreign currency, then the costs arising from the process of international trade using import mechanism will be increased, and by this process the earning of export revenues will increase too, and vice versa.

2.2 Currency Risk

Currency risk is part of market risk, market risk is risk that can occur and produce gain and loss for individual, companies or goverment due to market condition such as currency rate. currency risk occur because the potential movement in value of foreign currencies. This includes currency specific volatility, corelation across currencies and devaluation risk[5].

2.2.1 Type of Currency Risk

Fluctuation of currency rates can create loss or gain to individual or companies that conducting business activity using foreign currency rates. Tare three exposure that can occur because of fluctuation of currency rates, there are :

3. Transaction Exposure

This exposure will cause the increase and decrease the value of contractual transaction of companies that conducting business activity by using foreign currencies. This decreasing and increasing value caused by fluctuation of currency rates.

1) Economic exposure

This exposure caused the change of value of cash flow in the form of companies earnings.

2) Translation exposure

This exposure is occur when a company have subsidiaries abroad, and when it's company subsidiaries published financial statement, parent companies have to converse the currency in the subsidiaries financial statement to the country currency where the parent company is located. This situation could change the value in the financial statement.

3.1 Hedging

3.1.1 Definition of Hedging

Hedging techniques is a techniques that used in order to offset particular sources of risk. Hedging technique more focused than more ambitious strategies seeking an optimal risk-return profile for an entire portofolio. More over hedging strategies can be used to isolate bets on percieved profit opportunities[6]. More over although companies use hedging technique to minimize risk because of transaction exposure it doen't necessarily expect that hedging will always be beneficial[7].

3.1.2 Forward Hedge

One hedging techniques commonly used are forward contracts hedging. Forward contract is an instrument that both party doing agreement for future delivery of the underlying at a specified price at the end of a designated period of time[8].

3.1.3 Forward Price

Forward contract represents the value or price of any commodity traded using a forward contract. Caluculating forward price in the currency can be done using the following formula[9] :

$$F_0 = S_0 \cdot e^{(R-Rf)T}$$

F0 : Forward Price
S0 : Spot Price
R : Domestic Risk Free Rate
Rf : Foreign Risk Free Rate
T : Time of Maturity

3.1.4 Money Market Hedging

One hedging technique that is also familiar used by multinational companies in minimizing the risk of losses that will occur due to fluctuations in foreign exchange rates is money market hedging. In contrast to forward contract hedging that has contracts of future transactions, money market hedging is done by borrowing and lending funds in the money market and and the foreign exchange market.

Money market hedging involves taking a money market futures position to cover a payable or receivable position[10]. More over definition of money market hegding is one of hedging technique that done by lending and borrowing in the domestic and foreign money market, or generally speaking, the firm may borrow fund in form foreign currency to hedge its foreign currency payable[11].

3.1.5 Money Market Mechanism

In the application of money market hedging technique there is no special formula or a special way to calculate the amount of foreign currency that must be deposited and the credit that must be paid. In general steps in the implementation of money market hedging can be done as follows:

1. Calculate the present value of the value of debt

To calculate the present value of the future transaction value can be done using the following formula:

$$PV = \frac{FV}{\left[1 + \left(\frac{Deposit\ Interest \times n}{12}\right)\right]}$$

PV = Present Value
FV = Future Value
n = Period of Deposits

2. Convert PV Value into local currency

To know the amount of local currency to be borrowed to the creditor, the present value of the transaction must be converted into local currency. The way to convert foreign currency into local currency can be done with the following formula:

$$\text{Debt Principal} = (\text{PV x rupiah rate})$$

After obtaining the funds from the creditor, the funds are used to purchase foreign exchange has same worth amount of present value of debt in the forex market, after that the funds that already obtained in the form of foreign currency is deposited.

3. Calculating the amount of loan value to be paid

To calculate the amount of credit to be paid to the creditor on loan that has been given, then can use the formula below :

$$\text{Debt value} = \text{Debt Principal x } \left(1 + \frac{credit\ interest \times n}{12}\right)$$

3.2 Normality Test and T-test

Normality test aims to test whether in the regression model, residual variables have a normal distribution, if this assumption is violated then the statistical test becomes invalid for the small number of samples. More over T-test is used to test how far the influence of independent variables used in individual studies in explaining the dependent variable partially[12].

