

## **THE IMPACT OF FX (FOREIGN CURRENCY EXCHANGE) ON THE BOTTOM LINE OF TEXTILE/SHOES INDUSTRIES LISTED IN INDONESIA STOCK EXCHANGE 2006-2008**

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### **ABSTRACT**

*During 2006-2008, Indonesia has been experiencing depreciation of IDR against world currency US\$. The situation was triggered by global crisis October 2008, and IDR currency plunged. Furthermore, 17 textile/shoes industries publicly listed in ISX have been severely hit by depreciation of IDR. The “Huge Loss of Bottom Line” in 2008 was recorded (IDR 617 billions) more than half of trillion IDR. To be curious the most of industry are manufacturer-exporter.*

*Year 2007, national textile industry overwhelmingly reports the export sales of US\$ 10.05 billion and the raw material import was US\$ 2.04 billions. By these facts, Income contribution from textile/shoes industries sector was US\$ 8.01 billion and became a mile stone of the achievement. Depreciation of IDR currency is an advantage to the exporter as product become cheaper for foreign buyer while import goods costly to foreign seller.*

*The aim of this research is to describe the impact of FX on the bottom line of the Textile/Shoes Industries listed in ISX during 2006-2008, a period when the profit performance has been fallen sharply in line with the depreciation of IDR currency. By using the mathematical regression equation is surprisingly proven that FX adversely impact to the “bottom line” of the industry. The equation model selected Net Income as dependent variable while Operating Profit, Financial Charges and FX (Forex) as the independent variable.*

*From the outcome of the research, the dilemma between operation and financial leverage is revealed. Depreciation IDR was negatively reduced the “bottom line” this was mainly due to higher FX loss. By the end of December 2008, 17 shoes/textile industries have been suffered a huge loss of FX, and recorded FX Loss (IDR 564 billions), in connection with “high financial leverage denominated in US\$ currency”. The snapshot of balance sheet position is called “Net Short Asset to US \$”. Only 5 Industries were making money among 17 industries during 2008. Only one company had already “hedged” their exposure to FX. Only one company who reported profit show “debt to equity ratio” is much lower than average industry (US Textile Manufacturing)*

*However, under the operational expectation, the depreciation of IDR currency encourage better performance of “export oriented company”. This is the dilemma that textile/shoes industries have been exposed to financial risk in one side and on the other side operational risk (competitiveness).*

**Keywords:** *net short asset to US\$, financial leverage and financial risk, operational risk, foreign exchange loss, depreciation of IDR.*

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## INTRODUCTION

Indonesian textile industry has been contributing to the country economic added value for the welfare of the people. Textile industry mainly is an export oriented company using imported raw materials and strategically supporting the 1,841,520 Formal Employment Sector. Which is the highest employment contributor in the manufacturing sector.

Raw material for textile industry is traded as a “world commodity”. Generally cotton fiber is the important main raw material of textile industries. The textile industry have been heavily depend on raw cotton from world cotton grower such as USA, China, India, Australia, Pakistan, South West Africa, Uzbekistan etc. Year 2007 textile industry sector have been reporting export sales of US\$ 10.05 billion, in conjunction with the imported raw materials of US\$ 2.01 billion. By this facts, therefore income for foreign currency were US 8.04 billion, recorded the country highest achievement, and contribute 2.4 % from GDP

Year 2006-2008 IDR currencies have been depreciated against major currency US\$. IDR plunged in the 4<sup>th</sup> quarter of 2008 when Sub prime Mortgage Crisis triggered the depreciation of world currencies. 17 textile industries have been hit by weakening of IDR against US\$, and total 17 textile/shoes industries suffered the loss of (IDR 617 billions) more than half trillion IDR. Depreciation of IDR is supposed to be an advantage among the exporter as product from the home country is getting cheaper to “Foreign Buyer” and “imported products” is getting expensive to “Foreign Seller”. Therefore, the depreciation of IDR should benefit to manufacturer exporter consequently encourage the export industry to work with higher volume to achieve a highest utilization of plant.

The objectives of operational function and financial function in fact are not always in the same direction. Operational Manager would

like to have a lower exchange rate of IDR currency against US Dollar currency to encourage export, but on the other side the profitability result show the textile industry suffered the loss during 2006-2008.

Research question of this research is “textile industry has been suffered loss, in connection with funding in foreign currencies”. This paper is described by 5 parts as follows:

- Part 1 Theory and the development of hypotheses;
- Part 2 Research Method and Data Sampling;
- Part 3 Results;
- Part 4 Managerial Implication;
- Part 5 Conclusion, Suggestion, and Future Research.

## THEORY AND HYPHOTHESES

Economic Factor and Financial Factors are the main root cause of “Business Failure”. Table 1 D&B report shown the information how important both of factor to be carefully managed by corporation in order to survive in the global environment of business, like what has happened in the nation wide textile industry period 2006-2008.

**Tabel 1.** Causes of Business Failure

Cause of Failure	Percentage of Total
Economic Factor	37,10%
Financial Factors	47,30%
Neglect, Disaster and Fraud	14,00%
Others	1,60%
Total	100,00%

Source: Brigham and Erhardt (2005:814)

### 1. Probability of Default

Modigliani and Miller introduced the financial theorem on leverage (paper published in 1958). The use of certain level of

debt, benefit to the return of the equity, but the higher ratio to debt poses the higher financial risk of the company. MM theory is having two propositions— (1) and (2).

