

Working Women and Household Expenditures on Food Away from Home in Indonesia

Lubna and Dwini Handayani*

Faculty of Economics and Business, Universitas Indonesia, Depok, 16424 West Java, Indonesia

ABSTRACT

The increasing woman's participation in the labor force has an impact on their allocation of time. The National Socio-economic Survey in Indonesia shows that overall, household expenditures on food away from home have increased. One of the hypotheses of this study is that working women choose to buy food rather than to cook to be more efficient and to save time. This study aimed to analyze the effects of working women on expenditures on food away from home in Indonesia using the data from the Susenas Consumption and Expenditures Module 2016. The result of the Tobit regression shows that a working mother gave significant effect on a household's expenditures on food away from home where households with full-time working women had higher expenditures on food away from home than those with women working part-time or not working at all. The result of this study is expected to complement the consumption study on food away from home in Indonesia.

Keywords: Expenditure, food away from home, Indonesia, women, work status

ARTICLE INFO

Article history:

Received: 4 June 2018

Accepted: 10 April 2019

Published: 13 September 2019

E-mail addresses:

lubnathoriq@gmail.com (Lubna)

dwiniarianto@yahoo.com (Dwini Handayani)

*Corresponding author

INTRODUCTION

Women in Indonesia have become more active in the labor market. Based on the data of the Central Bureau of Statistics, the labor force participation rate of women in Indonesia has shown a continuous increasing rate, from 37% in 1971 to 44.6% in 1990 and an increase to 53%

in 2013 (Central Bureau of Statistics, 2013, 1990, 1971). Food consumption trends, particularly in urban areas, have experienced a shift also. The data of the National Socio-economic Survey 1999 and 2014 in Indonesia in the Consumption Module shows that the percentage of food away from home consumption has been increasing continuously, from 9.48% in 1999 to 12.56% in 2014. Conversely, the consumption of grain, which indicates the processing of raw materials in the household, had been decreasing from 16.68% in 1999 to 6.83% in 2014 (Central Bureau of Statistic, 1999, 2014). These figures lead to the presumption that there is a change in the food consumption pattern of the community, where previously people tended to consume self-processed food with natural raw materials; over time, people are choosing to buy more food away from home.

Djauhari (2013) explained that the change in the food consumption pattern in the community occurred particularly in households with working women. This is due to their shortage of time to prepare food at home caused by their increased activities outside the house. In general, women have a significant role in choosing and preparing food for the consumption of household members. Women who work outside the house must redistribute their time concerning the preparation of food at home (Redman, 1980). Mutlu and Gracia

(2006) used the household production theory of Becker to study the behavior of consumers regarding food away from home. It assumed that the consumer demand was not only for the food product itself but also for the comfort related to the time saved in preparing food. The result of their research showed that the income and value placed on the time of working women had positive and significant impacts on the consumption of food away from home.

Several researchers have shown that there is a relationship between a household with working women and the consumption of food away from home. An empirical study by Manrique and Jensen (1998) also showed that the time value and income of women were critical in determining factors for the expenditures on food away from home. Nayga and Capps (1992) mentioned in their research that a number of women participating in the labor market drove the existence of the opportunity cost toward the production of food away from home, or in other words, caused the consumption of food away from home that was bought outside the house. Cupak et al. (2016) saw also the effect of the working women's status on the expenditure of food away from home by using a double hurdle model, where the result of his research showed that households with working women more substantial expenditures on food away from home compared to households with unemployed women.

The increase in the consumption of food away from home may generate new problems, particularly health problems such as obesity, high cholesterol, lack of nutrients, heart problems, loss of muscle mass, depression, sexual dysfunction, asthma, stroke, Type 2 diabetes, cancer, and cardiovascular disease (Yahya et al., 2013). Food that is prepared at home has significantly better nutrition quality compared to food bought outside the house, which normally contains excessive fat and saturated fat and minimal calcium, fiber, and iron (Lin & Frazao, 1999).

Many studies on the impacts of working women toward the consumption of food away from home have been carried out in several countries. The research on food away from home in Indonesia, however, has in general, investigated the consumption of fast food only, and has used limited research objects (study cases). For example, Mufidah (2012) investigated the food consumption patterns of urban communities with a study case at the food court in Tunjungan Plaza, Surabaya. With regard to the several prior studies concerning the negative impacts of consuming food away from home and the studies showing the relationship between the working status of women and the households' consumption of food away from home, this study is conducted to see the impacts of working women on the consumption of food away from home in

Indonesia. And the hypothesis in this study is that households with working women (full time and part time) have a higher consumption of food away from home compared to women that are not working.

Literature Review

Various studies have been conducted to see the impact of working women on the consumption of food away from home. A study conducted by Blake et al. (2009) in the US saw overall satisfaction of food choice for employed parents. A key takeaway is that while both parents have the same criteria, if it is differentiated by gender then the evaluation is different. Women in particular are satisfied if they have work and family balance and strive to provide healthy meals. While fathers are satisfied if they meet schedule stability, also participate and contribute to food preparation. It is noted that work conditions are a barrier to fulfill valued family food roles.