3.3 Risk Measurement

Risk refers to the problems and opportunities that arise as a result of an outcome not being as expected. Risk somehow is connected to uncertainty, the more uncertain method that you do the riskier it seems. One of method that are commonly used is secenario analysis, this method is done with by measuring risk with the range of possible outcomes. The range is found by subtracting the pessimistic outcomes from the optimistic outcomes. More over in addition to considering the range of outcomes, the risk of an asset also can be measured quantitatively using statistics. The most common statistical measure used to describe an risk is standard[13].

4. Discussion

4.1 Debt Value of Import via Letter of Credit of PT. PINDAD

During Period of May 2013 until October 2016, PT. Pindad had done import transactions as much as $ 117.392.101,42 during that period. Which this transaction is carried out using the mechanism of debt through letter of credit and each letter of credit transaction had various due date requirements. More over from internal data of PT. PINDAD that researcher got, PT. PINDAD debt obligations of import on foreign currency (USD) via Letter of credit from May 2013 to October 2016 as follows

Historical Debt of PT. PINDAD											
Year	Month	Amount	Year	Month	Amount	Year	Month	Amount	Year	Month	Amount
2013	12	$ 669,750.00	2014	12	$ 2,496,199.84	2015	12	$ 19,327.00	2016		
	11	$ 1,208,499.85		11	$ 5,114,771.86		11	$ 1,651,782.80			
	10	$ 222,647.60		10	$ 5,714,365.56		10	$ 5,082,721.58		10	$ 318,855.00
	9	$ 4,175,870.80		9	$ 874,460.00		9	$ 1,244,767.00		9	$ 98,900.00
	8	$ 6,124,663.85		8	$ 1,921,992.77		8	$ 6,086,627.14		8	$ 39,089.00
	7	$ 12,182,364.26		7	$ 328,250.00		7	$ 3,145,594.10		7	$ 424,428.25
	6	$ 9,603,974.56		6	$ 2,262,200.00		6	$ 414,138.16		6	$ 8,354,547.60
	5	$ 2,347,856.60		5	$ 1,175,650.00		5	$ 1,409,232.40		5	$ 780,720.87
				4	$ 10,052,688.00		4	$ 9,326,414.30		4	$ 609,560.00
				3	$ 230,950.00		3	$ 5,663,062.20		3	$ 1,983,257.64
				2	$ 2,405,228.00		2	$ 133,400.00		2	$ 0
				1	$ 0		1	$ 0		1	$ 1,493,292.83
Total		$ 36,535,627.52	Total		$ 32,576,756.03	Total		$ 34,177,066.68	Total		$ 14,102,651.19
Total						$					117,392,101.42

From data above we can see that in 2013 PT.PINDAD has the higgest amount transaction from period of 2013 to 2016 with debt value $36.535.627,52, and the lowest transaction occur in 2016 with debt value $14.102.651,19. Overall the amount of debt value of PT.PINDAD from import transaction that researcher get is $ 117.392.101,42 in period of May 2013 until October 2016.

4.2 Analysis of PT. PINDAD debt value at Open Position

If PT. Pindad didn't use any hedging technique in order to face its transaction exposure due to debt positions in foreign currencies (USD), we can calculate the exchange rate gap of pindad by substract the exchange rate value of rupiah against dollar at PT. PINDAD's L/C issuing date with exchange rate value of rupiah against dollar at PT. PINDAD's L/C expired date, in order to calculate profit/loss of PT. PINDAD due to transaction exposure.

PT. PINDAD suffer highest loss due to transaction exposure in 2013, from all L/C transaction of import in 2013, PT. PINDAD suffer loss as big as Rp 64.265.201.909,58. This because in 2013, PT. PINDAD has the highest amount of import transaction and in 2013 is the most extreme condition of Rupiah depreciation against USD from this period of research. The lowest losses is occur in 2016 as the rupiah begin to apreciates against USD and also because 2016 PT. PINDAD has the lowest amount of import tanasaction, PT. PINDAD suffer loss only as big as Rp 15.716.259,12 in 2016.

