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WAGES DIFFERENCE ANALYSIS ON INTERNAL AUDITORS FROM GENDER PERSPECTIVE

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ABSTRACT
Previous studies show the existence of wage differentials between male and female auditors. In most cases, female auditors receive lower wage as compared to male auditors. The main objectives of this study are to identify the factors that determine gender wage level and gender wage differentials among internal auditors and examine the existence of discrimination. This study used Oaxaca-Wage Decomposition Model to identify factors that determine gender wage level and gender wage differentials. A total of 58 private auditors were selected as respondents in this study. Among them, 33 were males and 25 were females. The study was conducted in Central Java and Yogyakarta, Indonesia. The study shows the wage differentials between males and females internal. Males auditors have more wages over the females. The auditors status and auditor position are the factors that determine gender wage level. Discrimination does exist and it is an important determinant factor for gender wage differentials. It is 0.105153 or 31.84% contributes to wages differentials. Regardless of auditor’s gender perspective. The researcher proposes for the firms should be fairly in assigning jobs to their auditors and also provide the proper reward system to enhance auditors’ careers. Government on the other hand should formulate policies that can facilitate and encourage the professional women to participate in labor market. The future research should develop the other wages discrimination models to determine the best model for wages discrimination in auditor profession in Indonesia.

1. INTRODUCTION

Many differences contain elements of discrimination. Discrimination always occurs in different groups such as the sex, which is as gender discrimination, skin color, religion, location and profession. In the labor market, discrimination is caused by the difference in wages that occurred when a group of workers was paid lower than other groups on the same job and wage differences are not determined by differences in productivities. This discrimination is known as wages discrimination, (Campbell et al, 2004).
Research on wages discrimination in professional workers in Indonesia, especially with the auditors as a subject, have been conducted by Trisnawati (2005, 2006, 2007). Auditors examined in these study are auditors who worked in public accounting firms in Central Java and Yogyakarta. The issues concerning women who work as auditors actually do not get out of trouble gender bias. Gender bias occurs as a consequence that auditor profession is male-stereotype profession (Eric et al, 1998). The results showed that there was discrimination in this profession. The analysis used is Oaxaca wages decomposition model (basic model). Furthermore, the basic model is developed with some decomposition models. They are the models of Oaxaca, Oaxaca 2, Reimers, Cotton and Neumark, and these models showed consistent results that discrimination is an important factor that causes differences in wages in this profession. Research findings are consistent with the case of auditors profession in England (Rhoda, 1998), in New Zealand (Helewa, 2005), and Canada (Hamrick, 2007)

The other findings from the previous researches, Trisnawati (2003, 2005, 2006) found that women auditors treated differently in the labor market in terms of wage differences, differences in career increases, the difference in type of work, worker status differences, differences in acceptance by peers and supervisor, and the difference in treatment. The result supports the results of previous studies (Pasey 2005; Sorensen 2003; Eric 1998; Sicilian & Grosberg 2001; Rhoda 1998; Laksmi 1999; Hamrick 2007).

Trisnawati (2005, 2006, 2007), previously only examine the auditors who work in the audit firms. Analysis of wage discrimination needs to be done with the subject of auditors who worked in the private sector (the internal auditor) and auditors who work in the public sector (government auditors) as a case for professional workers in public and private sectors in Indonesia. It is expected that these findings are consistent with the findings of previous researchers.

Research on wages differences in the public sector and private sector have been done in many different countries. Public sector workers receive higher wages than private sector workers. Issues related to gender, women received lower wages than male workers in the public sector or in the private sector. Oaxaca-decomposition analysis of wages in the model used to measure wage discrimination in both sectors. This case occurred in Ireland (Philip J. et.al, 2008), in Germany (Melly, 2005), in India (Glinskaya and Lokshin, 2007), Canada (Mueller, 1998), the Zambia (Nielsen and Rosholm, 2001), in Greece (Papapetrou, 2006). Most researchers analyzed the wage differences from the perspective of human capital theory and the theory of discrimination.

