

## CHAPTER 4 ANALYSIS

### 4.1 Financial Performance

Measuring financial performance of PT Adaro Energy Tbk is needed to subjectively measure on how well the Company can use its assets to generate revenues. This is also used as comparison between the firm's financial performances with similar firms across the same mining industry or similar sector in aggregation.

PT Adaro Energy Tbk's financial statements were audited by Price Waterhouse Coopers (PWC) and received unqualified opinion with explanatory language related to the royalty issue in one of the Company's subsidiary, PT Adaro Indonesia. The analysis of PT Adaro Energy Tbk's financial performance consists of two parts. The first part is the income statements analysis and the second part is the balance sheets analysis.

**Table 4.1. Summary of consolidated financial statements**

Description	2007	2006	2005
Sales	11,592,640	9,748,068	7,174,651
Cost Of Goods Sold	(9,121,200)	(7,787,558)	(5,836,588)
Gross Profit	2,471,440	1,960,510	1,338,063
Operating Expenses	(250,948)	(219,296)	(263,562)
Operating Profit	2,220,492	1,741,214	1,074,501
Other Income/ (Expenses)	(2,087,639)	(1,600,081)	(1,008,609)
Net Profit	132,853	141,133	65,892
EBITDA	2,403,000	2,216,000	1,323,000
Total Assets	14,688,683	13,343,393	13,853,244
Total Liabilities	12,197,165	12,956,372	13,547,407
Total Equity	2,491,518	387,021	305,837
Share Capital	2,062,478	143,628	143,628
Retained Earnings/ (Accumulated Losses)	24,240	(44,325)	(95,459)
Production Volume (million tons)	36.1	34.4	26.7

*(Amounts are expressed in IDRmillion or otherwise noted)*

Sources: Audited Financial Statements of PT Adaro Energy Tbk (for details, please refer to appendix 1, 2, 3 & 4)

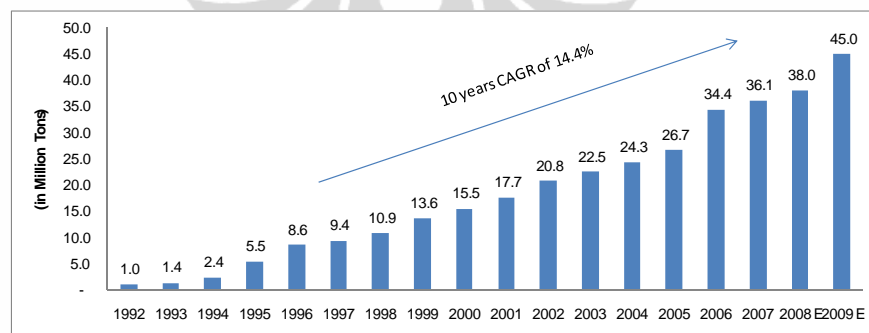
### 4.1.1 Income Statements Analysis

The income statement is a basic record for reporting a company's earnings. Since earnings are a fundamental component in a firm's worth, it is essential for investors to know on how to analyze different elements of this important document.

Analyzing income statements is an important tool to help investors appraise their investment options. By analyzing an income statement properly, investors can begin to evaluate the effectiveness of the management of operations in the companies. Proper income statement analysis can help identify good investment opportunities. It can also reduce the risk involved with choosing a poor investment choice.

From the summary of consolidated financial statements, several issues related to PT Adaro Energy Tbk's income statements can be highlighted as follows:

- a) PT Adaro Energy Tbk has consistent coal production growth since 1992 in PT Adaro Indonesia. Between 1997 and 2007, the Company has 10 years Compound Annual Growth Rate (CAGR) of 14.4 percent. The Company also projects a strong 2 years CAGR between 2007 and 2009 of 11.6 percent.

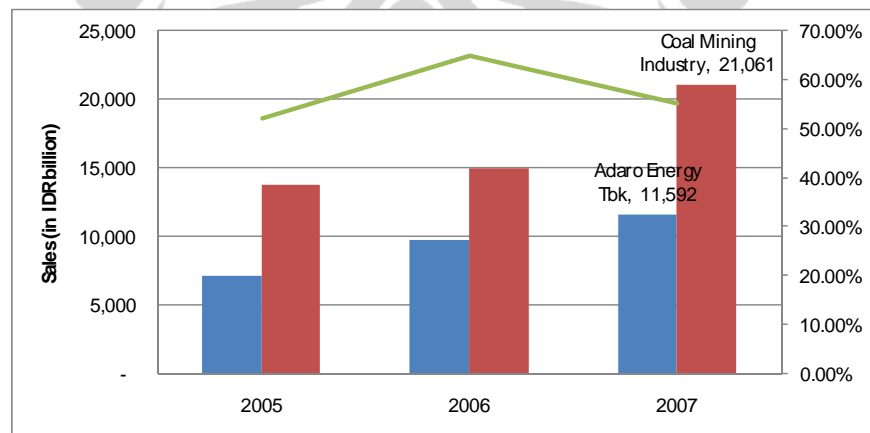


**Figure 4.1. Coal Production Volume**

Sources: Due Diligence Meeting and Public Expose Report

- b) Sales increased by IDR4,418 billion between 2005 and 2007 from IDR7,175 billion to IDR 11,593 billion or equivalent to 61.6 percent. PT Adaro Energy Tbk also targeted higher sales projections in 2008 and 2009 amounting to IDR16,021 billion and IDR24,262 billion respectively. The main driver comes from increase in coal production volume from 36.1 million tons in 2007 to 38 million tons and 45 million tons in 2008 and 2009 respectively. The market share of PT Adaro Energy Tbk in coal production volume of 36.1 million tons compared to national coal production of 178.9 million tons is 20.2 percent in 2007.

Compare to mining industry listed in Indonesia Stock Exchange (IDX), PT Adaro Energy Tbk's sales represent more than 50 percent of the mining industry between 2005 and 2007. Majority of sales in mining industry belong to PT Bumi Resources Tbk of IDR11,583 billion, IDR12,405 billion and IDR15,034 billion in 2005, 2006 and 2007 respectively.