More over the amount of loss that PT. PINDAD has to bear if PT.PINDAD using open position for its payable from import is about Rp 96.949.631.392,54. That huge amount of loss has to be bear by PT.PINDAD if it didn't use any hedging technique. This substansial losses due to fluctuation in foreign exchange rates, from PT.PINDAD import transaction in period of May 2013 until October 2016.

4.3 Analysis of PT. PINDAD debt value with Forward Hedging

Forward contract hedging can be done with PT. PINDAD by create contract with bank. This contract aims to determine the expired date of payment and also the amount of value of exchange rate value that will be paid by PT. PINDAD to bank in the future. If the expired date of PT. PINDAD occur, PT. PINDAD in this case will be execute the contract by buying amount of USD to the bank accordant the debt value of import transaction of PT. PINDAD, at a price that already agreed in the contract, to pay off its debt to the exporter.

The result of total value of debt to be borne by PT. PINDAD if using forward hedging in 2013, 2014, 2015 and 2016 respectively are Rp 389.337.052.977,22, Rp 402.567.288.333, Rp 479.338.931.805,77 and Rp 194.233.985.866,61.

Example calculation of debt value of import transaction of PT. PINDAD, using forward contract hedging on L/C transaction at May, 23 2013 as follows :

- Import Transaction Value : $ 2.347.856,60
- S0 : Rp 9.774,00
- R : 5,75%
- Rf : 0,11%
- T : 199 days (6,63 month)

Calculation :

a) Forward Rate

Forward Rate = $S_0 . e^{(R-Rf)T}$

Forward Rate = Rp 9.774,00 . $e^{(5,75\%-0,11\%)6,63}$

Forward Rate = Rp 10.083,49

b) Debt Value

Debt Value = Import Transaction Value x Forward Rate

Debt Value = $ 2.347.856,60 x Rp 10.083,49

Debt Value = Rp 23.674.583.815,14

We can see calculation above, on transaction at May, 23 2013 debt value of PT. PINDAD using forward contract hedging is Rp 23.674.583.815,14. Same calculation will be use to calculate another transaction within research period to calculate debt value using forward rate for each transaction. After debt value using forward rate of each transction already known, we sum up all to knowing the total amount of debt value of import transaction of PT. PINDAD each year.

4.4 Analysis of PT. PINDAD debt value with Money Market Hedging

Money market hedging can be done by PT.PINDAD, by borrowing of funds to the bank or to a third party in accordance with the present value of the debt value of imports in the form of local currency. Funds that obtained were then converted into usd and deposited. Deposit interest income and principal of deposit is used to pay its debts to exporters, meanwhile PT.PINDAD can pay its debts to creditors regularlyin line with the contract agreement between them.

The result of total value of debt to be borne by PT. PINDAD if using money market hedging in 2013, 2014, 2015 and 2016 respectively are Rp 388.808.811.377,53, Rp 402.679.960.679,98, Rp 478.895.009.131,03 and Rp 195.897.157.110,42.

For example, calculation of debt value of import transaction of PT. PINDAD, using money market hedging on L/C transaction at May, 23 2013 as follows :

- Import Transaction Value : $ 2.347.856,60
- Rupiah rate against USD : Rp 9.823,00
- Deposit Interest (USD) : 1%
- Credit Interest : 5,5%
- T : 199 days (6,63 month)

Calculation

a) Present Value

PresentValue : $PV = \frac{FV}{[1+(\frac{Deposit\ interest\ x\ n}{12})]}$

Present Value : $PV = \frac{\$\ 2.347.856,60}{[1+(\frac{1\%\ x\ n}{12})]}$

Present Value : Rp 2.334.950,52

b) Debt Principal

Debt Principal : PV x rupiah rate
Debt Principal : Rp 2.334.950,52 x Rp 9.823
Debt Principal : Rp 22.936.209.114,75

c) Debt Value

Debt Value: Debt Principal x $(1 + \frac{credit\ interest\ x\ n}{12})$

Debt Value : Rp 22.936.209.114,75 x $(1 + \frac{5,5\%\ x\ 6,63}{12})$

Debt Value : Rp 23.633.533.584,53

We can see calculation above, on transaction at May, 23 2013 debt value of PT. PINDAD using money market hedging is Rp Rp 23.633.533.584,53. Same calculation will be use to calculate another transaction within research period. After debt value using money market of each transction already known, we sum up all to knowing the total amount of debt value of import transaction of PT. PINDAD each year.

