



Firms' Salary Adjustment in Response to Crises

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ABSTRACT

This study aims to investigate firms' behavior on salary adjustment in response to the Covid-19 crisis and presents findings on median basic salary change in the Malaysian labor market by occupational groups during quarters 3 and 4, 2020. The result finds a lower prevailing salary offer for the newly employed. For high-skilled occupations, employees above the age of 40 have seen the median salary class dropping one class below, while the young cohort below age 40 climbs up one salary class. The study has employed different machine learning techniques to build classification models for the prediction of the binary outcomes, namely "salary freeze or cut", or "salary increase". The findings discovered that the important factors that increase the likelihood of a "salary freeze or cut" for the newly employed had been consistently attributed to the occupational group by MASCO and the number of available job vacancies. Besides that, the job opportunity and salary potential for mid-skilled jobs are found to be shrinking despite the younger age cohort of workers receiving a higher median salary in Q4 as compared to Q3; this, however, comes with a reduction in job vacancies.

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INTRODUCTION

This study sets out to understand firms' behavior on salary setting practices towards the adjustment of labor demand due to economic crisis. During the economic crisis, with the fall in economic activity demands, firms have resorted to making adjustments to labor demand to maintain profitability or to ensure that their businesses can be kept afloat. There are different approaches that the firms can undertake in the adjustment of labor demand, including the reduction in labor quantity (number of employment and working hours) or the price of labor, that is the salary. The margins of flexibility in salary adjustments by Malaysian firms during the COVID-19 crisis are of particular interest in the study of this paper.

With the ruthless spread of the coronavirus around the world causing workplace closure, it goes without saying that many workers have lost either part or their entire source of income. As for those who are still able to keep their jobs, they might face the implication of salary cuts, which occur across the different industries. Incidences where salary cuts have been negotiated in collective agreements between the employees and employers are more pronounced with the severity of the crisis development.

The economic consequences of the coronavirus crisis have not been equally distributed across the labor market, causing the most damage to the low-paid workers. They are bound to receive the full force from the brunt of the health and job crisis. The pandemic has only served to expose more of the existing vulnerabilities underlying the society as well as expand the margin of inequality. Unfortunately, most of the people with limited means are the ones who can protect themselves the least. Low-paid workers are often those most likely to be tied to sectors that are affected the most by the shutdowns, posing greater damage to the job earnings. Even those who are involved in essential services, such as healthcare workers, food processing workers, and agriculture workers have constantly put themselves at risk of exposure to the virus during lockdowns.

It is reported that young people are set to experience long-lasting effects of the crisis. The young will be the group who suffers the dismal chance of securing employment or gaining work experience in the short run of the current crisis, while their older peers, on the other hand, will face a heavy economic crisis in the short span of their career. The initial labor market experience is set to impose significant influence on later working life, potentially scarring the youngsters in future employment opportunities and earnings. This damage will be coupled with the deterioration of skill development that is important in their career development. Moreover, to a certain degree, youths must sustain the burden of financing high debt levels that are incurred by governments in the fight against coronavirus to arrest the immediate negative economic impact of the crisis. ILO has described that the unemployment rate for younger people is much higher than that of experienced workers in the G20 countries. In severe cases, the rise has been found to be much higher in comparison to the period during the Global Financial Crisis. It is worrying to discover that many youths and older adults who are unemployed have not been actively looking for jobs, citing reasons such as limited availability of job opportunities or inconveniences resulting from mobility restrictions.

The Malaysian economy is severely affected by the current pandemic, which has led to a fragile and uneven economic recovery and has created the impact of a double-edged sword that has resulted from both demand and supply. It is essential to build a sustainable job-rich recovery by addressing the labor market and social challenges of the economic crises, mainly because the labor market repercussions of the crises tend to be stronger than the output losses. It is reported that the number of unemployed has reached 610,000 up to March 2020 in Malaysia (Department of Statistics, Malaysia- DOSM). It is observed that the changing in firms' behavior in responding to the economic crises are mixed due to the intensity and nature of the crises despite institutional settings. The existence of downward salary rigidity is found during past crisis periods in developed countries. As the crises persisted over the years, the moderation of a real salary has become significant. Some of the developed countries experienced more than doubled salary cuts a few years later after the onset of the crises (Kunovac, 2015).

The main objective of this study is to examine Malaysian firms' behavior towards salary adjustments in response to crises. The rationale of the study is mainly due to a few main sources. Firstly, the shock intensity of the pandemic has caused the firms to implement a salary cut despite laying-off their workers. Secondly, the distribution of shocks is unequal over different sectors and groups of workers (i.e., skilled, semi-skilled, and low-skilled workers). Thirdly, the salary deterioration during the period of prolonged crises would slow down productivity, which in turn further restrains salary growth and living standards.

The findings of the study could be used to monitor the salary changes for workers (especially for newly employed workers) from economic crises to recovery. For policymakers and institutions, the results serve as empirical evidence for recommendations for further implementation of accommodative policy measures.