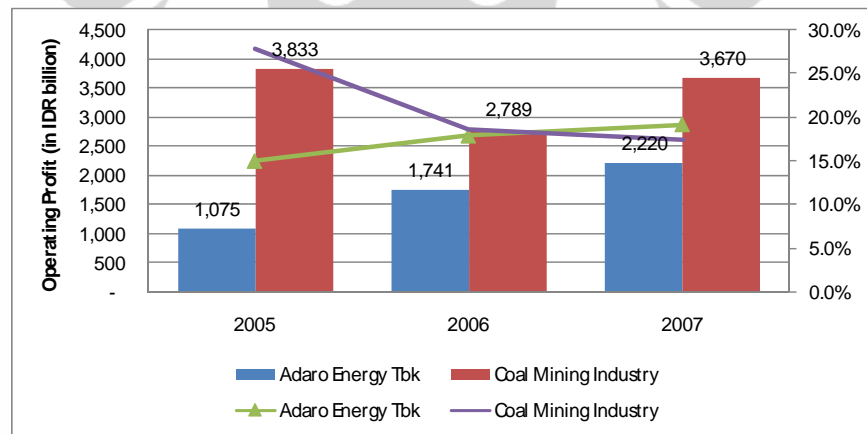


**Figure 4.2. Sales comparison in mining industry**

Sources: IDX Monthly Statistics (for details, please refer to appendix 5)

- c) Cost of goods sold as a percentage of revenues are declined consistently by 2.7 percent between 2005 and 2007. This leads to better gross profit by the same percentage (2.7 percent) amounting to IDR1,133 billion between 2005 and 2007 from IDR1,338 billion to IDR2,471 billion.
- d) Operating expenses as a percentage of revenues are also declined consistently by 1.5 percent between 2005 and 2007. This leads to better operating profit by 4.2 percent amounting to IDR1,145 billion between 2005 and 2007 from IDR1,075 billion to IDR2,220 billion.

Compare to mining industry listed in Indonesia Stock Exchange (IDX), PT Adaro Energy Tbk's operating profit is lower by 12.9 percent in 2005 and improving significantly in 2006 and 2007. By the end of 2007, PT Adaro Energy Tbk's operating profit of 19.2 percent is higher by 1.7 percent compared to the mining industry's operating profit of 17.4 percent.

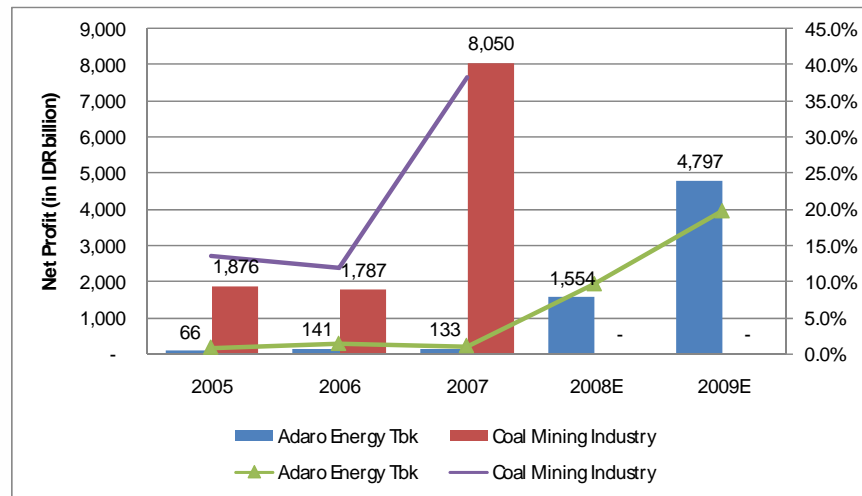


**Figure 4.3. Operating profit comparison in mining industry**

Sources: IDX Monthly Statistics (for details, please refer to appendix 5)

- e) Net Profit as a percentage of revenues remains the same around 1 percent between 2005 and 2007. The net profit starts to increase significantly in 2008 and 2009 projections of 9.7 percent and 19.8 percent respectively. Moreover the net profit in 2008 and 2009

projections are still way below the current net profit in mining industry of 38.2 percent.



**Figure 4.4. Net profit comparison in mining industry**

Sources: IDX Monthly Statistics (for details, please refer to appendix 5)

#### 4.1.2 Balance Sheets Analysis

The balance sheet analysis can help investors in identifying potential liquidity problems as it may signify the company's inability to meet financial obligations. A good investor could spot the degree to which a company is leveraged or indebted as an overly leveraged company may have difficulties raising future capital. Even more severe, they may be headed towards bankruptcy.

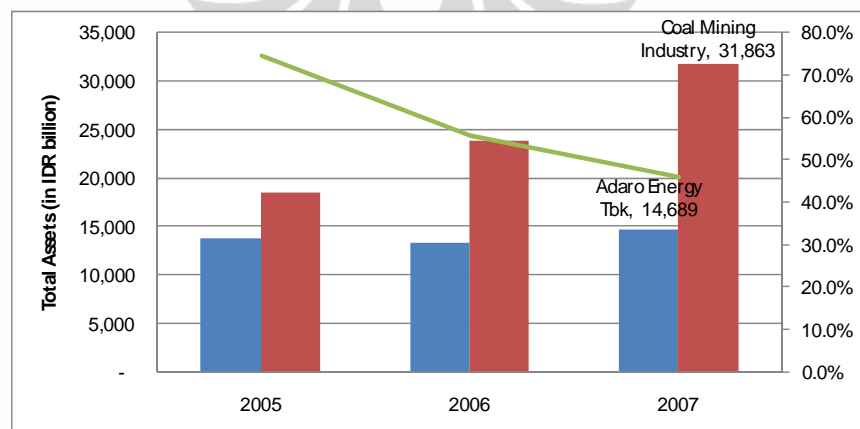
Analyzing a balance sheet is fundamental knowledge for anyone who wishes to carefully select solid and profitable investments. The balance sheet is the basic report of a firm's assets, debts and capital. The composition of these three items will vary dramatically from firm to firm. A good investor need to know on how to examine and compare balance sheets of different companies in order to select the investment that meets their needs. One thing to keep in mind is that established firms are not fundamentally different if they are in the same industry.

From the summary of consolidated financial statements, several issues related to PT Adaro Energy Tbk's balance sheets can be highlighted as follows:

- a) Total assets of PT Adaro Energy Tbk between 2005 and 2007 compared with total assets in mining industry listed in Indonesia Stock Exchange (IDX) are decreasing from 74.6 percent to 46.1 percent. This resulted from three new firms entry in 2007 which add total assets in mining industry amounting to IDR4,932 billion.

