FACTORS AFFECTED THE FIRM VALUE OF THE MINING SECTOR THAT GO PUBLIC IN INDONESIA

Azhar Latief*1, Reynaldy Prasetyo2
Universitas Muhammadiyah Kalimantan Timur, Indonesia*12
al824@umkt.ac.id1, reynaldyp123@gmail.com2

Abstract: The firm value becomes the main focus in terms of decision-making by investors to invest in a company or not. Tobin's Q ratio is one of the financial ratios used to measure firm value. This study aims to analyze how profitability, company size, leverage, and price-earnings ratios affected the firm value of mining companies listed on the Indonesia Stock Exchange from 2016 to 2018. The sample selection technique used was purposive sampling and obtained 33 mining subsector companies with a research period of 3 years (pooled data). The data analysis technique used in this study is Structural Equation Modelling-Partial Least Square (SEM-PLS). The results of this study show that partial profitability and leverage have a positive significant effect on the firm value. On the other hand, partial size and price-earnings ratio didn't have a significant effect on the firm value.

Keywords: Firm Value; Leverage; Price Earnings Ratio; Profitability; Size

INTRODUCTION

Information is a fundamental need for investors and prospective investors in making decisions. Complete, accurate, and timely information is needed to support rational decision-making so that the results obtained follow what is expected. The company will reveal information if the information increases the firm value. The firm value is a price that is willing to be paid by prospective buyers if the company is sold. The company's value is influenced by many factors, including profitability, company size, leverage, and Price Earnings Ratio.

Profitability can affect the value of the company. Suppose the profitability possessed by the company is high. In that case, it indicates that the company has good financial performance, so investors will be interested in investing in the company, and the firm value will be high. High profitability shows effectiveness and efficiency in the management of the company. High profitability will indicate a good company prospect to trigger investors to increase stock demand. Furthermore, increasing stock requests will cause the firm value to increase.

A company with a total size of large assets impacts the high stock price, and the firm value will also be increased. A large company is considered more able to provide a return rate of investment to reduce investor uncertainty. Hagerman & Ruland quoted in Bouteska & Mili (2022) stated that large companies have more resources to increase the firm value because they have better access to external information sources than small companies. The size of a large company reflects that the company is experiencing good development and growth to increase the firm value.

The leverage ratio is a ratio used to measure the extent to which the company's capital is financed by debt. The ratio that is often used to measure leverage is the Debt to Equity Ratio. Debt to Equity Ratio (DER) is the balance between debt owned by the company and its capital. The higher this ratio means that own capital is smaller than debt. For companies, the amount of debt should not exceed their capital so that the fixed burden is not too high. This ratio provides a general indication of a company's financial viability and risk. The DER ratio will affect the value of the company and investors will choose a high DER value because it shows the small financial risk borne by the company.
Firm value can also be influenced by the Price Earnings Ratio, which shows the ratio of stock price to earnings. This ratio shows how much investors value the price of shares against multiples of earnings (Jogiyanto, 2017). The price Earnings Ratio has a positive effect on stock returns because the higher the Price Earnings Ratio, the higher the price per share of a company. If the price per share and the profit growth rate of a company increases, the Price Earnings Ratio will also increase and will also increase the value of the company.

Several studies have tested the effect of profitability (ROE), size, leverage (DER), and price-earnings ratio on firm value (Tobin’s Q), including research conducted by Prasetyorini (2013) and Rostanti & Effendi (2019), which found that profitability had a significant positive effect on firm value. On the contrary, Agustiani (2016) found that profitability has no significant impact on firm value. Research by Fajaria & Isnailita (2018), Al-Slehat (2019), and Rizqia et al. (2013) found that firm size had a significant positive effect on firm value. On the other hand, Gharaibeh & Qader (2017) found that firm size had no significant effect on firm value. Research by Putri & Sari (2020) and Maronrong & Setiani (2017) found that leverage (DER) had a significant positive impact on firm value. On the other hand, Dwiantut & Dillak (2019) and Sari et al. (2020) found that leverage (DER) had no significant effect on firm value. Research by Prasetyorini (2013) found that price earnings ratio had a significant positive impact on firm value. On the other hand, Sari et al. (2020) found that price earnings ratio had no significant effect on firm value. This study intends to examine the effects of profitability (ROE), size, leverage (DER), and price-earnings ratio on the firm value of the mining sector that go public in Indonesia during the period 2016-2018.