This research continue from the Trisnawati’s research (2005, 2006, 2007, 2008, 2009) by focusing on the internal auditors. The respondents were internal auditors working in companies in Central Java and Yogyakarta. Based on the issues mentioned before, the purpose of this study is to analyze the factors that cause the wages differences in the profession of auditors who work in companies using the basic model (Oaxaca-decomposition model of wages). Specifically, the objectives of this study are:

1. Analyze the determinants factors of wage levels in the internal auditors.
2. Analyze the determinant factors of wage differentials in the internal auditors by using the Oaxaca-decomposition wages model

The benefits expected from the results of this study are:

1. This research can explore more about the study of wage differentials from other professional of auditors. These results may provide a basic to develop widely in the study of other professional workers in Indonesia.
2. For the methodology, this research contributes to the modeling of wages discrimination, so the decomposition model was developed and can be implemented for various professions in Indonesia.
3. Provide information to the Indonesian government regarding the interests of women in particular auditors and other professional women and it is expected the government can make policy legislation precisely because more women entering the professional works.

2. LITERATURE REVIEW

Issues concerning women who work as auditors related the problem of gender bias. Gender bias occurs as a consequence that auditor’s profession is male-stereotype profession (Eric et al, 1998). The condition of this profession in Indonesia is also not free from discrimination. Trisnawati (2003, 2006) found that female auditors are treated differently in the labor market in terms of wage differences, differences in career increases, the difference in acceptance by peers and supervisors, and the difference in committed to the organization. Laksmi and Indriantoro (1999) found that the differences in career opportunities, treatment, receipt of the work and commitment to the career between men and women auditors. Pasey (2005) found that auditors in Scotland, 55% women auditors felt treated discriminatory, 72% felt the success of her career is not as good as men, only 76% who worked full-time, and 13% worked part-time and conducted at home. As a result of these, women have the lower skill, lower productivity and slower career. As auditors, women are working in different areas. This can be illustrated that only 16% women as a partner and 10% women as managers. Women tend to do domestic works such as tax (26%) and consulting (54%), and the audit work is mostly done by men (31%)

The conditions above also occur in the other countries like in Australia (Wilson, 2003), in New Zealand (Helew, 2005), Canada (Hamrick, 2007). Historically, there have been discriminated women in the auditor profession. Based on the Accountant Act 1942, women should not enter the auditor profession with a variety of reasons. (1) requires member companies who work on high pressure and sexual harassment may occur because the number of male workers dominate the profession, (2) less acceptable clients because of the assumption that women are unfit to work outside the office. The suitable employment for women in this profession is the review of reports, administrative offices, tax and management consulting services. This occurs because women are more patient, more rigorous, and high-level accuracy.
Relating to the wages received by female workers, Pilsbury, et. al (1999) found that male and female auditors began their careers with the same position and salary but a few years later female auditor received U.S. $ 4,000 lower than male auditors. The analysis used by previous researchers is Oaxaca wages decomposition model by Oaxaca and Ramson (1994). This model is a basic model for measuring the wage differences and discrimination. This model was applied to the manufacturing industry workers. This analysis has the disadvantage that a form of discrimination is only measured from the disadvantage women, but to illustrate the complete discrimination should be analyzed from male workers and female workers.

Latifah (1998) examined wage differentials in Peninsular Malaysia and she explains that the difference in wages due to discrimination is 51.30% while the remainder was due to human capital variables, occupation and family. Giovannii (1998) using the same analytical tools to investigate wage differentials in Switzerland. The study shows that the discriminatory which caused by wage differential is 53% Variables used to measure the wages differences are education, experience, occupation, firm size, and managerial functions. These variables only explained 47% of the wages differences. Fishclova (2002) analyzed the decomposition of Oaxaca-Wages Models for analyzing wage differentials in the Czech Republic and the EU. Variables used to determine the wage function is education, age, job classification, type of management, tariff class, sector, hours worked and the type of work schedule. Results of analysis showed that 52% due to discrimination and these factors explain only 48%.