The main portion of PT Adaro Energy Tbk's assets in 2007 come from related party receivables and fixed assets accounts of 30.8 percent and 25.0 percent respectively compared to the total assets. While on cash and marketable securities accounts, the Company has balances amounting to IDR896 billion and IDR1,734 billion respectively, totaling 17.9 percent of the total assets. The Company also has very low inventory in 2007 amounting to IDR238 billion or only 1.6 percent of the total assets.

There are no changes in stock days for the Company from 2005 to 2007, where the level is maintained at 9 days. On the other hand, the Company improving its debtor days by 9 days between 2005 and 2007 from 60 days to 51 days respectively.



**Figure 4.5. Total assets comparison in mining industry**

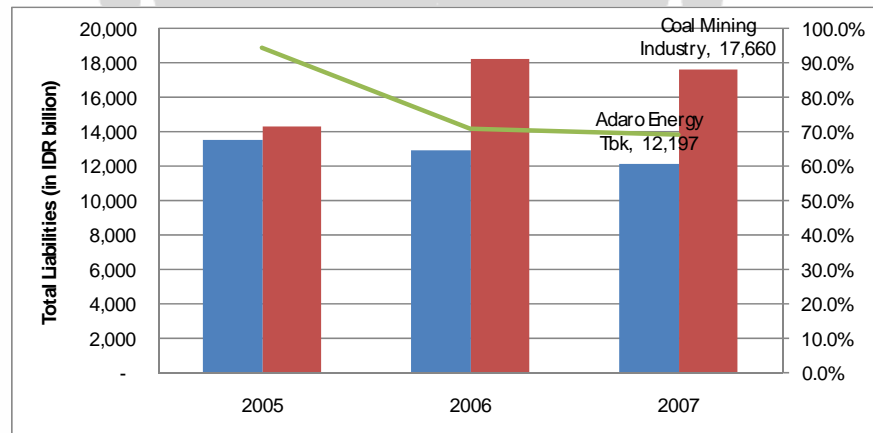
Sources: IDX Monthly Statistics (for details, please refer to appendix 5)

- b) Total liabilities of PT Adaro Energy Tbk between 2005 and 2007 compared with total liabilities in mining industry listed in Indonesia Stock Exchange (IDX) are also decreasing from 94.3 percent to 69.1 percent.

In 2007, the bank loans amounting to IDR6,730 billion represent the biggest portion of the Company's liabilities. The total short-term and long-term bank loans alone are almost half of the Company's liabilities. Two other biggest portion in the Company's liabilities side are trade payables and minority interest amounting to IDR1,688 billion and IDR1,076 billion respectively.

Trade Payables amounting to IDR1,688 billion represent 8.1 percent of the total Company's liabilities. In term of creditor days, the creditors days also reduced by 12 days between 2005 and 2007 from 80 days to 68 days respectively.

The minority interest amounting to IDR1,076 billion represent 7.3 percent of the total Company's liabilities. The minority interest has increased by IDR638 billion between 2005 and 2007 from IDR438 billion to IDR1,076 billion respectively.

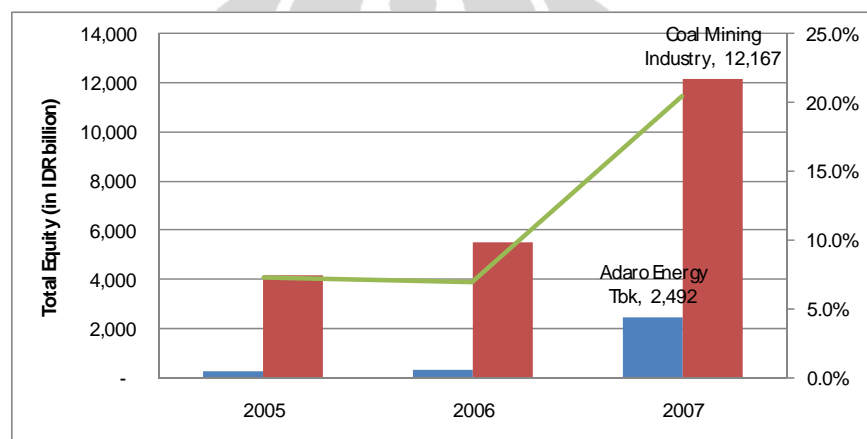


**Figure 4.6. Total liabilities comparison in mining industry**

Sources: IDX Monthly Statistics (for details, please refer to appendix 5)

- c) Total equity of PT Adaro Energy Tbk between 2005 and 2007 compared with total equity in mining industry listed in Indonesia Stock Exchange (IDX) are increasing from 7.3 percent to 20.5 percent.

The Company's equity has increased by IDR2,186 billion between 2005 and 2007 from IDR306 billion to IDR2,492 billion respectively. The significant increase happen in 2007 as a result of coal and oil prices which positively impact the Company's financial performance.



**Figure 4.7. Total equity comparison in mining industry**

Sources: IDX Monthly Statistics (for details, please refer to appendix 5)

## 4.2 Discount Rate Calculation

The discount rate calculation will be divided into three parts. The first part is the cost of equity calculation. The second part is cost of capital calculation. The third part is Weighted Average Cost of Capital (WACC) calculation or the discount rate that will be used in valuing the Initial Public Offering share price of PT Adaro Energy Tbk.

### 4.2.1 Cost of Equity Calculation

Three main variables needed in cost of equity calculation are riskless rate, beta and risk premium. The first, riskless rate or risk-free rate is the interest rate that it is assumed can be obtained by investing in financial instruments with no default risk. Though a truly riskless asset exists only in theory, in practice most



professionals and academics use government bonds of the currency in question. For the purpose of this thesis, interest rate in Indonesian government bills or Obligasi Republik Indonesia (ORI) is used as a riskless rate. The latest government bills before the Initial Public Offering on July 16, 2008 is ORI004 with 9.5 percent coupon rate and 5 years maturity date which will be due in March 12, 2008.

The second, beta describes how the expected return of a stock or portfolio is correlated to the return of the financial market as a whole. A stock that swings more than the market (i.e. more volatile) over time has a beta whose absolute value is above 1. If a stock moves less than the market, the absolute value of the stock's beta is less than 1.