In general, investors consider that high profitability will indicate good company prospects in the future. High profitability shows effectiveness and efficiency in managing the company because a high level of profitability will increase stock prices and attract investors to invest in the company. So, there will be a positive relationship between profitability and stock prices where high stock prices will affect firm value. The higher the company's profitability will increase the company's earnings per share. An increase in the company's earnings per share will make investors interested in buying company shares. With many investors purchasing company shares, it will increase the company's share price to increase the value of the company. High profitability will indicate good company prospects to trigger investors to participate in increasing demand for shares. Furthermore, the increasing demand for shares will cause the firm value to increase. Profitability ratios show the overall effectiveness of the company's operations, and profitability is used to assess the success of the company's growth and performance related to company value. Research by Prasetyorini (2013) and Rostanti & Effendi (2019) proves that profitability has a significant positive effect on the firm value variable. Other studies such as Agustiani (2016) state that profitability has no significant effect on firm value.

According to Brigham & Houston (2013), the signal theory is an action taken by company management that provides instructions for investors about how management views the company's prospects. The larger the company's size will affect management decisions in deciding what funding will be used by the company so that funding decisions can optimize the value of the company. Larger companies can access the capital market in obtaining funding. Because of this convenience, it means that the company has the flexibility and ability to get funds. Large companies have better control over market conditions to face economic competition, which makes them less vulnerable to economic fluctuations. Hagerman & Ruland quoted in Bouteska & Mili (2022) states that large companies also have more resources to increase company value because they have better access to external information sources than small
The size of the company is considered capable of influencing the firm value. Company size can be seen from the total assets owned by a company. A large company size reflects that the company is experiencing good development and growth, thereby increasing the firm value. The increase in the firm value is indicated by the company's total assets, which have grown and are greater than the company's total debt. Research from Fajaria & Isnalita (2018) states that company size has a significant positive effect on the value of a company. This statement is also supported by Al-Siehat (2019) and Rizqia et al. (2013). Other studies such as Gharaibeh & Qader (2017) state that firm size has no significant effect on firm value.

According to Kasmir (2018), the Debt to Equity Ratio (DER) is the ratio used to assess debt to equity. This ratio is calculated by comparing all debt, including current debt with all equity. This ratio is useful for knowing the number of funds provided by the borrower (the creditor) to the owner of the company. In other words, this ratio serves to find out every rupiah of own capital that is used as collateral for the debt. For banks (creditors), the greater this ratio, the more unprofitable it will be because of the greater the risk borne for failures that may occur in the company. However, for companies, the bigger this ratio, the better. Conversely, with a low ratio, the higher the level of funding provided by the owner and the greater the security limit for the borrower in the event of a loss or depreciation of the asset value. This ratio also provides a general indication of a company's financial viability and risk. So, the DER ratio will affect the value of the company and investors will choose a high DER value because it shows the small financial risk borne by the company. Research by Putri & Sari (2020) and Maronrong & Setiani (2017) proves that leverage (DER) has a significant positive effect on the firm value variable. Other studies such as Dwiastuti & Dillak (2019) and Sari et al. (2020) state that leverage (DER) has no significant effect on firm value.

Price Earnings Ratio is used to assess cheap or expensive a stock, the lower the PER value of a stock, the better or cheaper the price to invest. Companies with high growth rate opportunities usually have a high price-earnings ratio, and this indicates that the market expects profit growth in the future. On the other hand, companies with low growth rates tend to have low price-earnings ratios. The lower the price-earnings ratio of a stock, the better or cheaper the price to invest. The price-earnings ratio becomes low in value because the stock price tends to decrease or because the company's net profit increases. So, the smaller the value of the price-earnings ratio, the cheaper the shares to buy and the better the performance per share in generating profits for the company. The better the performance per share, the more investors will buy the shares, so the value of the company will increase. Research by Prasetyorini (2013) proves that the price-earnings ratio has a significant positive effect on the firm value variable. Other studies such as Sari et al. (2020) state that the price-earnings ratio has no significant effect on firm value.