Proposition I:

$$V_L = V_U + T_C D \quad (1)$$

Where:

$V_L$  = is the value of a levered firm.

$V_U$  = is the value of an unlevered firm.

$T_C D$  = is the tax rate ( $T_C$ ) x the value of debt ( $D$ )

The term  $T_C D$  assumes debt is perpetual

The value of levered firm is equal to the value of unlevered firm in the same risk class ( $V_U$ ) plus the gain from leverage. The gain from leverage is the value of the tax savings found as the product of the corporate tax rate ( $T_C$ ). The important here is the corporate taxes are introduced the value of levered firm exceeds that the value of unlevered firm by the amount of  $T_C D$ . This means that there are advantages for firms to be levered, since corporations can deduct interest payments. Therefore leverage lowers tax payments. Dividend payments are non-deductible.

Proposition II:

$$r_E = r_0 + \frac{D}{E}(r_0 - r_D)(1 - T_C) \quad (2)$$

Where:

$r_E$  = is the required rate of return on equity, or cost of levered equity  
= unlevered equity + financing premium

$r_0$  = is the company cost of equity capital with no leverage (unlevered cost of equity, or return on assets with  $D/E = 0$ )

$r_D$  = is the required rate of return on borrowings, or cost of debt

$D/E$  = are the debt-to-equity ratio

$T_C$  = is the tax rate

The same relationship as earlier described is stating that the “cost of equity” rises with leverage, because the risk to equity rises, still holds. The formula however has implications for the difference with the WACC (Weighted Average Cost of Capital). Their second attempt on capital structure included taxes has identified that as the level of gearing increases by replacing equity with cheap debt the level of the WACC drops and an optimal capital structure does indeed exist at a point where debt is one hundred percents (100%).

The following assumptions are made in the propositions with taxes:

1. Corporations are taxed at the rate  $T_C$  on earnings after interest;
2. No transaction costs exist; and
3. Individuals and corporations borrow at the same rate.

Financial leverage theorem has brought the consequences for capital market. When misinterpreted in practice, that is can justify the increase of risk.

“The Probability of Default” as shown in figure 1, to which corporation need to control the optimum Debt To equity Ratio (DER). However, under the denomination of foreign currency of debt, economic “factors” such as exchange rate became main cause to the debt ratio. Debt to equity is becoming difficult to control and increasing the probability of default.

## 2. Foreign Exchange Rates and Foreign Exchange Risk

A foreign exchange rate is the price at which one currency (example: US\$) can be exchanged for another currency (example IDR). Foreign exchange rates are listed on two ways: 1) US\$ Received for one unit of the foreign currency exchanged or a “Direct Quote” (US\$ “Equivalent), and 2) foreign currency received for each US\$ exchanged, or an indirect quote BI central bank has an-

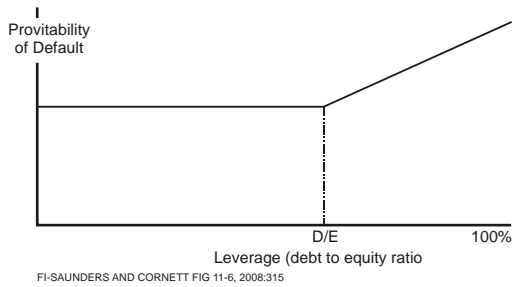
nounced daily foreign exchange rate follow to “indirect quote” version. See table 2.

**Table 2.** US\$ Equivalent and Currency per US\$

Date : October 19, 2006, Thu

Country	Direct Quote	Indirect Quote
	US \$ Equivalent	Currency per US\$
Argentina (peso)	0.3238	3.0883
Australia (Dollar)	0.7598	1.3161
China	0.1265	7.9082
Indonesia (Rupiah)	0.00010940	9,141

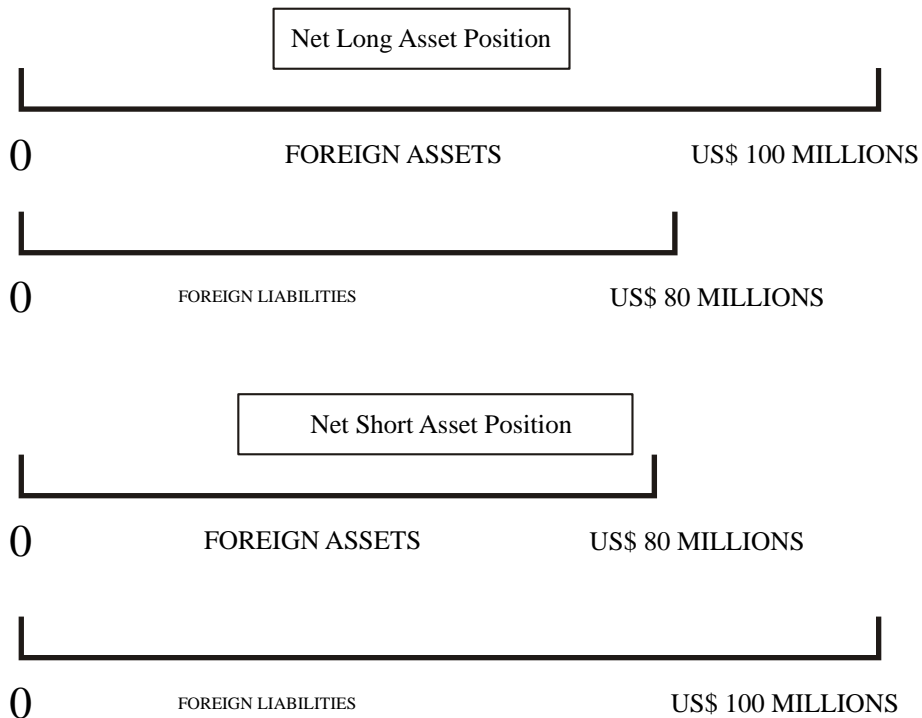
Source: Saunders and Cornet (2008:401)



Source: Saunders and Cornet (2008: 315)

**Figure 1.** Probability of Default

Foreign exchange risk is the risk that exchange rate changes can adversely affect the value of asset and liabilities denominated in US\$ currency but reported in local IDR currency.