There are three betas that will be used in the valuation as follows:

- a) Beta for mining sector in the USA of 1.71 based on analysis done by Aswath Damodaran, which last updated in January 2008 (for detail of beta, please refer to appendix 6).
- b) Beta for PT Bumi Resources Tbk of 2.26 based on Osiris database (March 10, 2009. <https://osiris.bvdep.com/version-2009219/cgi/template.dll>).
- c) Beta for Tambang Batubara Bukit Asam (Persero) Tbk of 1.88 based on Osiris database (March 10, 2009. <https://osiris.bvdep.com/version-2009219/cgi/template.dll>).

The third, risk premium can be the expected rate of return above the riskless rate. When measuring risk, a common sense approach is to compare the virtually risk-free return on Treasury bills and the very risky return on other investments. The difference between these two returns can be interpreted as a measure of the excess return on the average risky asset. This excess return is known as the risk premium. Based on analysis done by Aswath Damodaran, which last updated in January 2008, the risk premium for Indonesia is 9.29 percent (for detail of country risk premium, please refer to appendix 7).

From the equation provided in chapter two, below is the cost of equity calculation based on Damodaran's data using beta for mining sector in the USA:

$$\begin{aligned}
 \text{Expected return} &= \text{Riskless rate} + \text{Beta} (\text{Risk premium}) & (4.1) \\
 \text{Expected return} &= 9.50 \% + 1.71 (9.29 \%) \\
 \text{Expected return} &= 9.50 \% + 15.89 \% \\
 \text{Expected return} &= 25.39 \%
 \end{aligned}$$

The result of the expected return or cost of equity for mining sector in Indonesia, prior to PT Adaro Energy Tbk's Initial Public Offering, is 25.39 percent based on Damodaran's data using beta for mining sector in the USA. The same calculation can also be done with the other two betas to come up with the following results. First, the result of the expected return or cost of equity based on PT Bumi Resources Tbk's beta is 30.50 percent. Second, the result of the expected return or cost of equity based on Tambang Batubara Bukit Asam (Persero) Tbk's beta is 26.97 percent.

#### 4.2.2 Cost of Debt Calculation

Cost of debt is the effective interest rate that a company pays on its debt, such as loans and bonds. This can be measured in either before or after-tax returns. However, because interest expense is deductible, the after-tax cost is seen most often. A company will use various bonds, loans and other forms of debt, so this measure is useful for giving an idea as to the overall rate being paid by the company to use debt financing. The measure can also give investors an idea as to the riskiness of the company compared to others, because riskier companies generally have a higher cost of debt.

Based on PT Adaro Energy Tbk's audited financial statement, the total interest expenses for 2007 is IDR897 billion and the Company's has bank loans of IDR6,730 billion, consisted of short-term bank loans and long-term bank loans of IDR1,195 billion and IDR5,535 billion respectively. Therefore, by dividing the interest expenses of IDR897 billion with total bank loans of IDR6,730 billion, we can get the cost of debt for PT Adaro Energy Tbk amounting to 13.33 percent.

#### 4.2.3 Weighted Average Cost of Capital Calculation

Weighted Average Cost of Capital (WACC) calculation is a calculation of a firm's cost of capital in which each category of capital is proportionately weighted. All capital sources such as common stocks, preferred stocks, bonds and any other long-term debt are included in a Weighted Average Cost of Capital (WACC) calculation.

Broadly speaking, a company's assets are financed by either debt or equity. Weighted Average Cost of Capital (WACC) is the average of the costs of these sources of financing, each of which is weighted by its respective use in the given situation. By calculating a Weighted Average Cost of Capital (WACC), we can see how much interest the company has to pay for every dollar it finances.

A firm's WACC is the overall required return on the firm as a whole and, as such, it is often used internally by companies to determine the economic feasibility of expansionary opportunities and mergers. It is the appropriate discount rate to use for cash flows with risk that is similar to that of the overall firm.

WACC serves as a useful reality check for investors. To be blunt, the average investor probably wouldn't go to the trouble of calculating WACC because it is a complicated measure that requires much detailed company information. Nonetheless, it helps investors know the meaning of WACC when they see it in brokerage analysts' reports.

Based on PT Adaro Energy Tbk's audited financial statement, the total debt and equity for 2007 is IDR12,197 billion and IDR2,492 billion respectively. Therefore, the total capital for 2007 amounting to IDR14,689 billion.

The effective tax rate can be calculated, using backwards method, from the tax expense account in the statements of incomes amounting to IDR568 billion, 528 billion and 353 billion in 2007, 2006 and 2005 accordingly. Based on the calculation, the result of effective tax rate for PT Adaro Energy Tbk is 30 percent between 2007 and 2005 (for detailed effective tax rate calculation, please refer to appendix 8).

In this valuation, we try to provide two alternatives to benchmark the calculation. The first alternative is by using PT Adaro Energy Tbk's debt ratio as

of December 31, 2007 of 83.0 percent. The second alternative is by using the coal mining sector's debt ratio as of December 31, 2007 of 55.4 percent.

From the equation provided in chapter two, below is the Weighted Average Cost of Capital (WACC) calculation for the first alternative by using PT Adaro Energy Tbk's debt ratio as of December 31, 2007 of 83.0 percent and beta based on Damodaran's data for mining sector in the USA:

$$\begin{aligned}
 WACC &= \left(\frac{E}{E+D}\right) r_f + \left(\frac{D}{E+D}\right) r_d (1 - t_c) & (4.2) \\
 WACC &= \left(\frac{2,492}{14,689}\right) 25.39\% + \left(\frac{12,197}{14,689}\right) 13.33\% (1 - 30.0\%) \\
 WACC &= (16.96\%) 25.39\% + (83.04\%) 13.33\% (70\%) \\
 WACC &= 4.31\% + 7.75\% \\
 WACC &= 12.06\%
 \end{aligned}$$

The result of the Weighted Average Cost of Capital (WACC) or the discount rate that will be used in Discounted Cash Flow calculation is 12.06 percent for the first alternative and beta based on Damodaran's data for mining sector in the USA.

The same Weighted Average Cost of Capital (WACC) calculation can also be done with the other alternatives and betas to come up with the following results as shown below.