Previously, the used of Oaxaca-decomposition model in auditors was conducted by Rhoda (1998) which uses audit profession in the UK as respondents. This study uses only the basic theory of human capital that measured by education and experience. The results showed that the prevailing wage discrimination in the UK is 33.33%. The weakness of this study only examines the wages difference with education and experience factors. So, it has to develop the other factors that determine the wage differentials.

Trisnawati (2005) develop the Rhoda’s research (1998) by using decomposition and pooled analysis model to analyze the determinants of wage differentials on auditors working in the accounting firm (independent auditors). In addition, she used human capital factors, individual characteristics, firm characteristics and job characteristics for analyzing the wages differences. The findings showed that gender wage discrimination in the auditor’s profession is an important factor in determining wage differentials due to 31% of wage differences.

Continuously, Trisnawati (2007, 2008) developed various models of wage discrimination such as Oaxaca, Oaxaca 2, Reimers model, Cotton model, and Neumark model to analyze the form of discrimination in this profession. The results showed that the Oaxaca 2 (wages decomposition model-male advantage) is the most appropriate model to measure discrimination. The existing of discrimination in this profession due to the employer prefer hiring male auditors than female auditors, and most of the hiring firm in
Indonesia, women auditors do in domestic areas such as tax consulting services, systems analysis, accounting, and administrative jobs.

Related with auditor’s career, Trisnawati (2006) found that the difference increases career, the difference in acceptance by peers and supervisors, and the differences of auditors' commitment to the organization due to women and male auditors. The career of women is slower than male auditors. However, Trisnawati (2005, 2008) found that the wage rate does not affect a successful career both in the case of auditor profession. The successful of auditor career was measured from the internal perspective such as job satisfaction, organizational commitment and turnover.

The researches of wages differences in the public sector and private sector workers have also been done in various countries. The analysis conducted to measure wage discrimination is the Oaxaca wages decomposition model. Many various decomposition models have also been done on workers in these sectors. Most researchers analyzed the wage differences from the perspective of human capital theory and the theory of discrimination (Philip J. et.al, 2008; Melly, 2005; Glinskaya and Lokshin, 2007; Mueller, 1998; Nielsen and Rosholm, 2001; Papapetrou, 2006; Borland, et.al.1998). The factors used to determine the wages differences are human capital factors (education and experience), demographic factors (age, marital status and worker status and location factors and types of work. Discrimination occurs in this profession. Workers in the public sector receive higher wages compared to private sector workers. In related with gender issues, women receive lower wages in the public sector and the private sector compared with men. This case occurred in Ireland (Philip J. Et. al, 2008), in Germany (Melly, 2005), in India (Glinskaya and Lokshin, 2007), Canada (Mueller, 1998), in Zambia (Nielsen and Rosholm, 2001), in Greece (Papapetrou, 2006)

3. DATA AND METHODOLOGY

The samples are men and women auditors who working in companies in Central Java and Yogyakarta. Due to absence of information regarding the number of auditors accurately, researchers conducted snowballing technique by distributing questioner to respondents. The expected of response rate is 15-20% based on Indriantoro and Supomo, 2005. So, researcher distribute 300 questioners and the expected of data collected is 60 respondents. It is sufficient as based on the analysis because the Central Limit Theorem assumption that if the data obtained as many as 30 or more is assumed the normal distribution (Hair, 2005). The research sample was collected by convenience non-random sampling method, so the auditors are willing to give the complete answers as a sample in this study. The results of the data collection can be seen in table 1 below.

<table>
<thead>
<tr>
<th>Description of Questionnaire Returns</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Questionnaire distributed</td>
<td>300</td>
</tr>
<tr>
<td>Questionnaire returned</td>
<td>81 (response rate 27%)</td>
</tr>
<tr>
<td>Incomplete questionnaire</td>
<td>23</td>
</tr>
</tbody>
</table>

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The instruments of this study are questionnaire. In summary, the measurement instruments can be explained in the following table.