Source: Saunders and Cornet (2008:178)

**Figure 2.** Net Long and Net Short Asset Positions

**3. Net Long Asset Position and Net Short Asset Position**

**3.1. Net Long Asset Position**

If we have foreign assets of US\$ 100 millions, and in the same time we have foreign liabilities of US\$ 80 millions, therefore we called this position as “Net Long Asset Position “ to US\$ 20 millions. See figure 2.

**3.2. Net Short Asset Position**

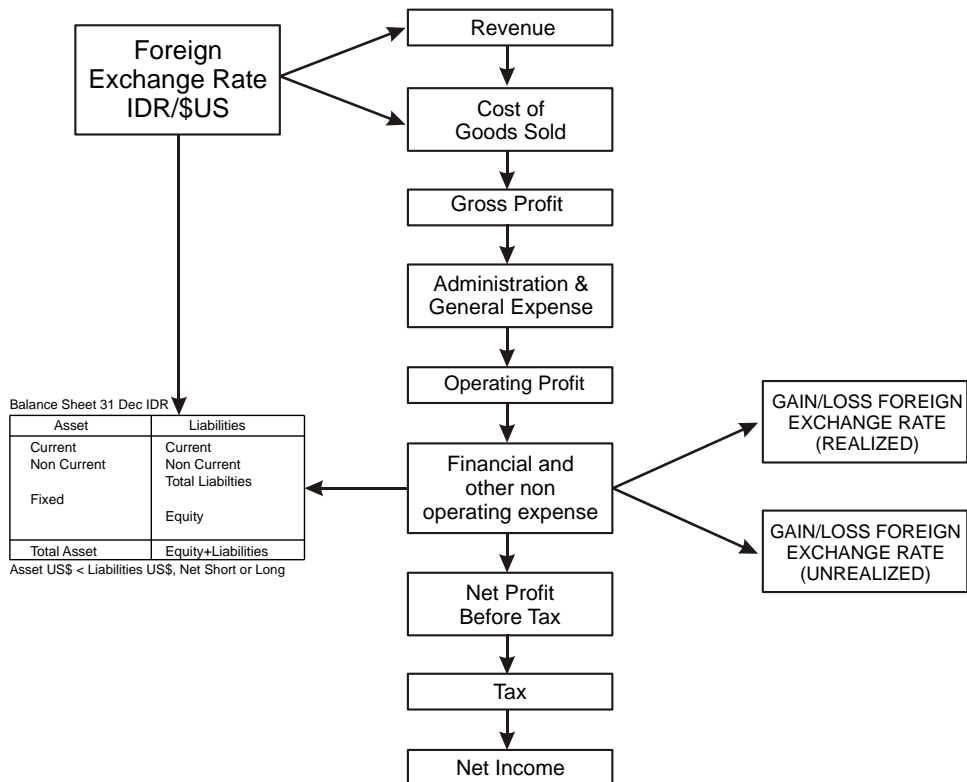
If we have a foreign asset of US\$ 80 millions, and in the same time we have a foreign liabilities if US\$ 100 millions, therefore we called this position as “Net Short Asset

Position” to US\$ 20 millions. See figure 2.

**4. Appreciation and Depreciation of Home Currency to The Export Business**

The appreciation of country currency (or rise in its relative value to other currencies) means that goods are more expensive for foreign buyer and that foreign goods are cheaper to foreign sellers. Thus domestic manufacturer find it harder to sell the goods abroad and foreign manufacturers find it easier to sell their goods to domestic purchaser. Conversely, depreciation of foreign currency (or fall in its value relative to other currencies) means that country goods become cheaper for

THE IMPACT OF FOREIGN EXCHANGE RATE IDR/\$US TO THE BOTTOM LINE OF THE TEXTILE/ SHOES INDUSTRIES LISTED IN INDONESIA STOCK EXCHANGE 2006-2008



Source: Compiled and rearranged from Brigham and Erhardt (2005), Govindarajan and Anthony (2007)

**Figure 3.** Impact of Foreign Exchange to Income Statement and Balance Sheet

foreign buyer and foreign goods become more expensive to foreign sellers (Saunders A., Cornett M, Financial Institution Management)

#### 4.1. Hypotheses

From the reference and study of the above materials, topics relevant to the issue, 3 (three) hypotheses statements have been constructed as follows:

1. Hypothesis one:

$H_0; \mu=0$  Operating profits do not impact to the net income.

$H_1; \mu \neq 1$  Operating profits do impact to the net income.

2. Hypothesis two:

$H_0; \mu=0$  Financial charges do not impact to the net income.

$H_1; \mu \neq 1$  Financial charges do impact to the net income.

3. Hypothesis three:

$H_0; \mu=0$  Foreign exchange rates do not impact to the net income.