**Table 4.2. Summary of WACC results**

No	Alternative	Beta	Cost of Equity	Cost of Debt	WACC
1	Alt 1 using Adaro debt ratio of 83.04%	USA mining sector of 1.71	25.39%	13.33%	12.06%
2	Alt 1 using Adaro debt ratio of 83.04%	Bumi of 2.26	30.50%	13.33%	12.92%
3	Alt 1 using Adaro debt ratio of 83.04%	Bukit Asam of 1.88	26.97%	13.33%	12.32%
4	Alt 2 using coal mining debt ratio of 55.42%	USA mining sector of 1.71	25.39%	13.33%	16.49%
5	Alt 2 using coal mining debt ratio of 55.42%	Bumi of 2.26	30.50%	13.33%	18.77%
6	Alt 2 using coal mining debt ratio of 55.42%	Bukit Asam of 1.88	26.97%	13.33%	17.19%

Sources: Weighted Average Cost of Capital calculation theory (for details, please refer to cost of capital calculation in appendix 11, 12, 13, 14, 15 & 16)

### **4.3 Initial Public Offering Share Price Calculation**

A business valuation starts with the current situation of the business and then, through an analysis of various factors, forms a view on what will happen to it in the future. Most valuations start with some form of earnings and cash flow projection and then analyze these figures to give a value. Different methods and different assumptions can give very different values. However, the objective is to use these techniques to produce a range of values. The valuation is then presented as being somewhere within the stated range - which end of it will depend upon whether you are a buyer or seller and your view of the risk profile of the business.

The two main methods of corporate valuation are the Discounted Cash Flow (DCF) techniques and Price Earnings Multiple Model or better known as Price Earnings (P/E) ratio.

#### **4.3.1 Discounted Cash Flow Calculation**

Discounted Cash Flow (DCF) calculations are generally considered to be the most sophisticated form of business valuation. Discounted Cash Flow (DCF) calculation is a technical method of valuation that is heavily dependent on assumptions about long-term business conditions.

This method requires a projection of a company's cash flows into the future. As projecting cash flows beyond a few years is difficult, assumptions are normally made about static cash flows after a certain date and either these are valued as perpetuity or a capital sum assumed from a notional sale of the business. The cash flows will cover cash generated from operations as well as capital expenditure and working capital requirements.

There are two types of cash flows. First, the Free Cash Flows to Equity (FCFE) is the sum of the cash flows the firm can afford to return to its stockholders. Second, the Free Cash Flows to the Firm (FCFF) is the sum of the cash flows to all claim holders in the firm, including stockholders, bondholders and preferred stockholders.

Firms that either have very high leverage or are in the process of changing their leverage are best valued using the Free Cash Flows to the Firm (FCFF) approach.

The value of the business is determined by doing a net present value calculation of the future cash flow expectations using an appropriate discount rate or in thesis the Weighted Average Cost of Capital (WACC) of 12.06 percent. Obviously the higher the rate the lower is the valuation.

Please bear in mind that we are using two alternatives and three betas to benchmark the calculation. Therefore, there will be six results for the calculation.

Based on company valuation guidance provided by Aswath Damodaran in his website (November 7, 2008. <http://pages.stern.nyu.edu/~adamodar/>), there are two things that needed to be done in Discounted Cash Flow calculation as follows:

a) Choosing the right valuation model.

This is to determine on whether to use valuation model, level of earnings to use in the model, cash flows that should be discounted, length of growth period and appropriate growth pattern. Aswath Damodaran has provided an excel spreadsheet to do the valuation, therefore we only need to input several variables in the given spreadsheet. There is no difference in choosing the valuation model for both alternatives using different debt ratio.

The recap summary from choosing the right valuation model is shown below (for detailed valuation model, please refer to appendix 9 and 10).

**Table 4.3. Result from choosing the right valuation model**

**OUTPUT FROM THE MODEL**

*Based upon the inputs you have entered, the right valuation model for this firm is:*

Type of Model (DCF Model, Option Pricing Model):	<b>Discounted CF Model</b>
Level of Earnings to use in model (Current, Normalized):	<b>Current Earnings</b>
Cashflows that should be discounted (Dividends, FCFE, FCFF) :	<b>FCFF (Value firm)</b>
Length of Growth Period (10 or more, 5 to 10, less than 5)	<b>No high growth period</b>
Appropriate Growth Pattern (Stable, 2 stage, 3 stage):	<b>Stable Growth</b>

Sources: November 7, 2008. <http://www.stern.nyu.edu/~adamodar/pc/model.xls>

b) Calculate the value of a firm.

Based on the result in choosing the right valuation model, the value of PT Adaro Energy Tbk can be valued by Free Cash Flows to the Firm (FCFF) growing at a stable growth using current earnings from 2007 audited financial statement for both alternatives.

Aswath Damodaran has also provided an excel spreadsheet to do the calculation. Therefore, we only need to input these variables in the given spreadsheet, such as:

- Current Earnings Before Interest and Tax (EBIT) of IDR2,672,953 million by adding income before tax of IDR947,025 million with interest and other financial charges of IDR1,725,928 million (for details, please refer to statements of income in appendix 2).
- Current tax rate of 30 percent (for details, please refer to effective tax rate calculation in appendix 8).
- Capital expenditures of IDR1,444,919 million (for details, please refer to statements of cash flows in appendix 4).
- Depreciation of IDR300,615 million based on notes on financial statements from 2007 audited report.
- Debt ratio of 83.04 percent for the first alternative, which was based on PT Adaro Energy Tbk's debt ratio as of December 31, 2007, and 55.42 percent for the second alternative, which was based on coal mining sector's debt ratio as of December 31, 2007.
- Beta, risk free rate, risk premium and cost of debt as already discussed in subchapter 4.2 of this thesis.
- As for expected growth rate, we need to input manually to get the closest result to IPO share price of IDR1,100 per share. There will be six expected growth rates for the results based on two alternatives and three betas. This expected growth rate will be compared to 10 years coal production volume's Compound Annual Growth Rate (CAGR) of 14.4 percent between 1997 and 2007, which was considered as the real expected growth rate for investors.