However, Drescher and Roosen (2013) also found that in Germany, the difference between genders, particularly on expenditure on food away from home, differed for male and female. Female expenditure on food away from home is lower than men, since they still strive to provide food at home in certain times. This shows that mother still tries to provide the best possible combination between food at home and food away from home.

Möser et al. (2012) found working women was associated with the time children spent on nutrition-related behaviors. In households with working women, children spent more time eating alone at home and less time eating meals with their women. Moreover, working women spent less time on meal preparation compared with non-working women. Cupak et al. (2016) also discovered the impact of the opportunity cost of a women's time on the demand for food away from home, households with working women having more extensive food away from home expenditures compared to households with not working women. Shotick (2015) showed that for both working and stay-at-home mother, expenditures for food away from home were significantly and negatively related to housework time. However, working women spent twice as much as a stay-at-home mother for food away from home. It is also estimated that the wage rate is positively related to this expenditure, thus income increase from working is related to more spending on food away from home.

Smith et al. (2013) found a trend in the US from 1965 to 2008 that food away from home consumption was increasing. In regards to income, lower income individuals tend to spend less and eat at home more, implicating that working women with more purchasing power tend to increase their spending on food away from home. Islam et al. (2010) had researched on

household expenditure and food away from home in Malaysia and mentioned that there was a positive relationship between income and food away from home expenditure. Malaysians dines out more as their income rises. Ma et al. (2006) in their study found that increased income was seen as the most significant in determining consumption patterns. This can be observed in China where consumption of food away from home has increased dramatically with increasing income, but rich consumers in China do not spend more on food consumption. In this research, it is also shown that consumption can increase faster than income growth for various income groups. They also mentioned the change in the composition of expenditures for food in urban areas is related to the demand for food away from home; urban citizens tend to have higher food away from home expenditures due to their larger access to food away from home facilities. Besides, a higher number of activities may lead a community to things that are practical or time-saving, such as the consumption of food away from home.

Another finding by Wang et al. (2014) in Singapore was focused on a shift in child-care provider, from mother to caregiver, since women were entering the labor force. This affected children's nutrition. The findings showed that Singaporean working women cooked infrequently, families ate out frequently, and children

exert considerable influence on food choices. Bauer et al. (2012) showed that full-time employed women reported fewer food at home, less encouragement of their children's healthful eating, lower fruit and vegetable intake, and less time spent on food preparation, compared to part-time and not-employed women.

Some empirical studies have found that age is a significant determinant towards consuming food away from home. However, the age factor becomes complicated because of uncertainty over whether different generations would maintain the same dietary habits or not. It is very likely that parents in the year 2050 won't have the same expenditure patterns as those in 2013 (Stewart et al., 2004). Ma et al. (2006) found that age affected the relationship between income and demand for food away from home in urban areas in China. Stewart and Yen (2004) showed that those managing the household who were older tended to cook meals for their family more than those who were younger who would instead purchase food outside for the comfort and efficiency.

Suwandinata (2012) explained that in Jakarta, decision-making for food consumption was made up by daily routines and socioeconomic factors. In all families, women are in charge of organizing food buying and the consumption process. Children participate in and help with decision-making regarding ideas, wide

food choices for meals, and decisions that are more practical. However, parents, especially mother is still the key influencer for the decision on food consumption for the family. A more recent study by Rachmi et al. (2018) in West Java also proved this. In Indonesia, decisions on food consumption are mainly influenced by socioeconomic status and family member requests. The main factors for decision are, in line with other studies, price and income. However, consideration of Halal is also a key factor, but mostly from higher income caregivers who have little to none barrier on price and income. A more qualitative study by Fulkerson et al. (2011) identified the barrier to prepare the food at home. Parents reported that they enjoyed the bonding time at meals, but limited time for preparation and mealtime required multitasking, that was eating and caring for their children at the same time, especially for working women. Another qualitative study by Roshita et al. (2013) in Indonesia found that regardless of working status, children's difference in appetite and the way mother responded to this was highly associated with children's nutrition. Thus, this could affect the mother's choice to satisfy children's appetite by buying food away from home or food at home. But an interesting finding from Greve (2011) found that in Denmark, quality of family nutrition and child care was higher because father's participation at home was higher, and there

was no significant correlation between mother's work status and children's nutrition due to father's presence.

Theoretical Model

This research is based on Becker's (1965) theory of household production. The household production model clarifies that self-processed food is related to the time used by household members to buy food raw materials. This model makes time a constraint that emerges when deciding between food at home and food away from home. This theory has been used a lot in many studies as the theoretical basis to analyze the demand for food away from home (Stewart et al., 2004). Concerning to the preparation of food in a household with a working mother, the value of time is an important factor that affects consumption. The household production theory shows that households will replace the time to prepare food with time-saving goods. Becker observed that a consumer would receive benefits from both market commodities and the time to perform household work.