LITERATURE REVIEW

Kilponen et al. (2010) have investigated the labor market reactions to economic recessions and concluded that the labor market repercussions in financial crisis are stronger than that of other normal downturns. The mechanisms influencing the micro-dynamic of the labor market include the insider-outsider model, loss of skill due to unemployment, and a reduction of job supply and a fall in the average quality of available labor. Kilponen et al. (2010) captured the development in long-term unemployment due to the financial crisis and micro-flexibility of the labor market in terms of worker flows in and out of unemployment. This approach concurs with the idea of using flow variables of labor market indicators to understand the shift in demand and supply of labor. Evidence from Kilponen et al. (2010) provides an informative context setting for this study on firms' response to salary adjustment. It has been discovered that the salary reaction may be asymmetric because of the existing nominal and real downward salary rigidities in industrialized countries.

Fabiani and Sabbatini (2011) carried out a coordinated survey across 17 European countries in early 2008 and the summer of 2009 to investigate how the severe economic downturn that occurred in 2008-2009 had affected the salary adjustment practices by Italian firms. Accordingly, salary changes were observed among the firms in those countries only after an average of two years of salary rigidity. Fabiani and Sabbatini (2011) attributed salary rigidity to the factors of institutional constraints and the firms' attitude toward avoiding negative effects on productivity. Their study found that most firms had resorted to cutting down the labor force by reducing the number of employees and work hours. However, a different approach was taken by the Italian firms for the high-skilled labor force, i.e., through minimizing non-labor costs as an attempt to retain important human capital that had been gathered. The approach taken by the Italian firms was found to be consistent with the findings of the Irish firms (Linehan et al., 2015). The Irish firms had even tried to discourage the high-skilled workers from leaving in the face of lowered salaries during a crisis, as corroborated by the established theory of the insider-outsider model. In addition, Linehan et al. (2015) indicated that the high incidence of base salary cuts, albeit the presence of salary stickiness, could be attributed to the intensity level and nature of the negative shock, as evidenced by Irish firms since 2008. Correspondingly, the future trend of business uncertainty will only lead to an increased cost in talent acquisition as Gloria et al. (2016) contend that the recruitment process involves lots of decision-making for both the employer and labor, based on the study of American firms.

The study by Bergin et al. (2012) indicated that both the average earnings and average labor costs within the Irish private sector employment had shown a marginal increase between the period 2006 and 2009. Bergin et al. (2012) have attributed the influence of the increasing share in return of graduate employment as well as increasing share in return to large firm employment as the drivers behind the rise in the average labor costs, despite the counter effect of the reduction in construction employment that has a salary depressing effect. Overall, the salary setting practices by Irish firms in the face of the 2009 crisis are linked to the general reluctance of the firms to reduce salaries due to the fear of productivity losses because of workers' dissatisfaction or higher rates of labor turnover. The findings by Bergin et al. (2012) supported the study of Fabiani and Sabbatini (2011) on firms' adoption of strategies for the reduction of staff numbers, hours worked, and non-labor cost payment rather than salary cutting. Similarly, the authors have supported the findings from the research of Walsh (2012) in demonstrating the evidence of the firms' tendency to choose to reduce employment inputs rather than salaries.

There is enough significance in the pursuit of the current study based on several reasons. First, salary flexibility is much more versatile and higher for young graduates who have newly entered the workforce rather than the other labor market of existing employees, as is evidenced by the findings from Lydon (1999). Fabiani and Sabbatini (2011) have emphasized the degree of salary flexibility as the important contributor to the economic recovery speed in adjusting to shocks. This shows that the equilibrium salary for young workers, especially newly employed, is low at the start. However, there is little empirical evidence that can support the changes in the variation of graduates' salaries before and after the crisis. The utilization of the job salary

offers on the Malaysian job portal, which focuses on the age group below 40, provides insights into how Malaysian firms behave towards the change in the median salary offered to young workers. The young graduates are known to be suffering from labor market distortion, which has only worsened in times of economic crisis. From the angle of the young graduates, according to Conefrey and Smith (2014), a depressed labor market is of the least concern in comparison to the urge to secure a job in the first instance over the consideration in preferences for job pay and job conditions.

While there has been much research on salary changes during the economic recession (Fabiani and Sabbatini, 2011), in general, none has focused specifically on the impact of the economic shock on the salary changes in the Malaysian labor market. Many past literatures have focused on a labor force survey that resembles a household survey, thus lacking the dimension of firms' characteristics information.

METHODOLOGY

The predictive model predicts the likelihood of firms paying at the current common market rate. To analyze the likelihood of a salary freeze or cut by age level, the predictive result between those who are above 40 and those who are below 40 will be compared within a quarterly period, namely Q3 2020 and Q4 2020.

The prediction can be reflected by the dependent variable (D_i) in the following equation. The predictive model of the study is as follows:

$$P(D_i = 1 | X_i) = \tau(\beta'X_i) \quad (1)$$

where X_i is the vector of explanatory variables, including firm size, number of vacancies, number of applicants, job location, occupational group (MASCO), and economic sector (MSIC). β is the vector of coefficients, and τ is the cumulative normal distribution function. The prediction will be carried out with respect to the different occupations by 1-digit MASCO and economic sector by MSIC category instead of an aggregate salary.