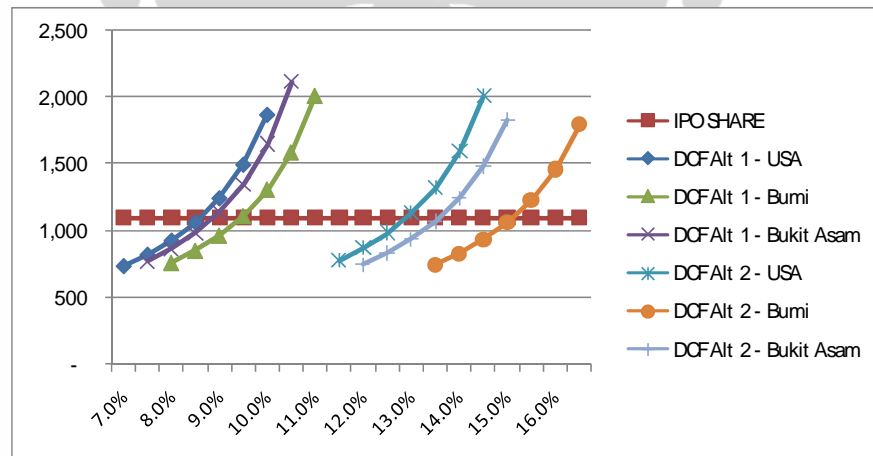
Below are the results from the spreadsheet:

- The result of Free Cash Flows to the Firm (FCFF) stable growth model calculation, based on the Company's debt ratio of 83.0 percent, using beta from USA, shows that the Initial Public Offering share price of PT Adaro Energy Tbk is set assuming that the annual growth rate is just slightly above 8.5 percent or IDR1,100 per share (for detailed Alternative 1 FCFF stable growth model valuation using beta from USA, please refer to appendix 11).
- The result of Free Cash Flows to the Firm (FCFF) stable growth model calculation, based on the Company's debt ratio of 83.0 percent, using beta from PT Bumi Resources Tbk, shows that the Initial Public Offering share price of PT Adaro Energy Tbk is set assuming that the annual growth rate is just slightly below 9.5 percent or IDR1,100 per share (for detailed Alternative 1 FCFF stable growth model valuation using beta from PT Bumi Resources Tbk, please refer to appendix 12).
- The result of Free Cash Flows to the Firm (FCFF) stable growth model calculation, based on the Company's debt ratio of 83.0 percent, using beta from Tambang Batubara Bukit Asam (Persero) Tbk, shows that the Initial Public Offering share price of PT Adaro Energy Tbk is set assuming that the annual growth rate is just slightly below 9.0 percent or IDR1,100 per share (for detailed Alternative 1 FCFF stable growth model valuation using beta from Tambang Batubara Bukit Asam (Persero) Tbk, please refer to appendix 13).
- While the result of Free Cash Flows to the Firm (FCFF) stable growth model calculation, based on the coal mining sector's debt ratio of 55.4 percent, using beta from USA, shows that the Initial Public Offering share price of PT Adaro Energy Tbk is set assuming that the annual growth rate is just slightly below 13.0 percent or IDR1,100 per share (for detailed Alternative 2 FCFF stable growth model valuation using beta from USA, please refer to appendix 14).



- While the result of Free Cash Flows to the Firm (FCFF) stable growth model calculation, based on the coal mining sector's debt ratio of 55.4 percent, using beta from PT Bumi Resources Tbk, shows that the Initial Public Offering share price of PT Adaro Energy Tbk is set assuming that the annual growth rate is just slightly above 15.0 percent or IDR1,100 per share (for detailed Alternative 2 FCFF stable growth model valuation using beta from PT Bumi Resources Tbk, please refer to appendix 15).
- While the result of Free Cash Flows to the Firm (FCFF) stable growth model calculation, based on the coal mining sector's debt ratio of 55.4 percent, using beta from Tambang Batubara Bukit Asam (Persero) Tbk, shows that the Initial Public Offering share price of PT Adaro Energy Tbk is set assuming that the annual growth rate is just slightly above 13.5 percent or IDR1,100 per share (for detailed Alternative 2 FCFF stable growth model valuation using beta from Tambang Batubara Bukit Asam (Persero) Tbk, please refer to appendix 16).

**Table 4.4. Results from DCF valuation model**



Sources: Damodaran's spreadsheet (for details, please refer to appendix 11, 12, 13, 14, 15 and 16)

### 4.3.2 Price Earnings Multiple Model Calculation

The Price Earnings Multiple Model or Price Earnings Ratio (PER) of a listed company is its share price divided by its earnings per share, as derived from its annual accounts in the case of historic figures or on the basis of forecasts for future earnings. In valuing a soon to be a private entity, business price is estimated based on a particular multiple of the actual or projected post-tax annual profits.

These benchmark multiples are gathered from similar companies operating in the same sector from either the local stock market, or adjusted averages from countries with similar economies. These are called comparable companies and their selection is critical if the resulting valuation is to be meaningful. In selecting comparable companies, not only should the businesses of the companies be similar but also their accounting policies. Only if the businesses are truly comparable can similar multiples apply.

The assumptions used in determining key variables in Price Earnings Ratio (PER) calculation:

- a) Choosing the comparable company and industry.

PT Adaro Energy Tbk is a coal producer and accordingly classified under coal mining sector. Based on data from IDX Monthly Statistics, Price Earnings Ratios (PER) used in this calculation are from mining industry, coal mining sector and PT Bumi Resources Tbk which is the biggest coal producer in Indonesia and considered as main competitor of PT Adaro Energy Tbk. Aswath Damodaran on his website also provided Price Earnings Ratio (PER) data in the USA which was last updated in January 2008.

- b) Choosing the period of Price Earnings Ratio.

The period is average between January and June 2008 to smooth out the sudden drop of Price Earnings Ratio in June 2008 to negative 13.38 and 10.02 for coal mining sector and mining industry respectively. In July 2008, the Price Earnings Ratio for coal mining sector and mining industry bounce back to 26.27 and 18.36 respectively.

c) Choosing the period of net profit.

PT Adaro Energy Tbk's net profit in second half 2007, first half 2008, second half 2008 and first half 2009 are used for the calculation to represent the current value of the Company.

The result of Price Earnings Multiple Model calculation shows that the Company's PER compared to mining industry, coal mining sector, PT Bumi Resources Tbk and American coal mining sector have quite a big range between minus 68.0 percent and 182.9 percent (for detail please refer to Table 4.5.).