Table 2: Research Variables Measurement

<table>
<thead>
<tr>
<th>Variable</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wage</td>
<td>Total average revenue received by internal auditors from their companies for a month (interval scale)</td>
</tr>
<tr>
<td>Ln wage</td>
<td>Ln average wage of auditors</td>
</tr>
<tr>
<td>Education</td>
<td>1: if education degree is S1 and S2/S3</td>
</tr>
<tr>
<td></td>
<td>0: if education degree is D3</td>
</tr>
<tr>
<td>Experience</td>
<td>Long working as an auditor (year)</td>
</tr>
<tr>
<td>Gender</td>
<td>1: men</td>
</tr>
<tr>
<td></td>
<td>0: women</td>
</tr>
<tr>
<td>Age</td>
<td>The auditors age (year)</td>
</tr>
<tr>
<td>Marital status</td>
<td>1: married</td>
</tr>
<tr>
<td></td>
<td>0: not married</td>
</tr>
<tr>
<td>Position</td>
<td>1: as supervisor / head department/ team coordinator</td>
</tr>
<tr>
<td></td>
<td>0: staff auditor / team members</td>
</tr>
<tr>
<td>Worker`s status</td>
<td>1: as permanent/ full time workers</td>
</tr>
<tr>
<td></td>
<td>0: as contract / temporary workers</td>
</tr>
<tr>
<td>Location</td>
<td>1: the location working is in the head office</td>
</tr>
<tr>
<td></td>
<td>0: the location working is in the branch office</td>
</tr>
</tbody>
</table>

The data analysis uses the **Oaxaca analysis (decomposition Wages Model)**. It is a basic analysis tool to test the function of determination of wage levels and wage differentials. The model used to estimate wage differences using OLS is:

\[
\ln W = \beta_0 + \beta_1 \text{EDUCATIONAL} + \beta_2 \text{EXPERIENCE} + \beta_3 \text{EXPERIENCE SQUARE} + \beta_4 \text{AGE} + \beta_5 \text{MARRIAGE STATUS} + \beta_6 \text{POSITION} + \beta_7 \text{WORKER’S STATUS} + \beta_8 \text{LOCATION} + \mu
\]

The procedure of wages decomposition model developed by Oaxaca and Ransom (1994): If \(W_m\) is the male wage auditors and \(W_f\) is female wages auditor, \(X^f\) and \(X^m\) is the determinant of the wage function so the following equation made:

\[
\log W_m = \sum X^m b^m
\]
\[ \log W_f = \sum X^f b^f \] …………………………………………..(2)

Where \( X^m \) and \( X^f \) are the mean of the variables functions, so it can be calculated the average value of the log wages

\[ W_m = \sum X^m \log b^f \] …………………………………………..(3)

By doing a combination of equation (2) and (3) then the equation can be made:

\[ \log W_m - \log W_f = \sum [(X^m - X^f) b_m] + [X^f(b^m - b^f)] \] …………………………………………..(4)

Log \( W_m - \log W_f \) \( \rightarrow \) the wages differences between male and female auditor

\( (X^m - X^f) b^m \) \( \rightarrow \) The mean differences from observed factors as human capital, individual characteristics and job characteristics.

\( X^f(b^m - b^f) \) \( \rightarrow \) Discrimination

Before decomposition procedure was done, firstly, we did multiple linear regression analysis of these samples separately by male auditors and female auditors. This analysis is used to determine the value of beta for the next stage analysis.

4. FINDINGS AND DISCUSSION

A. The analysis of wage level

The research objectives are analyzing the determinants of wage levels and wage differentials on internal auditors. They are analyzed by Oaxaca wages decomposition model which requires the value of beta for each variable from the regression in each sample groups. The results of regression function of wage levels can be seen in table 3:

Table 3: Results of regression analysis of wage functions on internal auditors

<table>
<thead>
<tr>
<th>Variable</th>
<th>Male sample</th>
<th>Female sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Beta</td>
<td>t-value</td>
</tr>
<tr>
<td>Constant</td>
<td>6.835</td>
<td>28.626 *</td>
</tr>
<tr>
<td>Age</td>
<td>.011</td>
<td>2.310 *</td>
</tr>
<tr>
<td>Education</td>
<td>.335</td>
<td>2.835 *</td>
</tr>
<tr>
<td>Marital status</td>
<td>-.046</td>
<td>-.319</td>
</tr>
<tr>
<td>Position</td>
<td>.177</td>
<td>2.986 *</td>
</tr>
<tr>
<td>Experience</td>
<td>.011</td>
<td>.297</td>
</tr>
<tr>
<td>Experience2</td>
<td>-2.633E-5</td>
<td>-.017</td>
</tr>
</tbody>
</table>
Based on the results of regression analysis, the value of $R^2$ is quite high which more than 0.6. It is 0.788 for male sample and 0.852 for female sample. The regression model used was also strong (robust) because the value of F test showed significant results for both regression models, they are 11.181 and 11.475. The findings from male auditors regression found that age, education and position are factors that affect wage level, while other variables such as experience, marital status and job characteristics were found not significant. While for the samples female auditor, the results of regression analysis showed that the status of workers has significant factor and the other variables such as age, education, position, experience, and the location is not significant. These results mean that position or level of auditors and status of works have positive significant affect the wages level. It showed that female internal auditors has lower career as male auditors. It happens because most of male auditors as supervisor and the manager or owner prefer male auditor to control the companies compared with female auditors.

**B. The Analysis of Wage Differentials**

Based on the research objectives, it is necessary to explain the determinants of wage differentials and discrimination on internal auditors. The determinant factors include the factors of human capital, individual characteristics, job characteristics and discrimination. The method used Oaxaca-wages decomposition model

From descriptive data, the wage differences occur between male and female internal auditors. The average wage is Rp 2.16 million for female auditors and Rp 2.945 million for male auditors. It was consistent with previous research that women workers have lower wages than male workers. For analysis, wages have done in the form of natural logarithm (ln wage). The average ln wage for male auditor is 7.9405 and the female auditor is 7.6103. So, the ln wage differences between them are 0.3302.

The Oaxaca wages decomposition is used as a model of statistical method to determine how percentages of the each factor contribution to wages differences. The results of the analysis can be seen in Table 4
Table 4 Oaxaca-wages decomposition model

\[
\frac{LnW_m - LnW_f}{LnW_m - LnW_f} = 0.3302
\]

\[
\frac{\sum \hat{\beta}_m (X_m - X_f) + (\hat{\beta}_m - \hat{\beta}_f) X_f}{\sum \hat{\beta}_m (X_m - X_f) + (\hat{\beta}_m - \hat{\beta}_f) X_f}
\]

<table>
<thead>
<tr>
<th>Observed factors</th>
<th>Discrimination</th>
</tr>
</thead>
<tbody>
<tr>
<td>(\sum \hat{\beta}_m (X_m - X_f))</td>
<td>(\sum (\hat{\beta}_m - \hat{\beta}_f) X_f)</td>
</tr>
<tr>
<td>Human capital</td>
<td>0.344233</td>
</tr>
<tr>
<td>0.0415475 (12.58%)</td>
<td></td>
</tr>
<tr>
<td>Individual characteristics</td>
<td>0.190800</td>
</tr>
<tr>
<td>0.1380776 (41.82%)</td>
<td></td>
</tr>
<tr>
<td>Job characteristics</td>
<td>-0.179880</td>
</tr>
<tr>
<td>0.0460330 (13.94%)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>Discrimination</td>
</tr>
<tr>
<td>0.2256580 or 68.34%</td>
<td>(0.355153-0.25) = 0.105153</td>
</tr>
<tr>
<td>or 31.66%</td>
<td></td>
</tr>
</tbody>
</table>

The findings showed the wage differences between male and female auditors caused by observed factors such as human capital, individual characteristics and job characteristics are 68.34%. The most contributing observed factors to wages differences is individual characteristics factors. Discrimination occurs in this profession and it contributed 31.66% to the wage differences. The result found that discrimination was the most important factor as a determinant of wage differences in internal auditors. The results of this study showed that discrimination has more contribution to the wages differences compared with other factors such as human capital, individual characteristics, and job characteristics. The results of this study support the hypothesis and consistent with the researches previously. So, discrimination occurs in the professional workers such as auditors.