A set of predictive models, comprising naïve bayes (NB), deep learning (DL), generalized linear models (GLM), logistic regression (LR), and gradient boosted trees (GBT) will be conducted. The class of higher interest is always set to "salary freeze or cut" for all runs. Among the results from the runs of all these models, the best model will be selected based on the highest prediction accuracy rate for the age group above 40 and below 40, respectively.

The main data source for this study is the "MyFutureJob" portal. All jobs posted by the firms from 1st June 2020 to 31st December 2020 in the job portal will be collected for this study's analysis. Web scraping for all relevant information will be carried out to collect the information on job vacancies, the number of job applicants, firms' size, occupation title (MASCO) and economic sectors (MSIC). The data is extracted using the Python and Selenium technique. The main assumption of the study is that the salary received by the newly employed is almost equivalent to the job posts' salary to gauge the firms' salary adjustments in response to crises.

RESULTS AND DISCUSSION

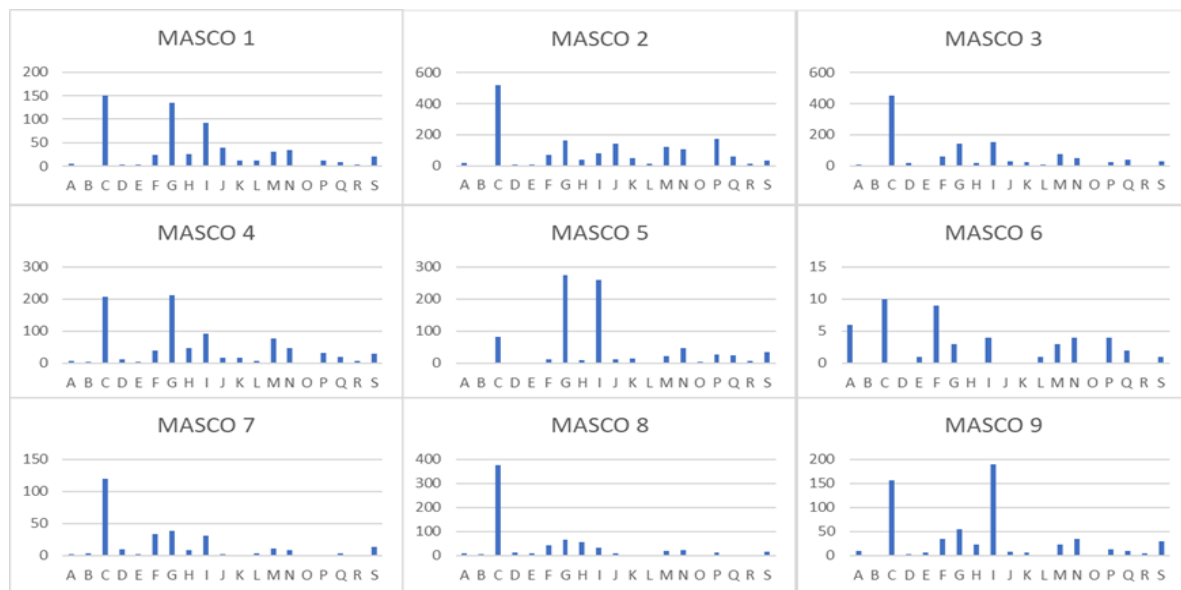
This section will first discuss the change in the prevailing market median salary for the newly employed in the Malaysian job market in Q3 and Q4 2020.

Then, the best predictive model for predicting the salary freeze or cut likelihood in 2020 is determined for employees who are aged 40 and above, and for those who are below, it is determined based on the spectrum of performance metrics. Given the best-chosen model for those aged 40 and above and those below 40, respectively, further analysis of the important factors that influence the likelihood of firms freezing or cutting salaries will be discussed.