The household production model demonstrates how a household selects its production activities by combining the consumption of goods and time. As such, the household utility function may be specified as follows:

$$U = U(z_1, z_2, \dots, z_n) \tag{1}$$

where,

$$z = z_i(x_i, t_{i1}, \dots, t_{in}), i=1,2,\dots,n.$$

Z_i = Commodities produced by the household ($i = 1, 2, \dots, n$)

Each produced commodity results from the household production function that is subject to time limitations and income limitations, which is described as follows:

$$T_k = h_k + \sum_i t_{ik} = 1, k = 1, 2, \dots, m$$

$$\sum_k t_{ik} = 1, W_k h_k + v = \sum_i p_i x_i \tag{2}$$

where,

t_{ik} = Commodities produced in the household.

x_i = Consumption goods that are used in the z_i production.

p_i = Price of x_i .

t_{ik} = Time used by the household member to produce z_i .

T_k = Total time available for the k household member.

W_k = Wage received by the k household member.

h_k = Time that is used by the k household member in the market production.

v = Non-labor income.

The utility function is maximized with the constraint of time function by taking into account x_i and t_{ik} , so that the x_i demand function is as follows:

$$x_i = f_i(p_1, \dots, p_n, w_1, \dots, w_m, v) \tag{3}$$

Yen (1993) considered that the food away from home expenditures for one income (only the husband working) and two incomes (husband and wife both working) were influenced by the work of the wife, specified as follows:

$$p_i x_i = f_i(h_2, w_2, v', D) \tag{4}$$

where,

$v' = w_1 h_1 + v$, exogenous income of household, not including wage of wife.

$D =$ Vector of demographic characteristics (dummy variable).

The wage rate of household wives, particularly of unemployed wives, is often unavailable. However, since the wage is determined by the demographic characteristics and household income, it can accommodate usually the salary variation of the wife (Zick & Bryant, 1983). As such, the expenditure in such conditions is as follows:

$$p_i x_i = f_i(h_2, v', D) \quad (5)$$

In the theory of household production, commodity or attributes are considered in the utility function of households (Becker 1965; Lancaster, 1966), the limited income and limited time are optimized through the household production function. A household is considered doing well in the context of preparing meals and purchasing meals can take into account the cost of time spent to do such activities.

According to Becker (1965), time allocation is defined as a number of working hours that are an allocation to various activities. Especially for women, the dual role that they have in the domestic role and public role causes women to carefully calculate time allocation between the household and workplace (Farida, 2014). Regarding of meal preparation in a household where the mother works, time

becomes an essential factor that affects consumption. This theory shows that such a household would replace the time spent to prepare meals with items that save time. Becker observed that consumers would accept the benefits of available market commodities and time spent doing household work. As an example, a household member needs food from home, thus there is time required to purchase the ingredients, prepare or cook the food, and clean up the utensils afterwards. Here, households have to decide whether to buy food away from home or prepare it themselves at home. This theory has often been used in research as the theoretical foundation for analyzing the demand for food away from home (Stewart et al., 2004).

In the time allocation theory, Becker (1965) states that there were two processes in household behavior, which are production process that was described by the production function, and consumption process to obtain the items and time consumed. Or in other words, households are assumed to do well as a producer or consumer. Every household maximizes utility through choosing the best combination from limitations in time, resources, and technology. Becker excluded time allocation for children in the model, as he only included adults in the household that distributed their time between workplace activities and household work.

Woman has two types of role in the society that is the tradition and transition role. The tradition or domestic role for women is being a wife, mother and household manager. Meanwhile the transition or public role covers woman as a labor force, a member of society and is part of the economic development (Wibowo, 2011). Nowadays women working in the labor market is higher than in the past, and they have reduced the amount of time they devoted to unpaid work. However, they have reduced it less proportionally compared to men. Overtime men have slightly increased their involvement in family tasks by reducing their leisure time (Mencarini & Tanturri, 2004). The skill here is how women can manage their time correctly by saving time in one of these roles for the sake of the other.

MATERIALS AND METHODS

Data and Variables

This research was a quantitative study using data sourced from the National Socio-economic Survey (Susenas) of March 2016. The research design of Susenas was *cross sectional* data. Susenas is one of the surveys that are carried out routinely annually by the Central Bureau of Statistics in Indonesia. This research used the expenditure consumption module package covering 300,000 household samples spread out over 34 provinces and 51 regencies/cities in Indonesia (BPS, 2016). The sample of this study were married or ever married women

who were household heads or the head of household wives¹. These women were considered to be the person of household in charge in the consumption within the household. The sample was only among the women aged 15 and above, based on ILO Convention No. 138 a resolution from the 58th International Labour Conference dated 26 June 1973 in Geneva, which stated that the age of 15 years was the minimum age limit for a person to be allowed to work. Therefore, in our study the women studied were aged 15 and above. The total samples obtained were 268, 132 households.

In accordance with the objective of this research, namely to study the impact of the working status of the women on the expenditures for consumption of food away from home, the dependent variable is the proportion of expenditures for food and beverage away from home over the total expenditures for household food and the main independent variable is the working status of the women. The control variables that are used are education, age, income, residential area, total household members, the existence of a household assistant or other household members managing the household, and the existence of toddlers. Hereby, Table 1 shows the explanation of each variable.

¹ This study uses the terminology women for women who are the focus of this study i.e. married or ever married women who are household heads or the head of household wives, aged 15 and above.