4.5 Pindad Import Debt Comparison Analysis Using Open Position, Forward Hedging and Money Market Hedging

Year	Technique		
	Open Position	Forward	Money Market
2013	Rp 443,173,465,707.88	Rp 389,337,052,977.22	Rp 388,808,811,377.53
2014	Rp 416,408,649,944.01	Rp 402,567,288,333.41	Rp 402,679,960,679.98
2015	Rp 466,041,790,956.12	Rp 479,338,931,805.77	Rp 478,895,009,131.03
2016	Rp 189,302,538,072.01	Rp 194,233,985,866.61	Rp 195,897,157,110.42
Total	Rp 1,514,926,444,680.02	Rp 1,465,477,258,983.00	Rp 1,466,280,938,298.96

From the table above can be seen differences in the value of corporate loans using the three techniques above, namely open position, forward hedging and money market hedging. The total value of debt to be borne by the company when using open position is as big as Rp. 1.514.926.444.680,02. While the total value of debt to be borne by the company when using forward hedging is as big as Rp 1.465.477.258.983. More over the total value of debt to be borne by the company when using money market hedging is as big as Rp 1.466.280.938.298,96.

If we look more closely each year, at 2013 the result of total value of debt to be borne by PT. PINDAD using the three techniques above, namely open position, forward hedging and money market hedging, respectively Rp 443,173,465,707.88, Rp 389,337,052,977.22 and Rp 388,808,811,377.53. From this data in 2013 we can see that using hedging technique is more beneficial than using open position or no hedge at all. This because the average of exchange rate gap between L/C issuing date and L/C expired date is about – Rp 1294,7 or when the total debt transaction in 2013 is done when Rupiah depreciate against USD.

More over at 2014 the result of total value of debt to be borne by PT. PINDAD using the three techniques above, namely open position, forward hedging and money market hedging, respectively Rp 416,408,649,944.01, Rp 402,567,288,333.41 and Rp 402,679,960,679.98. From this data in 2014 we can see that using hedging technique is more beneficial than using open position or no hedge at all. This because the average of exchange rate gap between L/C issuing date and L/C expired date is about – Rp 564,418 or when the total debt transaction in 2014 is done when Rupiah depreciate against USD.

While at 2015 the result of total value of debt to be borne by PT. PINDAD using the three techniques above, namely open position, forward hedging and money market hedging, respectively Rp 466,041,790,956.12, Rp 479,338,931,805.77 and Rp 478,895,009,131.03. From this data in 2015 we can see that using open position or no hedge at all is more beneficial than using hedging technique. This because the average of exchange rate gap between L/C issuing date and L/C expired date is about Rp 42,574 or when the total debt transaction in 2015 is done when Rupiah apreciate against USD.

Same as in 2015, in 2016 using open position or no hedge at all is more beneficial than using hedging technique. As the result of total value of debt to be borne by PT. PINDAD using the three techniques above, namely open position, forward hedging and money market hedging, respectively Rp 189,302,538,072.01, Rp 194,233,985,866.61 and Rp 195,897,157,110.42. This because the average of exchange rate gap between L/C issuing date and L/C expired date is

about Rp 44,666 or when the total debt transaction in 2016 is done when Rupiah apreciate against USD.

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Forward	.034	183	.200*	.987	183	.101
Open_Position	.038	183	.200*	.988	183	.108
Money_Market	.034	183	.200*	.987	183	.100

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

4.6 Normality Test

The normality test result of the data, with hypothesis and criteria below is :

- Hypothesis:
  H0: the data is normally distributed
  H1: data is not normally distributed
- Test criteria:
  1. Reject Ho if sig <0,05
  2. Accept Ho if sig ≥ 0.05

The normality test result is based on table above, the sig values for Forward, Open Position, and Money Market, respectively of 0.200. Because the sig value is greater than 0.05 then Ho is accepted, it means the data is normally distributed.