Based on the literature review, the research model in this study can be seen in the following figure 1:

![Figure 1. Research Model](https://journalfeb.unla.ac.id/index.php/almana/article/view/1863)
METHODS

The type of this research is quantitative, with a purposive sampling technique, namely determining the sample with certain considerations or criteria. The criteria set for sampling are as follows: (1) Mining companies listed on the Indonesia Stock Exchange during the 2016-2018 period, (2) Mining companies that publish financial reports for the period 2016-2018 and have been audited by public accountants, (3) Mining companies that present financial statements in the rupiah currency. Based on the criteria, a sample of 33 companies was obtained (panel data). Data on profitability, size, and leverage are sourced from the company's financial statements, stock price data, and the number of shares outstanding to calculate Price Earnings Ratio and Company Value are sourced from the company's annual report.

Endogenous variables are influenced or are the result of exogenous variables. The endogenous variable in this study is firm value as measured by Tobin's Q.

$$Q = \frac{(Equity \text{ Market Value} + Total \text{ Debt})}{(Equity \text{ Book Value} + Total \text{ Debt})}$$

Exogenous variables affect or cause changes or the emergence of the dependent variable (endogenous variable). This study has four exogenous variables, namely profitability (ROE), firm size (SIZE), leverage (DER), and Price Earnings Ratio (PER).

Profitability

Profitability is a ratio to assess the company's ability to seek profit. This ratio also provides a measure of the level of management effectiveness of a company. The profitability ratio used in this study is Return on Equity (ROE). ROE is formulated as follows:

$$ROE = \frac{Earnings \text{ Before Interest and Tax}}{Total \text{ Equity}}$$

Size

Investors have considered the company's size consideration in making stock purchase transactions. The size of the company is also a benchmark for the good or poor performance of the company. The proxy used to determine the size of a company is the total asset.

$$Size = Ln (Total \text{ Assets})$$

Leverage

Leverage is the use of capital and sources of funds by the company. The source of these funds comes from debt. Leverage is calculated by the following ratio:

$$DER = \frac{Total \text{ Debt}}{Total \text{ Equity}}$$

Price Earnings Ratio

Price earnings ratio (PER) is a ratio used to assess the price of shares based on the company's ability to generate net income. PER is calculated as follows:

$$PER = \frac{Price \text{ per Share}}{Earnings \text{ per Share}}$$

This study uses data analysis techniques Partial Least Square (PLS). In PLS Path Modeling there are two models, namely the outer model and the inner model.
Outer Model

The measurement model (outer model) is a model that specifies the relationship between latent variables and their indicators, or it can be said that the outer model defines how each indicator relates to its latent variables. There are four criteria to assess the outer model, namely: (1) Convergent Validity: Convergent Validity determines the validity of each relationship between the indicator and the construct or latent variable. The value of convergent validity is the value of the loading factor (outer loading) on the latent variable with its indicators. The expected outer loading value is > 0.7; (2) Average Variance Extracted (AVE): In addition to looking at the loading factor value, assessing convergent validity is also done by looking at the Average Variance Extracted (AVE) value. AVE describes the average variance or discriminant extracted on each indicator so that the ability of each item to share measurements with others can be known. An AVE value equal to or above 0.50 indicates a good convergent. It is recommended that the AVE value is greater than 0.50 (Ghozali & Latan, 2015); (3) Discriminant Validity: Discriminant Validity aims to test the extent to which the latent construct is different from other constructs. A high discriminant validity value indicates that a construct is unique and can explain the phenomenon being measured. Cross-loading is one method to determine discriminant validity, namely by looking at the loading value of each item on a construct that is greater than the cross-loading value. Discriminant validity was also measured using the Fornell-Larcker Criterion, were a construct was said to be valid by comparing the root value of the AVE with the correlation value between latent variables. The AVE root value must be greater than the correlation between latent variables; (4) Composite Reliability: Composite Reliability measures the real value of the reliability of a construct and is better at estimating the internal consistency of a construct. Data that has composite reliability > 0.7 has a high-reliability value.