Table 1

Definition of variable in the model

Description	Definition	Category
Dependent Variable		
Percentage of Food away from home expenditures (FAFH)	Household food away from home expenditures toward total household expenditures for food	Numeric
Independent Variables		
Women's Working status (Work)	Employment status of women one week before the survey	Not working Working full time Working part time
Women's Age (Age)	Age of women at the latest birthday (in year)	Numeric
Education (MYS)	Years of schooling of the women (in years)	Numeric
Household Income (Inc)	Total household expenditures	Numeric
Household size (size)	Total household members living in the household	Numeric
Residential area (res)	Residential area a classification of respondent	Urban Area Rural Area
Existence of children aged of 0-5 years (toddler)	Existence of minimum 1(one) child staying in the household	Formal sector Informal sector Unemployed
Existence of Household Assistant or other Household Members managing the household (maid)	Existence of minimum 1(one) household assistant or other household member managing the household	Available Not available
Education interaction of women and household income (MYS*Inc)	Multiplication between women's education and household income variables	Numeric

Research Model

The dependent variable in this research is the percentage of expenditures for food away from home of the total expenditures for household food in one week. The survey results show that there are some households without data on food away from home expenditures. This issue is known as censored samples (Gujarati, 2004) in

which there are only some samples that have complete information on the dependent variable.

One of the ways to overcome the censored data problem is to use the censored regression analysis, or the Tobit model. The Tobit model was introduced by James Tobin (a Nobel recipient in Economics) in 1958. Killingsworth (1983) defined the Tobit

analysis as a form of regression analysis adopted for situations omitted by the OLS regression, namely a situation where the bound variables were never less than a number of minimum values or larger than the maximum values. In this case, the Tobit model used all household observations, either with or without the food away from home expenditures. According to Greene (1997), the Tobit model is defined as follows

$$y_i = \begin{cases} y_i^*, & \text{if } y_i > \tau \\ \tau_y, & \text{if } y_i \leq \tau \end{cases} \quad (6)$$

$$y_i^* = x_i \beta + \varepsilon_i$$

where,

y_i^* = Latent dependent variable that is observed for the value larger than zero and is censored for other values,

$$y_i^* \sim N(\mu, \sigma^2)$$

y_i = Observed dependent variable.

x_i = Matrix of explanatory variables.

β = Vector of model coefficient.

ε_i = Error that is assumed as censored normal distribution $(0, \sigma^2)$.

In the case of food away from home expenditures, there is a bottom limit variable of food away from home expenditures, namely zero (0). The data will be censored in the model for household samples that have no food away from home expenditures, so that in general, the Tobit regression model becomes as follows:

$$y_i = \begin{cases} y_i^*, & \text{if } y_i > 0 \\ 0, & \text{if } y_i \leq 0 \end{cases} \quad (7)$$

The estimation of the parameter in the Tobit model uses the maximum likelihood

method. The basic principle of this method is to obtain the parameter estimator by maximizing the likelihood function, so that a consistent and efficient estimator is obtained for large size of samples.

RESULTS AND DISCUSSIONS

Description of Food Away from Home Expenditures

The percentage of food away from home expenditures out of the total food expenditures based on the result of data processing by Susenas in March 2016 was 5.05% with a standard deviation of 3.62%. Figure 1 describes the proportion of food away from home from the total household expenditure. It shows that 5.1% of households did not have food away from home expenditures at the time of the survey. More than 50% of the households had food away from home expenditures below 5%. Meanwhile, 0.5% only of households had food away from home expenditures of more than 20%.²

Table 2 reveals that 42% households had women who were not working, while the rest were households with a working woman, whereas among those who were

² However, it is necessary to note that households without food away from home expenditures at the time of survey might not in reality have small expenditures on their food away from home. It may be that at the time of survey those households just coincidentally had no food away from home expenditures, although normally these households might have large amount expenditures on food away from home.

working, 27% worked part time and 31% worked full time. The mean years of schooling among the woman in this study were seven years, which means that on the average the women had studied for seven years or roughly equivalent to going to grade 1 in junior high school. This also shows that the average woman in the sample has a low level of education. The average age of the sample was 44 years.

Table 2 also shows that more than half (58%) of the woman lived in rural areas. Most of the household (88%) had no household assistant that could help doing domestic household work. The average number of household members were four persons, which implied that the average household consisted a nuclear family.

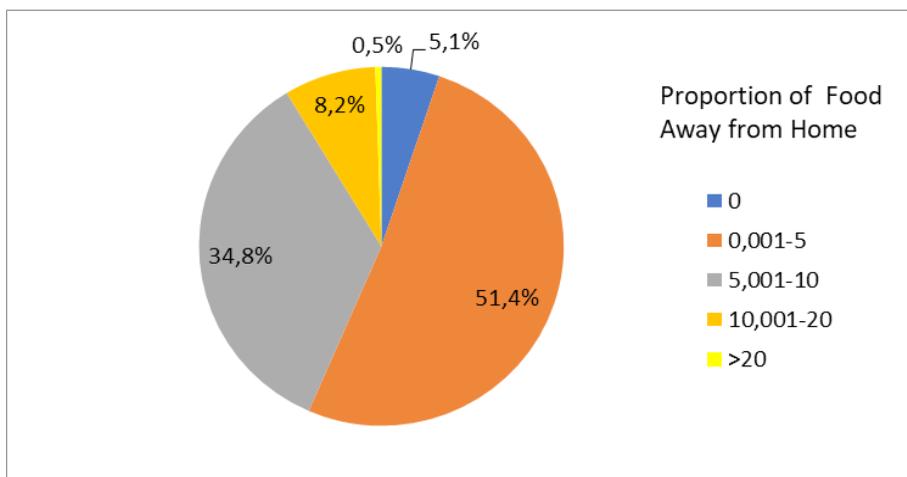


Figure 1. Percentage of household by their average food away from home expenditures