$H_1; \mu \neq 1$  Foreign exchange rates do impact to the net income.

## RESEARCH METHOD AND DATA SAMPLING

### 1. The Impact of Foreign Exchange (FX) to The Bottom Line

“Income Statement” of the company reflects the performance of company operation for certain period hence “Balance Sheet” is the company position at a snapshot date. The flow of “Foreign Exchange Rate” shall impact to the Income Statement and Balance Sheet of the corporations as figure 3 which shows the impact of foreign exchange to income statement and balance sheet.

The understanding of the flow diagram in figure 31 is how the manufacturer-exporter exposed to the impact of the foreign currency exchange, from the top to the bottom of flow:

1. Revenue from export income denominated in US\$, Reflect to Account Receivables denominated US\$ as well as a cash;
2. COGS (Cost of Goods Sold), imported of raw material denominated in US\$ reflect to account payable denominated US\$ as well as inventory stocks, trade payable and cash;
3. Financial Leverage applied to short and long term loan, denominated in US\$. Financial charges will reflect to the interest cost, gain/loss of foreign exchange rate realized and unrealized at the snapshot date;
4. “Balance Sheet” consists of both asset and liabilities. Asset is part of it denominated in US\$ and liabilities is part of it denominated in US\$. Balance sheet is to be reported in IDR denomination currency at a snapshot date using the official foreign exchange rate published by BI (*Bank Indonesia*).

## 2. Research Method

1. Data analysis of income statement from revenue, cogs, gross profit, and operating profit/earnings before interest tax, net income, and data has been published by ISX;
2. Data analysis of balance sheet published by ISX;
3. “Statistical Analysis” and interpretation of the mathematical regression multi variable and model as an outcome of the research;
4. Basic and relevant theory:
  1. Modigliani and Miller (MM Theory) on Debt Leverage;
  2. Financial Management for Financial Institution;
  3. Foreign Exchange Risk and Financial Risk Management;
  4. Global Economic on Trade and Export.

### 3. Data Sampling

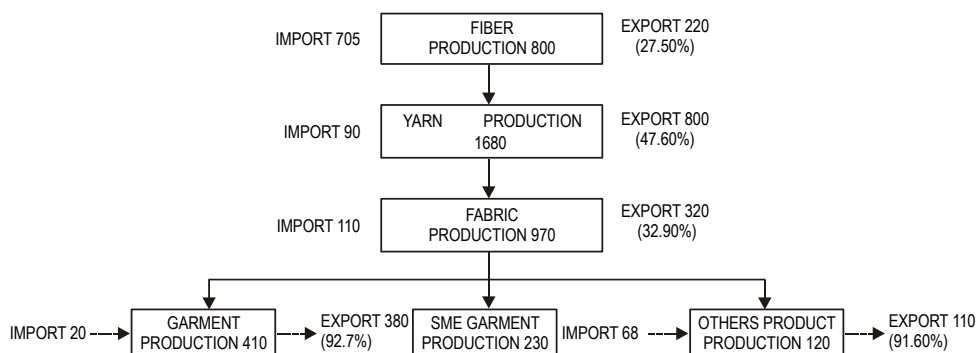
Textile industry configures from fiber to readymade garment for general “consumers” and others is used for specific purposes such as “air bag” for automotive Industry, “geo textile” for construction road etc. The raw material fiber is converted to intermediate products and then process to finished products. The flow from “upstream” to “downstream” of

textile Industry in Indonesia are shown the figure 4 (volume in thousands tons /annum).

#### 3.1 Archives Observation

17 leading textile manufacturers and exporters in Indonesia until the date of the research as table 3.

This research aim to describe the impact of foreign exchange currencies to the bottom



Source: Indonesiatextile (2010)

**Figure 4.** Research Object

**Table 3.** Compilation “Textile and Shoes listed BEI”

Company	Code	Type
1 PT Argo Pantes tbk	ARGO	Fiber-Spinning
2 PT Century Textile Industri tbk.	CNTX	Fiber-Spinning
3 PT Panasia Filamentt tbk	PAFI	Fiber-Spinning
4 PT Panasia Indosyntec tbk.	HDTX	Fiber-Spinning
5 PT Roda Vivatex tbk.	RDTX	Fiber-Spinning
6 PT Indonesia Teijin Fiber Corporation (TIFICO)	TFCO	Fiber-Spinning
7 PT Apac Citra Centertext tbk	MYTX	Weaving Dyeing Finsishing
8 PT Delta Dunia Petroindo tbk	DDP	Weaving Dyeing Finsishing
9 PT Ever Shine Tex tbk	ESTI	Weaving Dyeing Finsishing
10 PT Indo Rama Synthetic tbk	NDR	Weaving Dyeing Finsishing
11 PT Karwell Indonesia tbk	KARW	Weaving Dyeing Finsishing
12 PT Pan Brothers Tex	PBRX	Weaving Dyeing Finsishing
13 PT Ricky Putra Globalindo tbk	RICY	Weaving Dyeing Finsishing
14 PT Fortune Mate Indonesia tbk	FMII	shoes
15 PT Primarindo Asia Infrastruktur tbk	PRIMA	shoes
16 PT Sepatu Bata tbk	BATA	shoes
17 PT Surya Intrindo Makmur tbk	SIMM	shoes

Source: Indonesia Stock Exchange (2010)

line of textile/shoes industry listed in Indonesia Stock Exchange-ISX during the period 2006-2008. This research is expected to the benefit of the industry and to get the root cause of the problem on how to support textile industries and others business in order to maximize profit during the volatility of the FX.