Changes in Median Basic Salary for Employees Above 40 between Q3 and Q4

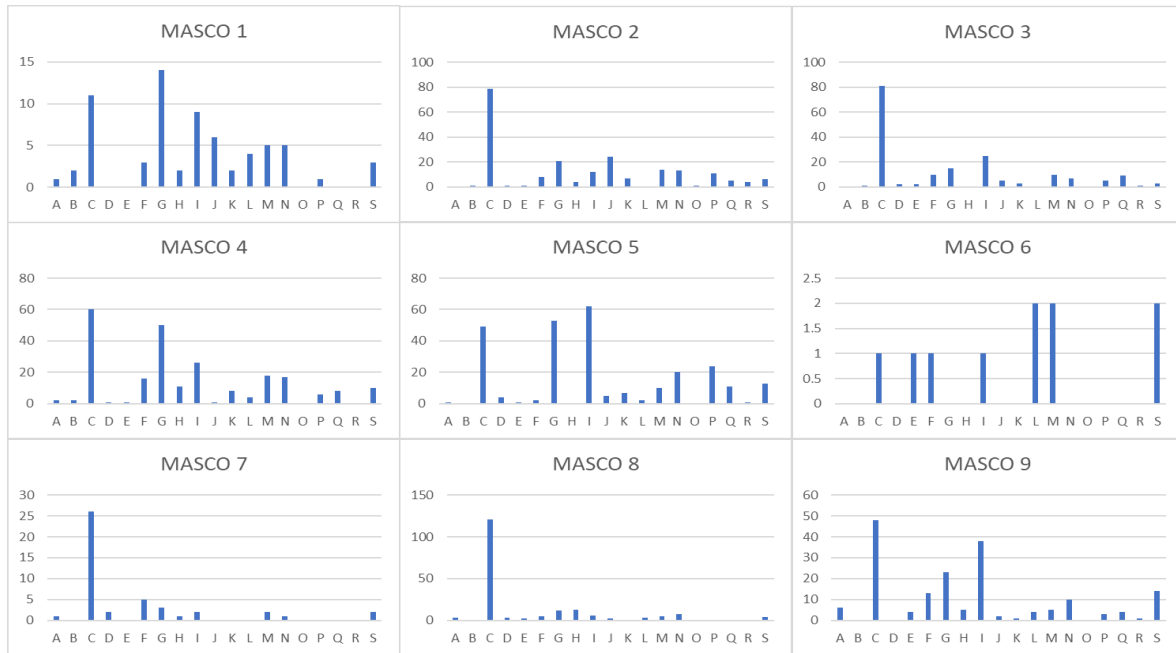
The median basic salary for employees above 40 remains steady from Q3 to Q4 except for high-skilled jobs in MASCO category 1. The managerial occupational group of MASCO 1 observes a drop in the median basic salary category from “5,000 to 5,999” to “4,000-4999” between Q3 2020 and Q4 2020, while MASCO 2 and MASCO 3 maintain the same prevailing market median salary category between the two periods, which are category “2,500 to 2999” and category “1500-1999”, respectively. Both semi-skilled and low-skilled jobs are also maintained at the same prevailing market median basic salary category between the two periods.

It seems that the Covid-19 outbreak in early 2020 has impacted the more experienced workforce above 40 who are seeking managerial level jobs in a much more pronounced manner. Based on the job vacancy distribution across the sectors for MASCO 1, the number of offered job vacancies has dropped significantly in Q4 2020, in the period between October to December. The labor demand for managerial jobs in Q4 has plunged to a low level in comparison to Q3 (see Figures 1 and 2). The dip in the offered job vacancies (i.e., managerial job vacancies) has reduced from the scale of a hundred to ten in the two different periods. This scenario resembles the findings from Linehan et al. (2015), Fabiani and Sabbatini (2011), and Kunovac (2015), suggesting that employment cuts are the initial response to a negative economic environment. The employment cuts subsequently slowed down the real salary growth in the later period. Besides that, a bigger proportion of managerial job vacancies in Q4 2020 seems to be offered to cohorts above 40 in the wholesale and retail trade sector as well as in the accommodation and food service activity. These sectors usually have, on average, lower median salaries for managerial jobs compared to the manufacturing, professional, scientific, and information and communication sectors.



Note: Kindly refer to the appendix for the definition of MASCO and Economic Sector (MSIC)

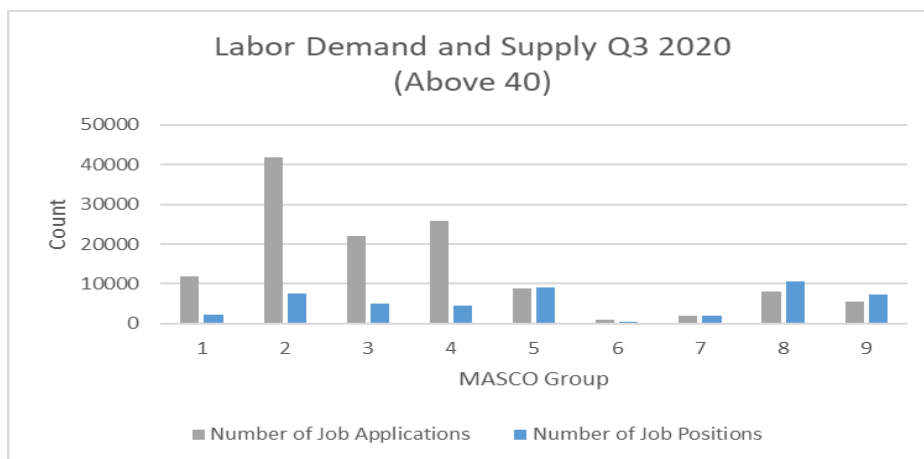
Figure 1 Job Vacancy Distribution Across Sectors for Different MASCO Groups (Q3 2020, aged 40 and above)



Note: Kindly refer to the appendix for the definition of MASCO and Economic Sector (MSIC)

Figure 2 Job Vacancy Distribution Across Sectors for Different MASCO Groups (Q4 2020, aged 40 and above)

In addition, based on the distribution of job applications and job positions in Q3, there is a huge number of job applicants who compete for the limited number of job vacancies at the high-skilled job level. The huge gap between the available labor supply in the competition of limited managerial job vacancies can contribute to the drop in the median basic salary for newly employed individuals above 40 (see Figure 3). With a large available pool of job applicants, the firms might seize the opportunity to reduce manpower costs by pressing down the salary offer. The salary growth is further suppressed when the jobseekers are forced to accept lower salary offers in view of a harsher job environment during a crisis. The review of literature has outlined the lack of previous studies that have adopted a particular distinction between the choice of labor input and salary adjustments in examining the labor cost adjustment mechanism of firms in response to a crisis.