Table 2
Sample characteristics

Characteristic	Total	Percentage (%)
Women's Working Status		
Not Working	112,562	42.0
Working Part Time	71,671	26.7
Working Full time	83,899	31.3
Residential Area		
Rural	155,483	58.0
Urban	112,649	42.0

Table 2 (Continued)

Characteristic	Total	Percentage (%)
The existence of Household Assistant or other household members managing the household		
No	235,302	87.8
Yes	32,830	12.2
Presence of Children Age 5 and Under		
Not	183,070	68.3
Yes	85,062	31.7
Mean Year Schooling (years)	7.3 years	
Women's Mean Age (years)	44.7 years	
Mean Household Size	3.9 person	
Mean Household Income (Rupiah)	Rp. 3,530,983	

Tobit Model for Households with Food Away from Home Expenditures

The Tobit regression model that was used in this research tests the impact of the women's working status on the percentage of the household food expenditures on food away from home, controlling for other variables such as income, women's education described as women's years of schooling, women's age, household size, residential area, existence of a household assistant or other household members managing the household, and existence of toddlers (children under 5 years).

The estimation of the parameter is carried out by using the *maximum likelihood estimation* method. The model's significance value shows that overall, the 0.000 value is smaller than $\alpha=0.05$, and therefore, the Tobit regression model

may be used to predict the percentage of food away from home expenditures. In other words, women's working status, women's age, women's education, household size, residential area, the existence of a household assistant or other household members managing the household, and the existence of toddlers affect jointly the percentage of food away from home expenditures. The established model is as follows:

$$\begin{aligned}
 FAFH = & 2.893435 - 0.3648192work_{11} + 0.1737685work_{12} \\
 & - 0.0147825age + 0.0002167age^2 + 3.6 \times 10^{-7}inc \\
 & - 0.103667size + 1.944815res + 0.1307906MYS \\
 & + 0.1879723todd + 0.0352489assist \\
 & - 1.29 \times 10^{-8}MYS * inc
 \end{aligned}$$

Six independent variables of seven variables that are used in the Tobit regression model, show a significance value of less than $\alpha=0.05$, namely the woman's working status, women's age, women's

education, household size, residential area, and the existence of toddlers. Meanwhile, the variable of a household assistant or other household members existence is less significant in affecting the percentage of household food away from home expenditures at $\alpha=0.05$.

The result of the Tobit regression in Table 3 shows that women's working status had a significant impact on the household consumption of food away from home. Households with full-time working women had more substantial food away from home expenditures compared to households with women who were not working. Conversely, households with a part-time working

women had a negative coefficient value, which meant that households with part-time working woman had smaller food away from home expenditures, compared to households with women who were not working. This finding is following Becker's time allocation theory, in which one of the constraints of the household production is that the time used to work outside the home, is replaced by the consumption of food away from home; the time used to prepare food and cleanup after meals are reallocated. Families with working women have additional income but less time to produce food for the household. Manrique and Jensen (1997) also discovered that the time value of working women

Table 3

The result of Tobit Regression on the impacts of the women's working status and variables of socio-economic demography on the food away from home expenditures of households in Indonesia

Percentage of Food away from home expenditures (FAFH)	Coefficient	Standard Error	t-stat	P> t
Women's working status (work)				
- Not working				
- Part time	-0.3648	0.0170	-21.40	0.000
- Full time	0.1738	0.0162	10.75	0.000
Women's Age (age)	-0.0148	0.0035	-4.54	0.000
Women's Age (quadratic)	0.0002	0.0000	6.51	0.000
Household income (inc)	0.0000	0.0000	69.17	0.000
Household size (size)	-0.1037	0.0051	20.32	0.000
Residential area (res)				
- Rural				
- Urban	1.9348	0.0145	133.17	0.000
Years of Schooling (MYS)	0.1308	0.0023	55.72	0.000
The existence of kids under 5 (todd)				
- Not existing				
- Existing	0.1880	0.0172	10.94	0.000

Table 3 (Continued)

Percentage of Food away from home expenditures (FAFH)	Coefficient	Standard Error	t-stat	P> t
Interaction of school attendance and income	-0.0000	0.0000	-31.35	0.000
Constant	2.8934	0.0769	37.62	0.000

positively affected the food away from home expenditures, compared to not working women. Women that work has a monetary contribution to their household's income and will have a higher opportunity cost in their time, the higher the wage the higher their time value. Women will substitute their activity from lower opportunity cost activities with lower time value to other higher time value activities. Food away from home is chosen than preparing food at home which is one activity with lower time value than working.