## RESULT

### 1. Dependent and independent variable

The variable for the research has been selected; Y= Net Income as the dependent variable, three independent variables are *Laba Bersih* (Operating profit) =X<sub>1</sub>, Financial Costs =X<sub>2</sub>, and Rp/US\$ Exchange Rate at a snapshot=X<sub>3</sub>.

$$Y = \alpha + \beta_1.X_1 + \beta_2.X_2 + \beta_3.X_3 + \varepsilon \quad (3)$$

Where:

Constanta =  $\alpha$

Coefficient of Operating Profit = +  $\beta_1$

Coefficient of Financial Charges = +  $\beta_2$

Coefficient of Foreign Exchange Rate= +  $\beta_3$

### 2. Classical Test

#### 2.1. Autocorrelation Test

Durbin Watson (DW) test by SPSS package. DW test number has been obtained as the model summary in table 6.

DW test score 2.057 concludes of no autocorrelation. DW test score -2, 4 indicate that the data is auto-correlated.

#### 2.2. Multicollinearity Test

In table 7., the data result gives VIF (Variable Inflation Factor) score below 10, indicates of no multicollinearity.

#### 2.3. Heteroscedasticity Test

Heteroscedasticity test is done by scatter plot and shown table 8 and figure 5 show no regularity pattern, all plots scattered above 0 levels and below zero level.

**Table 4.** Net Income, Operating Profit, Financial Charges, Foreign Exchange Rate

	y	x1	x2	x3
1	-78202	-83479	17028	9020
2	14419	25753	-2152	9020
3	-42784	-76068	-17043	9020
4	344	2852	2698	9020
5	34577	24654	113	9020
6	-51550	-27667	-1074	9020
7	3950	8221	-19811	9020
8	2231	2671	1433	9020
9	-70009	-26073	-537	9020
10	2003	6618	-4300	9020
11	-74429	-64292	-11893	9020
12	2328	20015	-7613	9020
13	38225	63452	-21152	9020
14	2785	5072	885	9020
15	4946	-4434	14363	9020
16	20160	36301	-5827	9020
17	-10526	-1731	-4784	9419
18	-179143	-32577	-76126	9419
19	-19791	-14972	-9677	9419
20	-80261	-59607	-25461	9419
21	1374	17148	-20919	9419
22	34821	27046	-2381	9419
23	-32061	-14805	-3733	9419
24	-50425	49019	-126945	9419
25	5561	10022	-186339	9419
26	-21164	3730	-16825	9419
27	2310	10784	-7880	9419
28	6019	21219	-29713	9419
29	24796	49519	-34656	9419
30	41395	63769	-25499	9419
31	4518	11423	-4749	9419
32	10311	1767	-8185	10950
33	34577	61693	-730	10950
34	-30860	9828	-37923	10950
35	-188504	-123577	-144095	10950
36	-91252	-17826	-60010	10950
37	-145864	-83925	-62945	10950
38	1374	17148	-34261	10950
39	57109	80735	-12218	10950
40	-57	-23	-5277	10950
42	-145981	-200676	-259156	10950
42	-29675	9338	-33316	10950
43	7408	8162	-6177	10950
44	-60392	-17247	-38814	10950
45	-41535	58970	-106214	10950
46	-9374	27544	-42694	10950
47	-25957	5780	-15085	10950
48	-21734	9828	-32640	10950
49	157562	56102	3426	10950
50	-58280	-27441	-11938	10950



**Table 5.** Data Variables Selected

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Net Income	50	-188504	157562	-20894.14	60096.758
Operating Profit	50	-200676	80735	-1404.74	50220.091
Financial Charge	50	-259156	17028	-30776.42	51714.010
Exchange Rate US\$/IDR	50	9020	10950	9873.10	866.286
Valid N (listwise)	50				

**Table 6.** DW Test

Model Summary <sup>b</sup>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.806 <sup>a</sup>	.650	.627	36716.001	2.057

a. Predictors: (Constant), Exchange Rate US\$/IDR, Operating Profit, Financial Charge

b. Dependent Variable: Net Income

**Table 7.** VIF (Variable Inflation Factors)

Coefficients <sup>a</sup>						
Model		Correlations			Collinearity Statistics	
		Zero-order	Partial	Part	Tolerance	VIF
1	Operating Profit	.784	.727	.626	.806	1.241
	Financial Charge	.507	.270	.166	.733	1.364
	Exchange Rate US\$/IDR	-.133	-.053	-.032	-.900	1.111

a. Dependent Variable: Net Income

**Table 8.** Residual Statistic

Residuals Statistics <sup>a</sup>					
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-241251.52	49376.22	-20894.14	48436.455	50
Std. Predicted Value	-4.549	1.451	.000	1.000	50
Standard Error of Predicted Value	5907.842	26580.729	9670.704	3822.953	50
Adjusted Predicted Value	-346175.69	48408.24	-22894.11	58939.697	50
Residual	-123051.8	125227.09	.000	35574.290	50
Std. Residual	-3.351	3.411	.000	.969	50
Stud. Residual	-3.440	3.761	.022	1.087	50
Deleted Residual	-129607.5	200194.67	1999.973	46517.465	50
Stud. Deleted Residual	-3.947	4.471	.036	1.214	50
Mahal. Distance	.289	24.701	2.940	4.078	50
Cook's Distance	.000	3.895	.105	.552	50
Centered Leverage Value	.006	.504	.060	.083	50

a. Dependent Variable: Net Income

2.4. Normality Test

Dependent variable and independent variable need to be tested for normal distribution of data. The test has been done for the net income figures 6.