5. CONCLUSIONS AND IMPLICATION

Based on the analysis conducted, the conclusions of this study attempted to answer the research objectives described previously. The conclusions are following:

1. The wage differences occur between male and female internal auditors and who working in the Central Java and Yogyakarta companies. Female internal auditors receive lower wages than male internal auditors.
2. The findings from male auditors regression found that age, education and position are factors that affect wage level significantly, while for the samples female auditors, the results of regression analysis showed that the status of workers has significant factor. The other variables such as age, education, position, experience, and the location are not significant.
3. Discrimination occurs in this research and it contributed 31.66% to the wage differences. The result found that discrimination was the most important factor as a determinant of wage differences in internal auditors. The discrimination has more contribution to the wages differences compared with other factors such as human capital, individual characteristics, and job characteristics.

Based on these conclusions, the employers and the auditors should participate in efforts to reduce discrimination. In the case of internal auditors in Central Java and Yogyakarta, discrimination due to auditors is treated differently by the employer (the owner). Contrasting the treatment is to distinguish types of assignments given. Managers and supervisors at the company favor if male auditors did the types of outside assignments. So, managers or supervisors should be fairly in assigning jobs to their auditors and also provide proper reward system to enhance auditor’s careers.

In the other things, government should give attention to this aspect, especially in professional jobs. The government should formulate policies that can facilitate and encourage the professional women to participate in labor market and it is necessary to enable a form of gender equality in many types of works. Constitution states that government adopts the principle of equality between men and women workers. It should be applied in all areas, so discrimination can be reduced.

There are many limitations and suggestions for this research. The respondents are only internal auditors in the restricted region such as Central Java and Yogyakarta, so it will be better if the scope research broadly. Researcher conducted a survey for personal directly to each respondent. It makes the response rate is very low. Therefore, the results of this study less generalized because of the limited area of research. In the future, the research can be expanded the areas of research such as Jakarta, East Java (Surabaya), West Java (Bandung), Medan and Makassar. The result is better because the number of auditors located in the region, so the sample obtained will be better.

The object of this study is the auditor as a case study in professional workers. The same analysis needs to be done with objects other professional workers such as teachers, doctors, lawyers and other professional workers so, it has consistent results. Other research with different objects of professional workers will give information to the Indonesian government about the real situation that faced by women workers. So, government can give facilities and special attention to women workers. Analysis of auditors wage differences in this study were analyzed in terms of gender. The future research also needs to be done to analyze the differences in wages based on the type of auditors works such as auditors working in the public sector and the auditor who working in the private sector. These will give a more complete picture of discrimination in Indonesia.

REFERENCES

Biro Pusat Statistik Propinsi Jawa Tengah. 2007. Statistik Kependudukan dan Ketenagakerjaan Jawa Tengah
Buncha Kaipanlert and Brian H Kleiner, 1999, Discrimination in the public sector, Equal Opportunities International; 1999; 18, 5/6; ABI/INFORM Global pg. 74
Elena Glinskaya, Michael Lokshin, 2007, Wage differentials between the public and private sectors in India, Journal of International Development. Chichester: Vol. 19, Iss. 3; pg. 333


Trisnawati, Rina 2005, Diskriminasi pada profesi auditor dan pengaruhnya terhadap keberhasilan karir auditor, laporan penelitian PHK-A2 Akuntansi UMS, tidak dipublikasikan


Trisnawati, Rina 2008, Pengembangan Model Diskriminasi Upah, Paper dipresentasikan dalam seminar hasil penelitian multi tahun, DP2M DITJEN DIKTI, Jakarta,

Trisnawati, Rina 2009. Model diskriminasi upah dan implikasinya terhadap keberhasilan karir auditor. (The wages discrimination model and its implication to auditor’s career), Paper presented in the 2 nd ACCOUNTING CONFERENCE AND 1 ST DOCTORAL COLLOQUIUM FACULTY OF ECONOMICS UNIVERSITY OF INDONESIA, September 4-5 th.