The result of *predictive margins* according to the women's working status in Table 4 shows that the highest percentage average of food away from home expenditures was found in households with full-time working women. This was followed by households with not working women and the lowest was at households with part-time working women. This

result strengthens the fact that households with full-time working women have time constraints in preparing food at home, so that they choose to consume food away from home.

The women's age has a significant quadratic relationship with food away from home expenditures. The result of the Tobit regression shows that the quadratic age coefficient has a positive value; this shows that the relationship pattern between the women's age and the food away from home expenditures is an inverted 'U' shape. This means that the consumption of food away from home increases until the women's age reaches the maximum point, and then declines. Almost all the previous research looks at the linear relationship of impact age on the food away from home expenditures only, such as Stewart and Yen (2004) who discovered that older parents prefer to

Table 4

Predictive margin average percentage of food away from home expenditures according to the women's working status women

	Margin	Standard Error	P> z
Not working	4.9973	0.0105	0.0000
Working part time	4.6325	0.1320	0.0000
Working full time	5.1711	0.0121	0.0000

cook food for their families compared to younger households who preferred to buy food outside the house. Likewise, Cupak et al. (2016) and Fabiosa (2008) discovered also the same result, where the age of the wife was negatively related to the food away from home expenditures.

Food away from home expenditures was also affected significantly by household income, where the higher household income, the larger the expenditures for food. This result is in line with the findings of several studies, such as the studies by Bai et al. (2010), Cupak et al. (2016), McCracken and Brandt (1987), Prochaska and Schrimper (1973), Ma et al. (2006), Smith et al. (2013), Yen (1993). According to Stewart et al. (2004), consuming food away from home is a type of relaxing activity, outside the activities of working and household production, where households with high incomes usually spend more money to enjoy products and services, such as food facilities (like waiter service), atmosphere, and variation. In other words, households with higher incomes choose food away from home with higher prices, compared to households with lower income, to obtain certain facilities and better service, as well as the freedom from household production activities, such as cooking, washing utensils, and shopping.

The level of education of the mother (which in this research is approached with mother's years of schooling) significantly

and positively affected the food away from home expenditures, meaning that the longer the duration of school attendance of the mother, the larger the food away from home expenditures. This finding is in line with the results of the research by Byrne et al. (1996), Cupak et al. (2016), Keng and Lin (2005), Mihalopoulos and Demoussis (2001), Nayga (1995), and Yen (1993). However, this is contrary to the results of Manrique and Jensen (1998) who found a contradicting relationship between the level of education and food away from home expenditures. Women with higher education in general have more extensive insights and relationships, so they more often spend time outside the house, and thereby, have increased opportunities to buy food away from home.

The total number of family members has an adverse effect on food away from home expenditures, meaning that the larger the total of family members, the larger the food away from home expenditures. This finding is in line with the research results of Shotick (1996) who explained that the total number of family members had a negative impact on the consumption of food away from home. Min et al. (2004) also mentioned that the total number of household members was the primary determinant of food away from home expenditures in China, where households with more household member preferred to prepare food at home, as it was more economical. The production costs

to prepare food in households with larger numbers of household members are lower per food unit due to the efficient use of materials, such as gas, because more food can be cooked at one time.

The residential area had a significant, positive impact on the consumption of food away from home. In other words, people living in urban areas had higher food away from home expenditures compared to the communities living rural areas. Almost all the previous studies are in line with this finding, such as Tey et al. (2009), Cupak et al. (2016), Ma et al. (2006) and several others that clarified a positive relationship between the residential area and food away from home expenditures.

The existence of toddlers in the household significantly and positively affected the food away from home expenditures. Households with toddlers had higher food away from home expenditures compared to households without toddlers. This matter can be explained by the fact that the existence of toddlers in the household increases the time constraints in preparing food at home, because the mother has to reserve time for the young child who still needs more care and control compared to older children. This finding is in line with the research results of Ang and Foo (2002) who concluded that children in Singapore were used to consuming ready-to-eat processed foods at home, and often consumed food away from home.

The existence of a household assistant or other household members managing the household had a positive impact also on the consumption of food away from home. This finding is not in line with the research of Wang, et al. (2014) who used the variable of a household assistant. That study concluded that the existence of a household assistant in a family to temporarily replace the position of the working mother had a positive relationship on preparing food at home, compared to buying food away from home.

CONCLUSIONS

A women as in Indonesia has the primary role in managing the household, including choosing and preparing food for the consumption of her household members. Women regulate the time to prepare food at home and also determines whether and how much the household will consume food away from home. Working women have time constraints in preparing food at home, since they redirect their time that could be used for household management activities toward work. This research has observed the impact of the women's working status on a household's expenditures on food away from home.

A Tobit regression has been carried out to analyze the impact of the working status of the on the household's food away from home expenditures. The result showed that the women's working status the household food away from home expenditures

significantly. Households with full-time working women have higher food away from home expenditures compared to households with not working women, and conversely, households with part full-time working women have lower food away from home expenditures compared to households with not working women. This finding indicates that full-time working women apply their time allocation to maximize the utility by replacing the time that is used working with time-saving goods, in this case, consuming food away from home.