Inner Model

The inner model is a structural model that relates latent variables. The Structural Model (Inner Model) can be evaluated by looking at R² (Coefficient of Determination), 2 Predictive Relevance, and the results of the significance of the inner model through the bootstrapping method, with a significance level of 5%.

RESULTS AND DISCUSSION

The outer model testing includes convergent validity by looking at the loading factor (outer loading) and AVE, discriminant validity using the cross-loading method and the Fornell-Larcker Criterion, and composite reliability.

The loading factor results are shown in Table 1 below:

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Loading Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROE</td>
<td>1</td>
<td>Meet convergent validity</td>
</tr>
<tr>
<td>SIZE</td>
<td>1</td>
<td>Meet convergent validity</td>
</tr>
<tr>
<td>DER</td>
<td>1</td>
<td>Meet convergent validity</td>
</tr>
<tr>
<td>PER</td>
<td>1</td>
<td>Meet convergent validity</td>
</tr>
<tr>
<td>Q</td>
<td>1</td>
<td>Meet convergent validity</td>
</tr>
</tbody>
</table>

Source: Data that has been processed by the author (2020)

Based on Table 1, shows that there are no variable indicators whose outer loading values are below 0.7, so all indicators are declared feasible or valid for research use and can be used for further analysis.
The Average Variance Extracted (AVE) value is shown in Table 2 below:

**Table 2. Average Variance Extracted (AVE)**

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROFITABILITY</td>
<td>1</td>
</tr>
<tr>
<td>SIZE</td>
<td>1</td>
</tr>
<tr>
<td>LEVERAGE</td>
<td>1</td>
</tr>
<tr>
<td>PRICE EARNING RATIO</td>
<td>1</td>
</tr>
<tr>
<td>FIRM VALUE</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Data that has been processed by the author (2020)

Based on Table 2, the AVE value is > 0.5, thus it can be stated that each variable has good discriminant validity, so the model is feasible to use. Table 3 below shows the results of the discriminant validity of the research model by looking at the cross-loading value.

**Table 3. Cross Loading**

<table>
<thead>
<tr>
<th>PROFITABILITY</th>
<th>SIZE</th>
<th>LEVERAGE</th>
<th>PRICE EARNING RATIO</th>
<th>FIRM VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROE</td>
<td>0.092</td>
<td>-0.482</td>
<td>0.099</td>
<td>0.376</td>
</tr>
<tr>
<td>SIZE</td>
<td>0.092</td>
<td>1</td>
<td>-0.464</td>
<td>0.084</td>
</tr>
<tr>
<td>DER</td>
<td>-0.482</td>
<td>0.039</td>
<td>-0.17</td>
<td>0.252</td>
</tr>
<tr>
<td>PER</td>
<td>0.099</td>
<td>-0.464</td>
<td>-0.17</td>
<td>-0.063</td>
</tr>
<tr>
<td>Q</td>
<td>0.376</td>
<td>0.084</td>
<td>0.252</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Data that has been processed by the author (2020)

Based on the cross-loading results in Table 3, all the loading indicator values for the construct are greater than the cross-loading value, so the discriminant validity is high.

**Table 4. Fornell-Larcker Criterion**

<table>
<thead>
<tr>
<th>LEVERAGE</th>
<th>FIRM VALUE</th>
<th>PROFITABILITY</th>
<th>PER</th>
<th>SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEVERAGE</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FIRM VALUE</td>
<td>0.252</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROFITABILITY</td>
<td>-0.482</td>
<td>0.376</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>PER</td>
<td>-0.17</td>
<td>-0.063</td>
<td>0.099</td>
<td>1</td>
</tr>
<tr>
<td>SIZE</td>
<td>0.039</td>
<td>0.084</td>
<td>0.092</td>
<td>-0.464</td>
</tr>
</tbody>
</table>

Source: Data that has been processed by the author (2020)