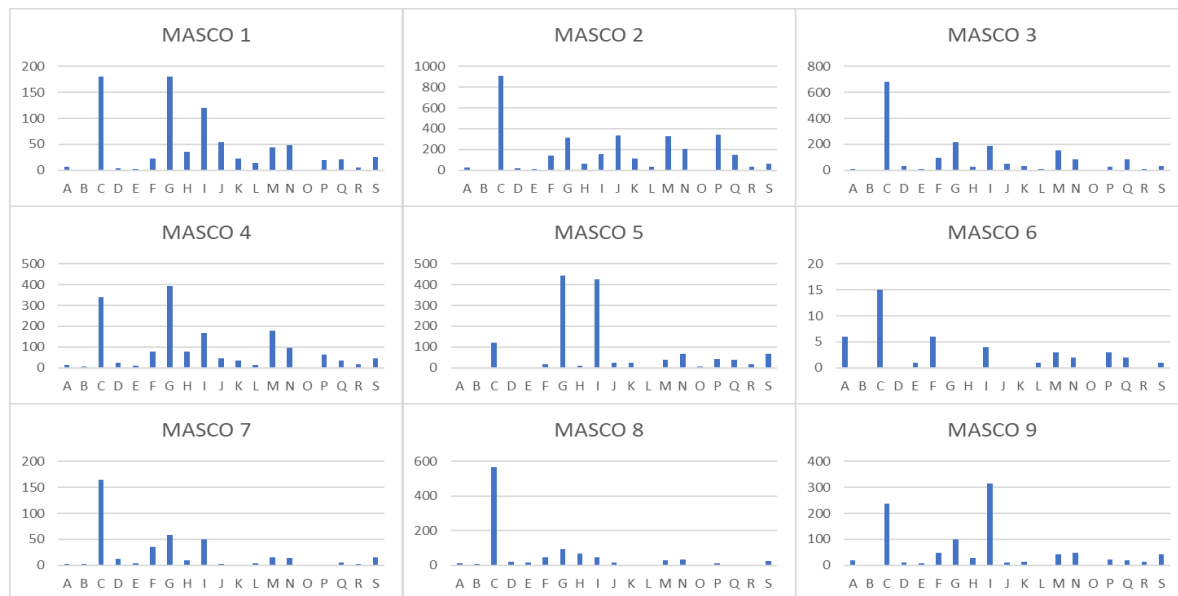


Note: Kindly refer to the appendix for the definition of MASCO

Figure 3 Distribution of Job Applications and Job Positions (Q3 2020, aged 40 and above)

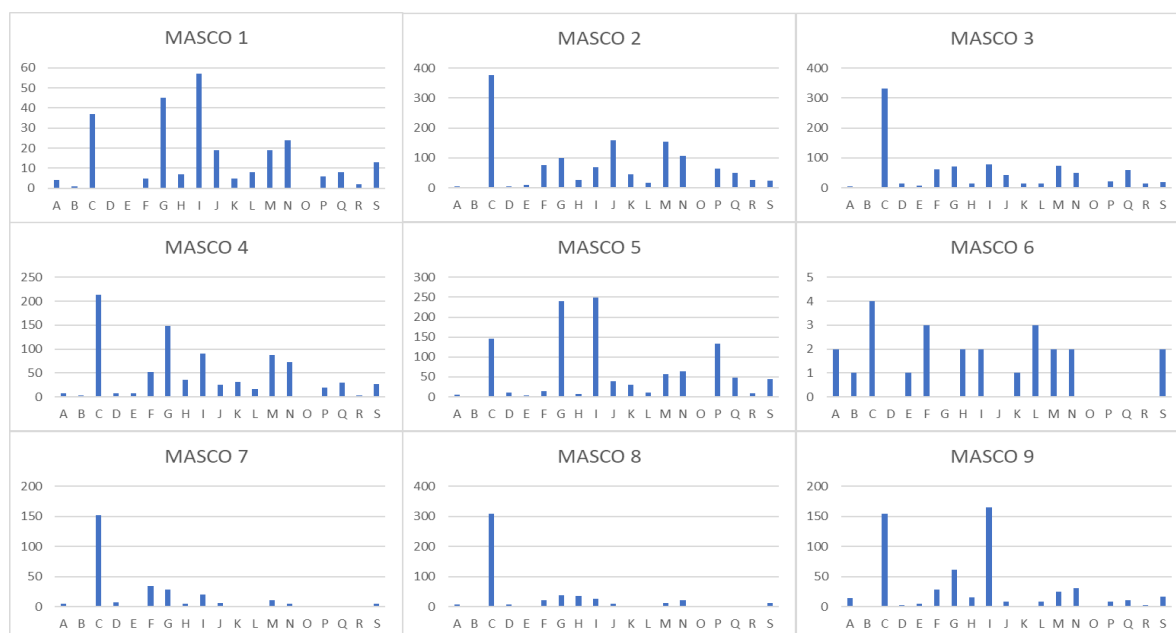
Changes in Median Basic Salary for Employees Below 40 between Q3 and Q4