**Table 4.5. Company valuation using Price Earnings Ratio**

Average Price Earnings Ratio in 1st Half 2008							
	Jan 08 (X)	Feb 08 (X)	Mar 08 (X)	Apr 08 (X)	May 08 (X)	Jun 08 (X)	Average (X)
Mining	24.93	24.82	22.07	21.36	25.68	10.02	21.48
Coal mining	21.37	18.79	14.30	16.92	25.20	(13.38)	13.87
Bumi Resources Tbk	12.74	15.33	16.19	17.36	21.02	21.41	17.34

Present Value of Average Net Profit			
	Trailing	Annualized	Forward
Average Net Profit 2nd Half 2007 (in IDRmillion)	66,427		
Average Net Profit 1st Half 2008 (in IDRmillion)		777,000	
Average Net Profit 2nd Half 2008 (in IDRmillion)			777,000
Discount rate (WACC)	12.06%	12.06%	12.06%
Period (years)	1.0	0.50	0.50
<b>Present Value of Net Profit 1st Half (in IDRmillion)</b>	<b>74,435</b>	<b>822,504</b>	<b>734,014</b>
Average Net Profit 1st Half 2008 (in IDRmillion)	777,000		
Average Net Profit 2nd Half 2008 (in IDRmillion)		777,000	
Average Net Profit 1st Half 2009 (in IDRmillion)			2,398,500
Discount rate (WACC)	12.06%	12.06%	12.06%
Period (years)	0.5	0.5	1.0
<b>Present Value of Net Profit 2nd Half (in IDRmillion)</b>	<b>822,504</b>	<b>734,014</b>	<b>2,140,455</b>
<b>Total Present Value of Net Profit (in IDRmillion)</b>	<b>896,938</b>	<b>1,556,517</b>	<b>2,874,469</b>
Paid-Up Capital (in million shares)	31,986	31,986	31,986
EPS(Earnings Per Share)	28	49	90
Initial Public Offering Share Price	1,100	1,100	1,100
PER (Price Earnings Ratio)	39.23	22.60	12.24

Price Earnings Ratio Comparison							
Industry	PER (X)	Adaro Energy Tbk's PER			Growth		
		Trailing (X)	Annualized (X)	Forward (X)	Trailing (%)	Annualized (%)	Forward (%)
Mining	21.48	39.23	22.60	12.24	82.62%	5.24%	-43.02%
Coal mining	13.87	39.23	22.60	12.24	182.89%	63.01%	-11.73%
Bumi Resources Tbk	17.34	39.23	22.60	12.24	126.20%	30.35%	-29.42%
Coal mining (USA data)*	38.27	39.23	22.60	12.24	2.50%	-40.93%	-68.02%

\*) for USA data (please refer to appendix 6)

Sources: IDX Monthly Statistics and Aswath Damodaran's data

#### 4.4 Analysis on Initial Public Offering Share Price

The first PT Adaro Energy Tbk's Initial Public Offering share price valuation using Discounted Cash Flow (DCF) method shows that the IPO share price is valued at growth rate between 8.5 percent and 15.0 percent, with the following details:

a) Alt 1 - USA.

The Company is valued at 8.5 percent growth rate. This is considered very low to 10 years Compound Annual Growth Rate (CAGR) of 14.4 percent in coal production volume between 1997 and 2007. Therefore, the Company is undervalued by 41.0 percent.

b) Alt 1 - Bumi.

The Company is valued at 9.5 percent growth rate. This is considered very low to 10 years Compound Annual Growth Rate (CAGR) of 14.4 percent in coal production volume between 1997 and 2007. Therefore, the Company is undervalued by 34.0 percent.

c) Alt 1 – Bukit Asam.

The Company is valued at 9.0 percent growth rate. This is considered very low to 10 years Compound Annual Growth Rate (CAGR) of 14.4 percent in coal production volume between 1997 and 2007. Therefore, the Company is undervalued by 37.5 percent.

d) Alt 2 - USA.

The Company is valued at 13.0 percent growth rate. This is considered very low to 10 years Compound Annual Growth Rate (CAGR) of 14.4 percent in coal production volume between 1997 and 2007. Therefore, the Company is undervalued by 9.7 percent.

e) Alt 2 - Bumi.

The Company is valued at 15.0 percent growth rate. At first glance, if we compared it with 10 years Compound Annual Growth Rate (CAGR) of 14.4 percent in coal production volume between 1997 and 2007, the Company is overvalued by 4.2 percent. However, please take note that the Company has projected higher net profit of IDR4,797 billion in 2009, or up by IDR3,243 billion (208.9 percent) compared to 2008 net

profit of IDR1,554 billion. Therefore, there is strong probability that the Company could be overvalued in next year.

f) Alt 2 – Bukit Asam.

The Company is valued at 13.5 percent growth rate. This is considered very low to 10 years Compound Annual Growth Rate (CAGR) of 14.4 percent in coal production volume between 1997 and 2007. Therefore, the Company is undervalued by 6.2 percent.

Based on company valuation using Discounted Cash Flow (DCF), excluding the result from Alt 2 – Bumi, the Initial Public Offering share price of IDR1,100 per share is undervalued between 6.2 percent and 41.0 percent.

While the second Initial Public Offering share price valuation using Price Earnings Multiple Model can be analyzed into 3 groups as follows:

a) Trailing Price Earnings Ratio.

The Company's PER is higher by 2.5 percent, compared to American PER, and as high as 182.9 percent, compared to local PER, due to higher expected net profit growth from IDR1,554 billion in 2008 to IDR4,797 billion in 2009.

b) Annualized Price Earnings Ratio.

The result is almost similar with trailing PER, where the Company's PER is higher as high as 63.0 percent compared local PER due to higher present value of net profit for 2008. The higher present value of net profit for 2008 also reduced the Company's PER to 40.9 percent compared to American PER. For over simplified analysis, this could mean that the growth in American coal mining is higher than the Company although further studies must be performed to get the real understanding of the difference.

c) Forward Price Earnings Ratio.

When we present value the expected first half 2009 net profit, the Company's PER is lower by 68.5 percent, compared to American PER, and as high as 43.0 percent, compared to local PER. The sudden drop in

forward PER triggered by higher net profit growth in 2009, which was driven by coal price hike. The Company projected IDR4,797 billion net profit in 2009 or higher by 208.7 percent compared to 2008 net profit of IDR1,554 billion. While on the other hand, coal production only rise by 18.4 percent from 38 million tons to 45 million tons in 2008 and 2009 respectively. This will increase the sales value by IDR8,241 billion from IDR16,021 billion to IDR24,262 in 2008 and 2009 respectively, where IDR3,243 billion end up in as additional net profit for 2009.

Therefore, the result of Price Earnings Multiple Model shows that investors are expecting higher returns in 2009 when using trailing and annualized Price Earnings Ratio calculation. On the other hand, when the expected 2009 returns included in the calculation, the Company's PER are undervalued as high as 68.0 percent as shown in the forward Price Earnings Ratio.