4.7 T-test Result

Category	Paired Differences (Mean)	t	Df	Sig. (2-tailed)	Result
Forward Open Position	-0,00623	-2,592	182	**0,010**	Significant
Money Market Open Position	0,00539	2,222	182	**0,027**	Significant
Forward Money Market	-0,00084	-6,859	182	**0,000**	Significant

The basis of decision making used in the T-test is as follows:

1) If the probability value of significance > 0.05, then the hypothesis is rejected. The hypothesis rejected means that the independent variable has no significant effect on the dependent variable.
2) If the probability value of significance < 0.05, then the hypothesis is accepted. The hypothesis can not be denied to mean that the independent variable has a significant effect on the dependent variable.

The T-test result of the data, with hypothesis and criteria below is :

- Hypothesis:

H01: there is no difference between Forward and open Position
H11: there is a difference between Forward and open Position
H02: there is no difference between Open Position and Money Market
H12: there is a difference between Open Position and Money Market
H03: there is no difference between Forward and Money Market
H13: there is a difference between Forward and Money Market

- Test criteria:
  1. Reject Ho if sig <0,05
  2. Accept Ho if sig ≥ 0.05

Based on the above table can be concluded as follows:

1) Forward and Open Position has an average difference of -0.00623 with sig value of 0.010, because the sig value (0.010) <0.05 then Ho is rejected, meaning there is a significant difference between Forward and Open Position.
2) Open Position and Money Market has an average difference of 0.00539 with a sig value of 0.027, because the value of its sig (0.027) <0.05 then Ho is rejected, meaning there is a significant difference between Open Position and Money Market.
3) Forward and Money Market has an average difference of -0.00084 with a sig value of 0.000, because the value of sig (0.000) <0.05 then Ho is rejected, meaning there is a significant difference between Forward and Money Market.

4.8 Risk Measurement

	Open Position	Forward	Money Market
Range	Rp 733.66	Rp 335.83	Rp 440.00
St. Dev	638,36	204,76	222,71

From the data above we can conclude that in period of May 2013 until October 2016, the least risky hedging method is forward hedging, its proved by the value of average range of exchange rate and standart deviations of forward hedging has the smallest value namely, Rp 335,83 and 204,76. And the second least risky hedging method is money market hedging with average range of exchange rate and standart deviations value is about Rp 440 and 222,71. While most risky method is open position or no hedge at all with average range of exchange rate and standart deviations value is about Rp 733,66 and 638,36.

5. Conclusions

Based on the analysis of the use of hedging techniques using forward hedging and money market hedging on the import transactions debt of PT. PINDAD period May 2013 - October 2016, then obtained the following conclusions:

1) Using hedging technique in this research is more beneficial in 2013 and 2014, this because along within this period debt average of exchange rate gap between L/C issuing date and L/C expired date is minus or when the total debt transaction in 2013 and 2014 is done when Rupiah depreciate against USD. In this case Hedging technique is best to be done when Rupiah depreciate against USD.
2) Overall the value of the company's import debt when using the forward contract hedging is less than the value of the company's import debt if its using open position, which there is savings about Rp 49.449.185.697,02. While the value of the company's import debt when using

the money market hedging is less than the value of the company's import debt if its using open position also, which there is savings about Rp 48.645.506.381,07. Along with this findings, based on calculation T-test, there is a difference of average value of import company's debt if using forward hedging technique with open position and also money market hedging technique with open position.

3) Based on risk measurement in this period of research, the least risky hedging method is forward hedging, its proved by the value of average range of exchange rate and standart deviations of forward hedging has the smallest value namely, Rp 335,83 and 204,76. And the second least risky hedging method is money market hedging with average range of exchange rate and standart deviations value is about Rp 440 and 222,71. While most risky method is open position or no hedge at all with average range of exchange rate and standart deviations value is about Rp 733,66 and 638,36.

6. Suggestions

According finding in this research about managing transaction exposure of import debt of PT. PINDAD author suggest that :

1) PT. PINDAD must create an analysis of global, regional and domestic economic conditions as well as other factors that impact on movement of exchange rate.
2) If the trends of rupiah in the future will be appreciate aginst USD better for PT. PINDAD not to hedge its import debt.
3) If the trends of rupiah in the future will be depreciate aginst USD better for PT. PINDAD to hedge its import debt, particularly using forward hedging technique.
4) Along if there is an external shock on the economy then better for PT. PINDAD to hedge its import debts, particularly using forward hedging technique.

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