Based on table 4, it is known that the root value of AVE is greater than the correlation of the latent variables. This means that the discriminant validity test with the Fornell-Larcker Criterion is said to be good. Table 5 below shows the results of composite reliability testing:

**Table 5. Composite Reliability**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Composite Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROFITABILITY</td>
<td>1</td>
</tr>
<tr>
<td>SIZE</td>
<td>1</td>
</tr>
<tr>
<td>LEVERAGE</td>
<td>1</td>
</tr>
<tr>
<td>PRICE EARNING RATIO</td>
<td>1</td>
</tr>
<tr>
<td>FIRM VALUE</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Data that has been processed by the author (2020)
Table 5 shows the value of composite reliability for all constructs above the value of 0.7. These results indicate that each variable has met composite reliability so it can be concluded that all variables have a high level of reliability. Thus, all constructs have good reliability.

Based on data processing that has been carried out using the SmartPLS v program in table 6, obtained an R-Square \((R^2)\) value of 0.386. This shows that the variables of profitability, size, leverage, and price-earnings ratio affect the firm value by 38.6%. The remaining 61.4% is influenced by other variables not included in the model.

In addition to looking at the R Square value, the model can also be evaluated by looking at the Q Square Predictive Relevance value. The value of Q Square can be calculated as follows:

\[
Q^2 = 1 - (1 - (R^2))^2
\]

\[
Q^2 \text{ Firm Value} = 1 - (1 - (0.386))^2
\]

\[
Q^2 \text{ Firm Value} = 1 - (1 - 0.149)
\]

\[
Q^2 \text{ Firm Value} = 0.149
\]

Based on the calculation results obtained by the Q Square value of 0.149, the latent variable used in the model is a latent variable with a good predictive relevance, which is 14.9%.

<table>
<thead>
<tr>
<th>Variable</th>
<th>(R^2) (R(^2))</th>
<th>(Q^2) (Q(^2))</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIRM VALUE</td>
<td>0.386</td>
<td>0.149</td>
</tr>
</tbody>
</table>

Source: Data that has been processed by the author (2020)

The results of hypothesis testing are obtained from the results of testing the inner model through the bootstrapping method by paying attention to the significance value between constructs (p-values) and path coefficients. The following table 7 shows the results of testing the inner model through the bootstrapping method.

<table>
<thead>
<tr>
<th></th>
<th>Original Sample</th>
<th>T Statistics</th>
<th>P-Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROFITABILITY (\rightarrow) FIRM VALUE</td>
<td>0.650</td>
<td>3.682</td>
<td>0.000</td>
</tr>
<tr>
<td>LEVERAGE (\rightarrow) FIRM VALUE</td>
<td>0.559</td>
<td>3.306</td>
<td>0.002</td>
</tr>
<tr>
<td>SIZE (\rightarrow) FIRM VALUE</td>
<td>-0.017</td>
<td>0.115</td>
<td>0.907</td>
</tr>
<tr>
<td>PRICE EARNING RATIO (\rightarrow) FIRM VALUE</td>
<td>-0.040</td>
<td>0.221</td>
<td>0.815</td>
</tr>
</tbody>
</table>

Source: Data that has been processed by the author (2020)

Based on table 7, the structural model is obtained as follows:

\[ Q = 0.650\text{Profitability} + 0.559\text{Leverage} – 0.017\text{Size} – 0.040\text{PER} \]

Testing the effect of profitability on firm value, obtained a path coefficient of 0.65 with a significance level of 0.000, less than 5%, so that profitability has a significant positive effect on firm value. Testing the effect of leverage on firm value, obtained a path coefficient of 0.559 with a significance level of 0.002, less than 5%, so that leverage has a significant positive effect on firm value. Testing the effect of size on firm value, obtained a path coefficient of -0.017 with a significance level of 0.907, more than
5%, so that size has no significant effect on firm value. Testing the effect of the price-earnings ratio on firm value, the path coefficient is -0.04 with a significance level of 0.815, more than 5%, so the price-earnings ratio has no significant effect on firm value.