For employees below 40, the median basic salary observes growth in high-skilled job levels for MASCO 1 and MASCO 2. However, other occupational groups remain in the same median salary category from Q3 to Q4. The managerial occupational group of MASCO 1 saw a climb from the median salary category “2,500 to 2,999” to “4,000-4,999” while the professional occupational group of MASCO 2 saw a climb from the median salary category “2,000 to 2,499” to “2,500 to 2,999”. Based on the observations that have been made, the crisis has presented a positive employment window for the young workforce below the age of 40, which is a contrast to the older employee group who are above 40. The median basic salary category for both age groups moves towards the same salary category towards the end of 2020, however, they are moving in the opposite direction. Based on the job vacancy distribution across the sectors for MASCO 1, the number of offered job vacancies for the younger workforce observes a similar pattern to those above 40, dropping significantly in Q4 2020, between October to December. However, most managerial job vacancies that are offered this time around are in the manufacturing sectors to young employees who are below 40, in comparison to minuscule managerial job posts for employees who are above 40. The more established manufacturing firms are believed to be the contributing factors to the rising median salary category for the younger workforce. As the wholesale and food services activities are more heavily impacted by the crisis due to the movement control order, which causes less customer patronage, the firms in the wholesale and food services sector might have decided to reduce the salary for the managerial posts. In contrast, most manufacturing sectors- where many are considered essential services sectors, are allowed to continue their operation by observing tight standard operating procedures (SOP) throughout their work operations. In the comparison between the above-mentioned two scenarios, the increased number of managerial job posts in the manufacturing sector for the young cohorts has been brought to a higher median salary level in comparison to the older cohort. However, a huge gap is observed between limited available job vacancies, in competition among the huge number of below 40 jobseekers, the younger workforce has a better edge than the older cohorts in securing employment opportunities in both MASCO 1 and MASCO 2 in the current crisis.



Note: Kindly refer to the appendix for the definition of MASCO and Economic Sector (MSIC)

Figure 4 Job Vacancy Distribution Across Sectors for Different MASCO Groups (Q3 2020, aged below 40)



Note: Kindly refer to the appendix for the definition of MASCO and Economic Sector (MSIC)

Figure 5 Job Vacancy Distribution Across Sectors for Different MASCO Groups (Q4 2020, aged below 40)

Predictive model selection

The best predictive model for predicting a salary freeze or cut likelihood in 2020 is determined for employees who are aged 40 and above, and for those who are below, it is determined based on the spectrum of performance metrics. Given the best-chosen model for those who are aged 40 and above and those who are below 40, respectively.

Table 1 Performance Metrics of Best Predictive Model by Age Group for quarter 3, 2020

Age Group	Above 40	Below 40
Best Model	DL	GBT
Accuracy, %	80.7	81.8
Specificity, %	87.2	95.9
TP Rate, %	87.2	95.9
FP Rate, %	39.4	70.8
Precision, %	64.1	65.8
F-Measure, %	60.7	40.5
Area Under Curve (AUC), %	83.0	76.3

Table 2 Performance Metrics of Best Predictive Model by Age Group for quarter 4, 2020

Age Group	Above 40	Below 40
Best Model	GLM	DL
Accuracy, %	79.6	84.6
Specificity, %	2.1	99.2
TP Rate, %	2.4	99.2
FP Rate, %	0.3	67.4
Precision, %	79.4	91.8
F-Measure, %	88.1	48.1
Area Under Curve (AUC), %	68.1	86.5

Factors affecting the likelihood of a salary freeze or cut for those who are aged 40 and above for Q3 and Q4, 2020

Based on the variables that are ranked by weight, the top 3 important factors that increase the likelihood of a salary freeze or cut in Q4 2020 at the current prevailing market rate are MASCO, company size, and the number of vacancies.

Table 3 Factor ranking by weight for those who are aged 40 and above in Q3 and Q4, 2020

Factors	Quarter 3, 2020	Quarter 4, 2020
No. of vacancy	0.137	0.081*
Type of occupation (MASCO 1-digit)	0.136*	0.18*
State	0.043	0.069
Company size	0.041	0.091
Economic sector (MSIC)	0.038	0.026
No. of applications	0.030*	0.027*

Note: * denotes a positive contribution to the likelihood of a salary freeze or cut.