Based on information found on the Departemen Energy and Sumber Daya Mineral's website, IPO for PT Adaro Energy Tbk is the 2008 third biggest offering in Asia, excluding Japan. The biggest IPO in 2008 is China Coal Energy company limited amounting to USD3.6 billion, which was listed in January 2008. The valuation of coal mining sector, based on Price Earnings Ratio, in Indonesia of 10.5 still cheap. In China, the same coal mining company, such as Shenhua Energy and China Coal Energy are valued at 14.0. PT Adaro Energy Tbk's Price Earnings Ratio is also low compared to local mining companies which ranging between 18.6 and 33.0 based on IDX June 2008 statistic data. Stock analyst, Robin Setyawan, also predicts that in the next three days, the PT Adaro Energy Tbk price will go up to IDR1,800 – IDR2,000 per share (November 7, 2008. <http://www.tekmira.esdm.go.id/currentissues/?p=689>).

#### **4.5 Valuation based on Current Situation**

After financial downturn in October 2008, the valuations for almost companies are also decreased significantly. This subchapter tries to calculate how much is the decrease based on recommendations by some bankers and securities analysts and data found on IDX website.

For current international outlook, PT Adaro Energy Tbk still has advantage over 2009 coal prices as the conflict between Chinese coal suppliers and the country's five major power companies (Huaneng, Huadian, Longyuan, Power Investment Group, and Datang) escalated once again after months of price deadlock. The power companies currently plan to import several million tons of coal from Australia, Indonesia, Russia and Vietnam, claiming the price is lower even with freight costs included. For example, in a recent contract signed between Australia and Japan, the price of steam coal has been set at around USD70-80 per ton (FOB). Compared with a contracted price of USD125 in 2008, this is already a 45 percent drop. Meanwhile Australian exporter Xstrata has set its 2009 export price at USD80 per ton or 50 percent lower than in October 2008. (March 10, 2009. [http://www.china.org.cn/business/2009-02/26/content\\_17338910.htm](http://www.china.org.cn/business/2009-02/26/content_17338910.htm)).

#### 4.5.1 Valuation based on Analysts

The analysts valuation will be based on the Quarterly Activities Report for the three months ending December 31, 2008 (March 10, 2009. [http://www.adaro.com/files/Operations\\_Report\\_4Q08\\_FINAL.pdf](http://www.adaro.com/files/Operations_Report_4Q08_FINAL.pdf)), which was released in February 4, 2009 as shown below.

**Table 4.6. Analysts recommendation**

Firm Name	Analyst	Recommendation	Target Px (Rp)	Date
UBS	Andreas Bokkenheuser	Buy/Short term Sell	1,100	1/22/2009
Morgan Stanley	Wee Kiat Tan	Overweight/Attractive	1200	1/21/2009
Bahana Securities	Katherine Hermawan	Hold (reduce from Buy on 12/04/08)	550	1/5/2009
DBS Vickers	Yusuf Adiwino	Buy	830	12/3/2008
BAS Merrill Lynch	Daisy Suryo	Buy	912 (reduce from 1,400 on 09/17/08)	12/4/2008

Sources: March 10, 2009. [http://www.adaro.com/files/Operations\\_Report\\_4Q08\\_FINAL.pdf](http://www.adaro.com/files/Operations_Report_4Q08_FINAL.pdf)

From the analysts recommendation, we can see that the current price of PT Adaro Energy Tbk is ranging between IDR550 and IDR1,200 per share. This means that the current financial downturn has decreased the value of PT Adaro Energy Tbk as high as 50.0 percent. While analyst from Morgan Stanley, Mr. Wee Kiat Tan, still believes that PT Adaro Energy Tbk could command premiums at IDR1,200 per share or 9.1 percent higher than IPO price.

PT Adaro Energy Tbk also still confident about the future as reflected by their statements in the Quarterly Activities Report for the three months ending December 31, 2008 as follows:

- a) Full year 2008 production volumes increase 7 percent to 38.5 MT.
- b) Full year 2008 sales volumes increase 9 percent to 41.1 MT.
- c) Cash preservation mode. Financial structure strong and improving.
- d) The long term growth plans are under review although growth targets remain the same.
- e) The equipment and funding for 2009 production growth has been prepared.
- f) Dredging of the Barito Channel is completed and started commercial operation January 1, 2009.
- g) Results of 2009 price negotiations are satisfactory. PT Adaro Energy Tbk has negotiated the price on 70 percent of the 2009 contracts while the remainder will be priced during the year as is normal practice.
- h) Demand for Envirocoal remains firm.

#### **4.5.2 Valuation based on IDX Data**

The latest data released by Indonesia Stock Exchange (IDX) can be retrieved from RTI's website, which is data on March 10, 2009. This statistic will be used to analyze the impact of current financial crisis to the valuation of PT Adaro Energy Tbk. Please note that the figures are using September 30, 2008 financial statement as these companies have not yet released the audited year-end financial statements, which will be due in March 31, 2009 based on BAPEPAMLK regulation.



Based on the current IDX data gathered from RTI's website on March 10, 2009, PT Adaro Energy Tbk is valued as follows:

- a) Net income of IDR686 billion.

The net income is for nine months only, ended September 30, 2008. If we annualized the net income, the projected net income for 2008 is IDR915 billion. Compared with first 2008 projection of IDR1,554 billion, the net income has decreased by IDR639 or 41.1 percent.

- b) Last traded price of IDR760 per share.

Compared to IPO share price of IDR1,100 per share, the price has decreased by 30.9 percent.

- c) Earnings Per Share (EPS) of IDR29.

As IDX is using trailing PER, the EPS for trailing PER of IDR28 is higher by 3.6 percent as a result of better projected net profit. The current annualized net profit of IDR915 billion is higher than previous projected net profit of IDR897 billion (please refer to table 4.5 in page 58 to see the previous net profit in trailing PER calculation).

- d) Price Earnings Ratio (PER) of 26.55.

Current PER of 26.55 is lower by 32.3 percent compared to trailing PER, using IPO share price, of 39.23. The main reason for this decrease is because the price per share fell off from IDR1,100 to IDR760 per share.

From the March 10, 2009 IDX data retrieved from RTI website, we can see that the current financial downturn has decreased the value of PT Adaro Energy Tbk by 32.3 percent based on Price Earnings Ratio valuation. While on the bright side, the Company's Earnings Per Share (EPS) has increased by 3.6 percent.