The increase in women entering the labor market in Indonesia, which is demonstrated by the continuous increase in the participation rate of women in the labor force, will cause an increasing demand for food away from home. This is continuously increasing demand in food away from home is the opportunity for the food and beverage industry to expand its business by looking at the demographic socio-economic characteristics in Indonesia. However, it is expected that the government will attempt to control and secure the food that is sold, either in the restaurant, food shops, or cafés, and snacks sold on the street, in an attempt to combat various health problems.

Along these lines, working women, who are unable to or do not have sufficient time to cook food at home, are expected to be wiser in choosing and consuming food away from home, and to remind their

family members to choose healthy foods. In addition, it would be better for a working women to search actively for information to enhance her knowledge on practical and efficient food preparation, such as using cooking utensils that may accelerate food processing and improving food storage systems that retain nutrition and taste, to enable her to cook food at home for her family still.

ACKNOWLEDGEMENTS

This study is funded by the PITTA grant, Universitas Indonesia. The authors would also like to thank Restananda Nabilla Yussacc and Elvia R Shauki who had assisted us in finishing this study.

REFERENCES

- Ang, K. L., & Foo, S. (2002). An exploratory study of eating patterns of Singapore children and teenagers. *Health Education, 102*(5), 239-248.
- Bai, J., Wahl, T. J., Lohmar, B. T., & Huang, J. (2010). Food away from home in Beijing: Effect of wealth, time and "free" meals. *China Economic Review, 21*(3), 432-441.
- Bauer, K. W., Hearst, M. O., Escoto, K., Berge, J. M., & Neumark-Sztainer, D. (2012). Parental employment and work-family stress: Associations with family food environments. *Social Science & Medicine, 75*(3), 496-504.
- Becker, G. S. (1965). A theory of the allocation of time. *Economic Journal, 75*(299), 493-517.
- Blake, C. E., Devine, C. M., Wethington, E., Jastran, M., Farrell, T. J., & Bisogni, C. A. (2009). Employed parents' satisfaction with food choice coping strategies: In uence of gender and

- Central Bureau of Statistik. (2014). *National Socio-Economic Survey (Susenas): Expenditures for consumption of the Indonesian population*. Jakarta: Central Bureau of Statistics of Indonesia.
- Central Bureau of Statistik. (2016). *National Socio-Economic Survey (Susenas): Concept and definition*. Jakarta: Central Bureau of Statistics of Indonesia
- Cupak, A., Porkrivcak, J., & Rizov, M. (2016). Demand for food away from home in Slovakia. *Finance auver-Czech Journal of Economic and Finance*, 66(4), 354.
- Djauhari, A. (2013). *Struktur pengeluaran rumah tangga mendukung diversifikasi konsumsi pangan* [The structure of household expenditure supports diversified consumption]. Jakarta: Badan Penelitian dan Pengembangan Pertanian, Kementerian Pertanian.
- Drescher, L. S., & Roosen, J. (2013). A cohort analysis of food-at-home and food-away-from-home expenditures in Germany. *Journal of International Agricultural Trade and Development*, 62(1), 39.
- Farida, R. (2014). *Study on the effect of multiple role status on married women's health in Indonesia* (Unpublished master's thesis), Universitas Indonesia, Indonesia.
- Fabiosa, J. F. (2008). *The food-away-from-home consumption expenditure pattern in Egypt* (Working Papers No. 474). Ames, Iowa: Center for Agricultural and Rural Development.
- Fulkerson, J. A., Kubik, M. Y., Rydell, S., Boutelle, K. N., Garwick, A., Story, M., & Dudovitz, B. (2011). Focus groups with working parents of school-aged children: what's needed to improve family meals? *Journal of nutrition education and behavior*, 43(3), 189-193.
- Greve, J. (2011). New results on the effect of maternal work hours on children's overweight status: Does the quality of child care matter? *Labour Economics*, 18(5), 579-590.
- Greene, H. W. (1997). *Econometric analysis* (3rd Ed.). New Jersey: Prentice Hall Inc.
- Gujarati, D. N. (2004). *Basic econometrics* (4th Ed.). Singapore: McGraw-Hill Companies.
- Islam, G. N., Yew T. S., Abdullah, N. M. R., & Noh, K. M. (2010). Household expenditure on food away from home by type of meal in Malaysia. *Pertanika Journal of Social Sciences and Humanities*, 18(2), 285-294.
- Keng, S. H., & Lin, C. H. (2005). Wives' value of time and food consumed away from home in Taiwan. *Asian Economic Journal*, 19(3), 319-336.
- Killingsworth, M. R. (1983). *Labor supply*. New York: Cambridge University Press.
- Lancaster, K. J. (1966). A new approach to consumer theory. *Journal of Political Economy*, 74(2), 132-157.
- Lin, B. H., & Frazao, E. (1999). *Away-from-home foods increasingly important to quality of American diet* (Agriculture Information Bulletin No. 749). Washington D. C., USA: US Department of Agriculture.
- Ma, H., Huang, J., Fuller, F., & Rozelle, S. (2006). Getting rich and eating out: Consumption of food away from home in urban China. *Canadian Journal of Agriculture Economics*, 54(1), 101-119.
- Manrique, J., & Jensen, H. H. (1997). Spanish household demand for convenience meat products. *Agribusiness (New York)*, 13(6), 579-586.
- Manrique, J., & Jensen, H. H. (1998). Working women and expenditures on food away-from-home and at-home in Spain. *Journal of Agricultural Economics*, 49(3), 321-333.
- McCracken, V. A., & Brandt, J. A. (1987). Household consumption of food away from home: Total expenditure and by type of food facility. *American Journal of Agricultural Economics*, 69(2), 274-284.