Figure 2. SmartPLS Bootstrapping Output
Source: Data that has been processed by the author (2020)

Profitability (ROE) reflects the return on investment for shareholders. High profitability reflects the company's ability to generate high profits for shareholders. A high profitability ratio owned by a company will attract investors to invest their capital in the company. High ROE will increase stock prices and will attract investors to invest their capital in the company. So, there will be a positive relationship between profitability and stock prices where the high stock price will affect the value of the company. Based on the research conducted, shows that ROE has a positive and significant effect on firm value. This shows that if a company can streamline its profits well, then the value of the company will increase. The greater the ROE, the more efficient the company's capital turnover and the greater the profit margin obtained by the company. The results of this study are in line with research conducted by Prasetyorini (2013) and Rostanti & Effendi (2019), but not in line with research conducted by Agustiani (2016).

Company size is a measure that describes the size of the company which can be assessed from the total value of the company's assets. A large company size indicates that the company is experiencing good growth. The results of testing the effect of size on firm value show that firm size has no significant effect on firm value. Concluding that the larger the size of the company, the more value the company does not necessarily increase. The size of the company allows shareholders (investors) sometimes not to...
pay too much attention to the total assets of a company, but the growth and increase in company profits are the main priority in purchasing company shares. The results of this study are in line with research conducted by Gharaibeh & Qader (2017), but not in line with research conducted by Fajaria & Isnalita (2018), Al-Slehat (2019) and Rizqia et al. (2013).

Based on the test of the effect of DER on Tobin’s Q, leverage (DER) has a significant positive effect on firm value (Tobin’s Q). Operating expenses always increase causing companies to use loans. Very large debt will increase the company’s opportunity to fight funding problems. The more advanced the company allows it to use greater debt. In other words, increasing the DER of course also increases Tobin’s Q. According to Modigliani & Miller quoted in (Becker (2021), if the company is subject to income tax, the use of debt is the right decision taken by the company to increase the value of the company. This can happen because repayment of interest on loans can reduce the burden of costs that should be allocated for tax payments, these activities can increase the value of Earnings After Tax so that company profits increase and the market valuation of the company will also increase. The results of this study are in line with research conducted by Putri & Sari (2020) and Maronrong & Setiani (2017), but not in line with research conducted by Dwiastuti & Dillak (2019) and Sari et al. (2020).

Investors have different responses to the value of the company's price-earnings ratio, it all depends on the preferences of each investor. Investors who like to take risks (risk seekers) tend to speculate so they prefer a higher price-earnings ratio. The higher price-earnings ratio indicates that the stock price is increasing and the increase in the stock price has the potential to bring profits on the difference in stock prices that occur. Investors who tend to avoid risk (risk averters) prefer a low price-earnings ratio value because a low price-earnings ratio value indicates the larger the dividends distributed and the faster the return of capital on the investment made and in the hope that if they buy shares at the current price Cheap prices will bring a higher stock return if the price then rises again. So, the price-earnings ratio is seen by investors as a measure of the ability to generate future earnings (future earnings) of a company. For the price-earnings ratio variable, although this ratio is seen by investors as a measure of the company's ability to generate profits in the future, this study does not find a significant effect related to firm value. This could be because the price-earnings ratio (PER) is more related to other factors outside the company, such as profit-taking by investors when stock prices increase or decrease due to uncertainty in economic and political conditions or stock market sentiment. itself. The results of this study are in line with research conducted by Putri & Sari (2020), but not in line with research conducted by Prasetyorini (2013).

CONCLUSION

Based on the results of the research and discussion that have been presented, it can be concluded that profitability and leverage have a significant positive effect on firm value. Increased profitability and leverage will increase the value of mining companies that go public in Indonesia. The result of the next study is that Size and Price Earnings Ratio have no significant effect on firm value. The increase in company size and the price-earnings ratio has no impact on increasing the value of mining companies that go public in Indonesia. The limitation of this study is that several variables are not used in the study. It is known from the value of the coefficient of determination which is quite low. The next limitation is that the research period is less long, only three years. It is hoped that future research can use more variables that affect firm value, such as Return on Assets, Net Profit Margin, Debt to Asset Ratio, liquidity ratios, and company growth. Future research is also expected to use a longer research period.
REFERENCES