3. Regression Model

It is selected three independent variables, Operating Profit, Financial Charges and Exchange rate US\$/IDR (FX) by SPSS package, showed result  $R^2$  ( $R^2_{adj}=0.627$ ) meaning 62.7%

is explained by mathematical model while 37.3% by others factor outside the model.

Regression and equation model, significant test and  $R^2_{adj}$  are shown in equation (4).

$$Y = 10100 + 0.835X_1 + 0.225X_2 - 2.318X_3 + \epsilon \quad (4)$$

$$F = 28.6 \quad t = 7.176 \quad t = 1.903 \quad t = 0.353 \quad R^2_{adj} = 0.627$$

Thus, regression model confirms the relationship within variables and the degree of correlation is 0.627.

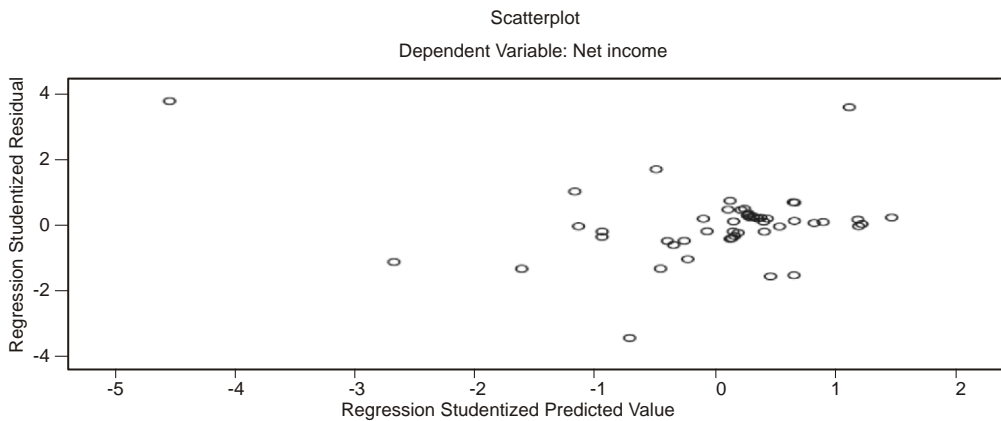


Figure 5. Scatter Plots

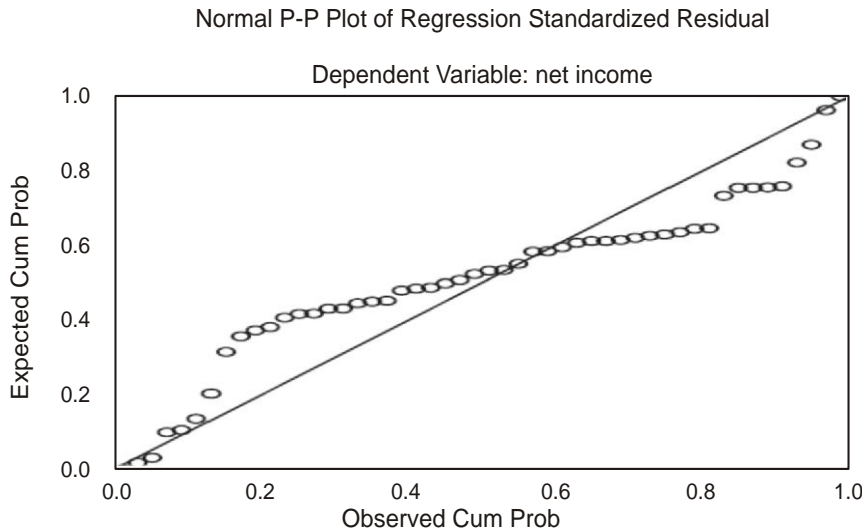


Figure 6. Normality Test

**Table 9. Coefficient**

		Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	10100.460	62200.720		.162	.872	-115103.095	135304.014
	Operating Profit	.835	.116	.698	7.176	.000	.601	1.069
	Financial Change	.225	.118	.194	1.903	.063	-.013	.464
	Exchange Rate US\$/IDR	-2.318	6.382	-.033	-.363	.718	-15.164	10.529

a. Dependent Variable: Net Income

**4. Interpretation**

$$\begin{aligned} \text{Net Income} = & 10100 + \\ & 0.835 \text{ Operating Profit} + \\ & 0.225 \text{ Financial Charges} - \\ & 2.318 \text{ Exchange Rate IDR/US\$} + \\ & \text{Disturbance Factor} \end{aligned} \quad (5)$$

By the regression model interpreted as follows:

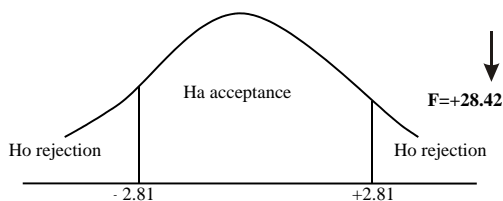
1. Net income will be constant at 10.10 billion IDR it is not influenced by any changes in operating profits, financial charges and FX rates, but to be influenced by factors outside the model.
2. By the changes of operating profits shown the same up and downward trend, if operating profits increase by 1 billion IDR, net income increases to 0.835 billion IDR and the opposite.
3. By the changes of financial charges, shown the same up and downward trend, if financial charges increase by 1 billion IDR, net income increases to 225 million IDR and the opposite.
4. FX Rate stated with MINUS SIGN coefficient, means any increase of the FX

rate (depreciation) will impact and reduce net income. If FX rate increases 1000 points, net income reduces by 2.3 billions IDR, if FX rate decreases 1000 points, net income increases by 2.3 billions IDR.