- Mencarini, L. & Tanturri, M. L. (2004). Time use, family role-set and childbearing among Italian working women. *Genus*, 60(1), 111-137. doi:<http://doi.org/10.2307/29788795>.
- Mihalopoulos, V., & Demoussis, M. (2001). Greek household consumption of food away from home: A microeconomic approach. *European Review of Agricultural Economics*, 28(4), 421-432.
- Min, I., Fang, C., & Li, Q. (2004). Investigation of patterns in food-away-from-home expenditure in China. *China Economic Review*, 15(4), 457-476.
- Möser, A., Chen, S. E., Jilcott, S. B., & Nayga, R. M. (2012). Associations between maternal employment and time spent in nutrition-related behaviours among German children and mothers. *Public Health Nutrition*, 15(7), 1256-1261.
- Mufidah, N. L. (2012). Pola konsumsi masyarakat perkotaan: Studi deskriptif pemanfaatan *foodcourt* oleh keluarga [The consumption pattern of urban communities: A descriptive study of the use of food-court by families]. *Bio Kultur*, 1(2), 157-178.
- Mutlu, S., & Gracia, A. (2006). Spanish food expenditure away from home (FAFH): By type of meal. *Applied Economics*, 38(9), 1037-1047.
- Nayga, Jr., R. M. (1995). Microdata expenditure analysis of disaggregate meat products. *Review of Agricultural Economics*, 17(3), 233-243.
- Nayga, Jr., R. M., & Capps, Jr., O. (1992). Determinants of food away from home consumption: An update. *Agribusiness*, 8(6), 549-559.
- Prochaska, F. J., & Schrimper, R. A. (1973). Opportunity cost of time and other socioeconomic effects on away-from-home food consumption. *American Journal of Agricultural Economics*, 55(4_part_1), 595-603.
- Rachmi, C. N., Hunter, C. L., Li, M., & Baur, L. A. (2018). Food choices made by primary carers (mothers/grandmothers) in West Java, Indonesia. *Appetite*, 130(2018), 84-92.
- Redman, B. J. (1980). The impact of women's time allocation on expenditure for meals away from home and prepared foods. *American Journal of Agricultural Economics*, 62(2), 234-237.
- Roshita, A., Schubert, E., & Whittaker, M. (2013). Child feeding practices in families of working and nonworking mothers of Indonesian middle class urban families: What are the problems? *Ecology of Food and Nutrition*, 52(4), 344-370.
- Shotick, J. A. D. (1996). *Substitution of food away from home for the wife's housework time* (Doctoral dissertation), University of Illinois, USA.
- Shotick, J. A. (2015). Trade-off of expenditures for food away from home for the wife's housework time by employment status. In C. H. Noble (Ed.), *Proceedings of the 1999 Academy of Marketing Science (AMS) Annual Conference* (pp. 6-10). Coral Gables, Florida: Springer.
- Smith, L. P., Ng, S. W., & Popkin, B. M. (2013). Trends in US home food preparation and consumption: Analysis of national nutrition surveys and time use studies from 1965–1966 to 2007–2008. *Nutrition Journal*, 12(1), 45.
- Stewart, H., Blisard, N., Bhuyan, S., & Nayga, R. M. (2004). *The demand for food away from home: Full-service or fast food?* Retrieved December 1, 2017, from <https://pdfs.semanticscholar.org/77fc/7b27c4cf73c532620a9e69d3038617458108.pdf>
- Stewart, H., & Yen, S. T. (2004). Changing household characteristics and the away from home food market: A censored equation system approach. *Food Policy*, 29(6), 643-658.
- Suwandinata, H. (2012). *Children's influence on the family decision-making process in food buying and consumption: An empirical study of children's influence in Jakarta-Indonesia* (Doctoral thesis), Justus-Liebig-Universitaet, Gießen, Germany.

- Tey, Y. S., Mad, N. S., Zainal Abidin, M., Amin, M. A., & Alias, R. (2009). *Evidence of engel curve in food away from home: A study of Malaysia* (MPRA Paper No. 14833). Germany: University Library of Munich.
- Wang, M. C., Naidoo, N., Ferzacca, S., Reddy, G., & Van Dam, R. M. (2014). The role of women in food provision and food choice decision-making in Singapore: A case study. *Ecology of Food and Nutrition*, 53(6), 658-677.
- Wibowo, D. E. (2011). Peran ganda perempuan dan kesetaraan gender. Muwazah. *Jurnal Kajian Gender*, 3(1).