MASCO is justified as the most important factor because occupational groups provide the most information in segregating the jobs- either as the class of salary freeze or cut or as a salary increase. As MASCO segregates jobs into different skill levels, the information gained for the predictive model is the highest at classifying jobs into the correct salary class. In addition, many occupational jobs in the current crisis can be classified into a work-from-home (WFH) arrangement or a non-WFH arrangement. Most high-skilled jobs and selected semi-skilled jobs have the privilege of adopting the WFH arrangement under the ravage of the crisis. However, most semi-skilled jobs and low-skilled jobs cannot be spared from the crisis. High-skilled jobs and certain semi-skilled jobs deal greatly with online productivity tools, thus effectively transitioning the workforce into digital working mode. Heavin and Power (2018) have anticipated the increase in the take-up rate of digital transformation by managerial staff as a solution to organizational challenges when it comes to efficiency and effectiveness. However, with the movement control order taking place, most semi-skilled jobs in the sector of agriculture, hotels, construction, accommodation, and food services activities, as well as arts, entertainment, recreation, etcetera, do not enjoy the privilege of a WFH arrangement. Based on the occupational nature of the jobs, the predictive model might also be able to learn the pattern of implicit characteristics in line with the WFH arrangement to achieve the objective function of improving the accuracy of classifying the jobs into the correct salary class.

Company size is found to be the other important factor in predicting the likelihood of a salary freeze or cut for employees who are above 40. The predictive model might pick up the implicit information through the variable of the company size, hence, assigning it the second most important factor by ranking. It can be deduced that the company size can be representative of the firm's financial strength to operate in times of crisis. Firms with a company size that measures more than 250 employees are in little number in comparison to firms' size of "up to 10 employees" as well as "10-50 employees". Small firms usually have smaller cash flow in comparison to larger firms, especially multinational corporations. Therefore, small firms might decide to reduce manpower costs as a strategy to maneuver through a tough time when economic activities slow down in the quest for business survival. In contrast, multinational corporations that have stronger cash flow can stay afloat and weather the storm with ease. According to Pomerol (2018), firms with a healthy financial stance have the tendency to adopt adequate decision policy in transformation agendas to keep themselves afloat in the industry. As a practice, they tend to invest in new innovations as a hedge against business uncertainty. Correspondingly, employees who are above 40 are generally comprised of more experienced cohorts, and hence they expect a higher salary in comparison to the young cohorts who are below 40. As such, the financial strength of the firms plays a significant role in the ability to hire an experienced workforce.

Besides, one of the important factors in the likelihood of a salary freeze or cut is the number of vacancies. The higher the number of job vacancies that are offered for that job position, the higher the possibility that the nature of the job that is offered is at the lower end of the skill requirements. Based on the study of the job posts that are advertised on the "MyFutureJob" portal, the managerial job position by MASCO is generally offered in a single unit, followed by a slightly higher vacancy number in MASCO 2 of professional jobs seeking engineers or lecturers. MASCO 3 of technicians and associate professional jobs come in as third-ranking, for the least number of job vacancies that are offered. Usually, most of the job vacancies that are offered in bulk can be observed in MASCO 4 for clerical support workers and MASCO 5 for service and sales workers, as well as MASCO 9 for general workers. As such, based on the number of job positions that are offered for the advertised job vacancy, the predictive model may learn that the likelihood of a salary freeze or cut is also increased, hence, assigning more weight to the number of job positions in determining salary trend prediction.

Factors affecting the likelihood of salary freeze or cut for those aged below 40 for Q3 and Q4, 2020

Based on the variables ranking by weight, the top 3 important factors that determine the likelihood of a salary freeze or cut in Q4 2020 at the current prevailing market rate are the number of vacancies, MASCO, and the number of applications.

Table 4: Factor ranking by weight for those who are aged below 40 in Q3 and Q4, 2020

Factors	Quarter 3, 2020	Quarter 4, 2020
Type of occupation (MASCO 1-digit)	0.172*	0.101*
No. of vacancy	0.076*	0.134
No. of applications	0.065*	0.059
Economic sector (MSIC)	0.047	0.038*
Company size	0.046	0.056
State	0.027	0.044

Note: * denotes contribute positively to the likelihood of salary freeze or cut.

The number of job vacancies is ranked as the most important factor in determining the likelihood of a salary freeze- or cut off the prevailing market rate for employees who are below 40. As previously discussed, the number of job vacancies also reveals the occupational nature of MASCO, i.e., the higher the number of job posts that are offered for that job vacancy, the lower the skill requirements of the job vacancy. However, the importance of the factor differs between employees who are above 40 and those who are below 40. It is found that the number of vacancies affects the likelihood of a salary freeze or cut in an opposite manner, i.e., the lower the number of job vacancies, the higher the likelihood of a salary freeze or cut. This reflects that the higher the skill requirement of the jobs, the lower the potential of individuals who are below 40 to secure a good salary premium. The finding can be attributed to the fact that the younger cohort might face greater oppression in salary treatment at the time of crisis, especially job seekers who are looking for employment opportunities in high-skilled level jobs. According to Bergin et al. (2012) and Kilponen et al. (2010), the trend of a reduced salary that is offered to younger workers is evident because it supports the salary theory of the insider-outsider model that provides useful insights at the firm's level.

MASCO is ranked as the second most important factor that determines the salary freeze or cut likelihood for new employees who are below 40. As reiterated previously, as MASCO clearly segregates jobs into different skill levels, the gained information that is received from this variable is big and consistent in comparison to other variables.