**4.1. Hypotheses Test**

- $\alpha=5\%$ ,  $n=50$  and independent variable,  $k=3$
- $df=n-(k+1)= 46$
- $F_{table}=2.81$

From Table 10.  $F_{calculation}=28.42$  therefore  $F_{calculation} > F_{table}$ . Significant value is 0.00.



**Figure 7. Hypothetic Test;** Constructed from  $F_{tabel}=2.81$ , two tail, Normal Distribution Curve.

**Table 10. ANOVA**

		ANNOVA <sup>b</sup>				
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1E+011	3	38319472680	28.426	.000 <sup>a</sup>
	Residual	6E+010	46	1348064694		
	Total	2E+011	49			

a. Predictors: (Constant), Exchange Rate US\$/IDR, Operating Profitl, Financial Change

b. Dependent Variable: Net Income

1. Hypothesis one: operating profits do not impact to the net income in the Ho rejection area.

Decision: operating profits do impact positively (+) to the net income.

2. Hypothesis two: financial charges do not impact to the net income in the Ho rejection area.

Decision: financial charges do impact positively (+) to the net income.

3. Hypothesis three: FX does not impact to the net income is in the Ho rejection area.

Decision: FX rates do impact negatively (-) to the net income.

### 5. Depreciation of IDR Adversely Impact The Bottom Line

From the equation model the significant correlation among operating profit, financial charges and FX rate, all together are showing the wide impact of external factors foreign currency to the bottom line of the textile industry during 2006-2008. It is obvious there are “unique” outcome of the equation mathematical model as Net Income are in line with the movement of operating profit and financial charges but foreign exchange is moving in the opposite direction of net income. It is proven that depreciation of IDR currency during 2006-2008 is adversely affected to the bottom line. This negative effect of the depreciation of IDR to the bottom line is revealing the “loss factor” is caused by funding or debt. The

unique position of foreign exchange to the net income describes two important situations as follows:

1. Under situation of IDR depreciation, the bottom line (net income) will be reduced;
2. Under situation of IDR appreciation, the bottom Line (net income) will be increased.

### 6. Why Depreciation of IDR (FX) Negatively Impacts to The Net Income?

Analysis of the mathematical model is assisted by data in table 11.

See in particular a “foreign exchange gain/loss”. It is concluded “loss factor” is caused by balance sheet at a “snapshot” end year closing book thus 17 textile industries are in “Net Short Asset Position to US\$”.

## MANAGERIAL IMPLICATIONS

### 1. The dilemma “Operational Leverage” and “Financial Leverage”

Research outcome has been sighting the dilemma between operational leverage and financial leverage. By Financial leverage, it is proven in the research outcome that the depreciation of IDR can adversely affect the net income, therefore this situation should not benefit to the net income and in the opposite, the appreciation of IDR should add to the net income thus is an advantage to the net income.

**Table 11.** Net Income, Operating profit, Foreign Exchange Gain/Loss

Total	17 Textile Industry		
	2006	2007	2008
Net Income	(178,997,055,584)	(248,020,086,162)	(617,443,878,402)
Operating profit	(32,053,054,546)	(248,020,086,162)	(250,795,430,020)
Foreign Exchange gain/loss	180,518,035,926	(159,704,331,299)	(564,787,452,086)
Asset	6,701,477,714,230	7,765,503,987,872	8,592,564,549,978

Source: annual report IDR currency, Indonesia Stock Exchange

Operational leverage; textile industry as manufacturer – exporter in favorance with the depreciation of IDR, this situation shall increase the potential sales and country product become competitive and cheaper to the foreign buyer. Seventeen textile/shoes industries commonly operates with high operational leverage therefore the slowing down of sales lead to lower utilization of capacity and face the “operational risk”, during the appreciation of IDR.

**2. Global Business and Economic Environment 2006-2008**

Indonesia Central Bank (BI) as the monetary authority has been implementing “Man-

aged Floating” policy in FX trading. Triggered by Mortgage Crisis USA, IDR was plunged in the lowest level in 4<sup>th</sup> quarter 2008 see figure 8c.

**Table 12.** Middle Rate IDR/US\$; Summarized BI data

Indonesia Central Bank - BI

Date	Selling	Buying	Mid rate
29 December 2006	8,975	9,065	9,020
28 December 2007	9,372	9,466	9,419
31 December 2008	10,895	11,005	10,950

Source: [http://www.bi.go.id/biweb/Templates/Moneter/Default\\_Kurs\\_ID.aspx](http://www.bi.go.id/biweb/Templates/Moneter/Default_Kurs_ID.aspx)