The number of job applications is ranked as the third important variable by the predictive model to determine the likelihood of a salary freeze or cut for employees who are below 40. Based on the tornado chart, the number of job applications has an inverse relationship with the likelihood of a salary freeze or cut. Hence, it is deduced that the high number of job applications might not translate to real-time employment but only increase the incidences of a job mismatch. A job mismatch happens when the job candidates do not fulfill the skill requirements that may be needed by the firms because the job scope tends to widen during a crisis. A job mismatch might happen to employees of different age levels, but it has been found to be more pronounced in the younger cohort who are below 40 in this case. To recruit suitable job candidates who can fill in the job vacancies quickly, a salary freeze or cut might not be a feasible strategy. To attract job candidates to fill up the job vacancy quickly, firms might resort to increasing salaries to attract potential job candidates.

CONCLUSION

In general, for both the old and young cohorts, the salary distribution across MASCO occupational groups shows that the offered salary for the newly employed orientates towards the lower salary levels. For example, from Q3 2020 to Q4 2020, the median basic salary of managerial jobs for those above 40 has dropped one salary class, from the salary range of RM5,000-RM5,999 to RM4,000-RM4,999. As for the newly employed below 40, from Q3 2020 to Q4 2020, the median basic salary of managerial jobs has climbed from RM2,500-RM2,999 to RM4,000-RM4,999, whereas the median basic salary of professional jobs has climbed from RM2,000-RM2,499 to RM2,500-RM2,999. The other occupational groups do not observe changes in their median salary.

Overall, the trend of job supply is dwindling from Q3 2020 to Q4 2020. The young cohort below 40 has seen a job contraction by half, i.e., quarter-to-quarter, from 11213 job vacancies in Q3 2020 to 5853 job vacancies in Q4 2020. The job market for old cohorts above 40 is found to be in a more dire situation based on the drop in the number of job vacancies from 6738 in Q3 2020 to merely 1389 in Q4 2020. For employees above 40, the analysis of the prevailing market rate finds that MASCO and the number of vacancies contribute positively to the likelihood of a salary freeze or cut, whereas the size of the company contributes negatively. For employees who are below 40, the analysis of the prevailing market rate finds that MASCO contributes positively to the likelihood of a salary freeze or cut, whereas the number of job applications and the number of job vacancies contributes negatively.

Learning from previous experiences of crises, a few similarities stand out compared to the current crises (Petri and Juuso, 2020; Grigsby et al., 2021; Cornille et al., 2019; Eggers, 2020). Firstly, the adjustment of non-labor costs is the first cost-cutting strategy that firms are willing to adopt at the beginning of the crisis. Secondly, when other forms of adjustment are unavailable and unaffordable, the firms will reduce the flexible salary components and reduce temporary workers and the number of working hours. The uncertainty increases as the crises persist, potentially pushing firms to lay off their permanent workers. Thirdly, the prolonged recessionary environment will then lead to a cut in base salary.

Under the current COVID-19 crisis, the phenomenon of job polarization is observed in the Malaysian job market, where the number of semi-skilled job vacancies has been reduced, yet salaries for the high-skilled and low-skilled have increased. Construction, manufacturing, and agricultural sectors continue to see a sustainable demand for huge low-skilled demands in MASCO 9. On the other hand, there is a dent in the demand for mid-skilled jobs as the number of job vacancies that are advertised by the local firms is dwindling under the hiring incentives program. The to-be employees of semi-skilled jobs suffer the most due to narrowing job opportunities and depressing salary offers. As high-skilled workers can carry out clerical tasks, especially those in MASCO 4 and 5, the firms might have a reduced appetite for the recruitment of clerical workers or semi-skilled workers as part of the cost-cutting strategy during a crisis. The ongoing trend might require a newly employed executive or engineer hired under a professional group to simultaneously juggle between paperwork and sales or administrative work, and is thus accountable for a wider job scope. When firms reduce the demand for semi-skilled workers, the demands for the skilled and low-skilled pick up comparatively but with a wider salary distribution. According to Sebastian (2018), depending on the educational level of the jobseekers, graduate individuals might be able to move up to high-skilled jobs while non-graduate individuals might be pushed down to bottom-level occupations.

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APPENDIX

Table A MASCO code description

MASCO	Major Group
1	Managers
2	Professionals
3	Technicians and Associate Professionals
4	Clerical Support Workers
5	Service and Sales Workers
6	Skilled Agricultural, Forestry, Livestock and Fishery Workers
7	Craft and Related Trades Workers
8	Plant and Machine Operators and Assemblers
9	Elementary Occupations

Table B MSIC Industrial Sector code description

MSIC Sector Code	Sector
A	Agriculture, forestry, and fishing
B	Mining and quarrying
C	Manufacturing
D	Electricity, gas, steam and air conditioning supply
E	Water supply; sewerage, waste management and remediation activities
F	Construction
G	Wholesale and retail trade; repair of motor vehicles and motorcycles
H	Transportation and storage
I	Accommodation and food service activities
J	Information and communication
K	Financial and insurance/takaful activities
L	Real estate activities
M	Professional, scientific, and technical activities
N	Administrative and support service activities
O	Public administration and defense; compulsory social security
P	Education
Q	Human health and social work activities
R	Arts, entertainment, and recreation
S	Other service activities