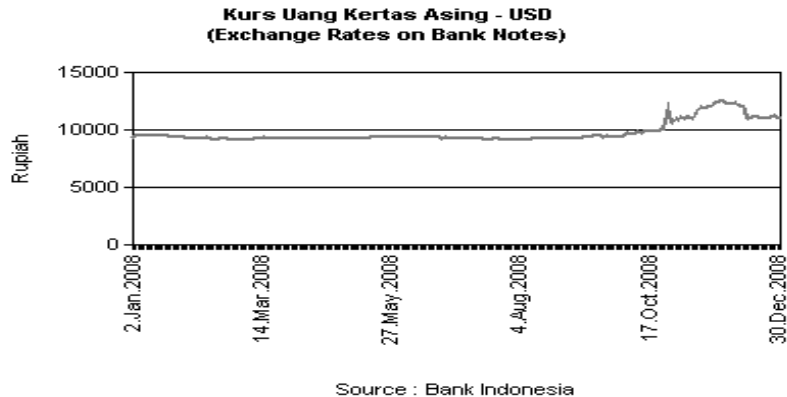
Source : Bank Indonesia

**Figure 8a.** Year 2006 Rate Fluctuation;



Source : Bank Indonesia

**Figure 8b.** Year 2007 Rate Fluctuation;



**Figure 8c.** Year 2008 Rate Fluctuation

The FX rates fluctuation as the above forced industry to face financial risk in the global business environment. Financial Risks can be caused by the funding requirements and the nature of the export-import business.

### 3. Textile Industry Environment

Seventeen textile/shoes industry performances were hurt by depreciation of IDR during 2006-2008. A several companies recorded extremely a huge loss. Most of 17 textile/shoes industries recorded total loss of (617 billion IDR). In the 2008, a number of profitable companies are getting less and a looser are increasing as shown in table 13.

## CONCLUSIONS, SUGGESTIONS, AND FUTURE RESEARCH

### 1. Conclusions

1. Depreciation of IDR is proven to be adversely impact to the bottom line of the textile/shoes industries 2006-2008, listed in ISX. Industry has been faced the financial risk from exchange rate.
2. "Financial leverage" of 17 textile industries are not appropriate and it is not done by ideal funding to the nature of the manufacturer-exporter businesses, this excessive US\$ funding cause to higher

foreign exchange risk and other financial risk.

3. Textile Industry faced the dilemma between operational leverage and financial leverage:
  - a. During depreciation of IDR, Financial Leverage has caused the massive foreign exchange loss (564 billions IDR) resulted from Net Short Asset Position to US\$ currency inside the balance sheet;
  - b. During depreciation of IDR, product become cheaper and high plant utilization is in favor to operational cost. Operation risk is a common to manufacturer. Manufacturer should relay on high utilization of plant and demanded higher sales volume to achieve the best of economical cost.
4. Excessive US\$ funding to textile industries cause to the asset and liabilities to "Net Short Asset position" to US\$. Both US\$ asset and liabilities position are not matched. Due to "Net Short Asset Position to US\$" textile industry is reporting the massive loss of (564 billions IDR) during depreciation of IDR.
5. Financial leverage has been causing textile industries unable to optimize profit during the "depreciation of IDR". From 17

**Table 13.** Number of Losers and Winners

No of Companies	17		
Year	2006	2007	2008
No of Losser (Loss)	6	7	12
Net of Winner (Profit)	11	10	5
Exchange Rate IDR/\$US middle rate	9,020	9,419	10,950
Total	17	17	17

Source: Annual Report, Indonesia Stock Exchange

textile/shoes industries, 1 (one) profit company from 5 (five) profit companies in 2008 using hedging facilities to protect their foreign exchange risk (PT Indorama tbk). One profit company from 5 profit companies has shown ideal capital structure (PT Sepatu Bata) with “Debt to Equity Ratio” 47.5% below the “US average textile manufacturing 51%”.

## 2. Suggestions

1. FX Funding Limit must be set in order to get allowable risks. Short term control and monitoring strictly to the asset and liabilities denominated in US\$. If we are in the “Net Asset Position to US\$”, then the corporation shall “Hedge”, and it can be done “partially” or “full hedge”. “Hedging” can take to the period of 3 month at the due date of payment in US\$. This aim to secure the incoming and outgoing cash flow of the company. For the hedging example of BDF AG Germany, Financial Manager reported “75% of annual net cash flow are hedged. “Hedging Line” should be established operationally to enable using SWAP, Forward Selling/Buying available in the money market. The hedging or insurance participation shall increase financial cost therefore must be accounted properly.
2. In the long term, to restructure the capital structure of the company, corporation must limit and implementing discipline funding on US\$ loan to finance the operation of the company. The aim of restructuring to Minimize the Net Short Asset Position to

US\$ or if it is possible to take “Net Long Asset Position” to US\$. The lesser the asset and liability gap in US\$, the lesser risks to foreign exchange rate volatility.

3. Net Short Asset Position must be managed to a certain level that company can afford to pay the foreign exchange risk resulted from “volatility of foreign exchange” which may happen in shortcoming future. Monitoring of the balance sheet position in particular “Net Short Asset Position to US\$”. This is can be useful to:
  - a. To enable the creditor (bankers) to estimate the financial risk exposure of the companies;
  - b. Central Bank: to control the abuse of the foreign exchange speculation motives.

## 3. Future Research

This study has some limitations, which can be improved in the future. Therefore, a several list below may be considered by future research.

1. To extend the data for research—particularly with 2009-2010 data, the post “Global Crisis” 2008 for obtaining 5-year research.
2. It is best to separate the “industry type” from upstream to downstream, from fiber to readymade garment.
3. To find the industry sector who contribute to the strategic business of the country such as: Mines, Agriculture etc and identify the impact on FX.

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