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Factors Impacting Food Away from Home (FAFH) Spending in the United States: A Macroeconomic Perspective

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ABSTRACT

In the United States, individuals spend more than half of their food expenditures on food away from home (FAFH), and this trend is growing. This study aims to examine the factors that impact FAFH from a macroeconomic perspective. Macroeconomic and FAFH spending data from January 1997 to February 2020 were obtained from the various databases. The results reveal that the unemployment rate, Consumer Price Index (CPI), stock index, and oil price had a significant negative influence on both nominal and constant FAFH spending percentage, and oil price had a significant positive influence on constant FAFH spending percentage. This study contributes to the literature by concentrating on FAFH consumption, given that the extant literature focuses on household overall spending patterns. It also provides policymakers a better understanding of FAFH activities that are related to small business viability and community development.

Keywords: Food away from home, FAFH spending, macroeconomics, consumption, economic impact

Introduction

Household spending includes consumption expenditure to meet daily needs, such as food, clothes, housing, energy, transport, health spending, and leisure, and makes up 60% of the gross domestic product (GDP) (Varlamova & Larionova, 2015). Household expenditure is an essential indicator of individual and social wellbeing (Verter & Osakwe, 2014). It is also a reflection of global economic activity, and during an economic crisis, significant changes can often be observed in household expenditures (Varlamova & Larionova, 2015). Prior studies suggest a robust statistical relationship between household expenditures and various macroeconomic indicators, such as short-term interest rates, government consumption expenditures, consumer prices, taxes as a share of GDP, imports growth rate, and household income (Varlamova & Larionova, 2015). Other studies have found domestic disposal income and prices of products (Tellis & Ackerman, 2001), economic growth (Gerstberger & Yaneva, 2013), government debt (Berben & Brosens, 2007),

net disposable income, cross-cultural dynamics (social globalization), inflation rate, and saving rate (Verter & Osakwe (2014) also influence total household expenditure.

Within the category of general expenditure, food expenditure takes up a significant portion of the total household expenditure, but this proportion varies by country based on the level of national economic development (Clements & Si, 2018; Lusk, 2017). Engel's law explains that as incomes rise, the proportion of food expenditure decreases as expenditure on other things increases at a proportionally higher rate. The world's poorest people living at the margin of survival typically devote almost all their resources to food consumption (Lele et al., 2016). Therefore, food expenditure or food budget share is an important indicator to measure food security. In the United States, individuals spend more than half of their food expenditure on food away from home (FAFH). In 2019, United States consumers, businesses, and government entities spent a total of \$1.77 trillion on food. FAFH spending accounted for 54.8% of total food expenditures, compared to

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50.1% in 2009 (USDA Economic Research Service, 2020). Figure 1 reveals the relationship between per capita income and the percentage of income on food. According to this figure, the United States is still under the line estimated by the relationship between income and food spending, indicating a potential room for growth in food consumption spending, including FAFH spending.

FAFH expenditure, while varied by type of food facility (McCracken & Brandt, 1987), is an important economic indicator of household well-being. Despite the upward trend in FAFH, such an economic indicator has limitations due to inconsistent data collection and different definitions of food consumption (such as home production and consumption away from home) across countries around the world (Schmidhuber, 2002). As systematic crisis becomes more common in the market (Orden, 2020), understanding how economic conditions impact FAFH spending is critical to holistically understand the mechanism of the food system. For example, the 2007–2009 financial crisis led individuals to experience significant decrease in income and increase in the unemployment rate; consequently, consumers faced high food prices, which led them to save money by spending relatively less on FAFH expenditures (Kumcu & Kaufman, 2011). Although the literature identifies multiple sociocultural factors that are potential determinants of FAFH spending, such as household size, household income, and household manager's demographic characteristics (Byrne et al., 1996; McCracken & Brandt, 1987; Stewart & Yen, 2004), there is scant literature that

explains how economic conditions impact FAFH. According to the business cycle literature, business activities, including the FAFH, are found to have fluctuations given the aggregate national economic activity (Bruno et al., 2017). The business cycle theory has investigated the economic food systems phenomenon (Bruno et al., 2017; Galizzi & Venturini, 2012). Therefore, based on this prior stream of literature, this study poses the following research question: How do macroeconomic factors impact FAFH spending? The results of this study contribute to the literature by providing an understanding of how different economic conditions influence individual FAFH spending.

This study obtains data from the Food Expenditure Series from the United States Department of Agriculture Economic Research Service (USDA ERS). The ERS Food Expenditure Series provides the most comprehensive measure of all food expenditures' total value in the United States. This study covers the period from January 1997 to February 2020. The dependent variables in this study are FAFH percentage of total food spending, in nominal and constant dollar value. The independent variables of interest are macroeconomic variables that includes the unemployment rate, Consumer Price Index (CPI), stock index, oil price, interest rate, and income level, based on previous literature (Arbel, 1983; Kumcu & Kaufman, 2011; Lutz & Smallwood, 1997; Nord et al., 2014).

This study provides theoretical contributions and practical implications by extending our understanding of how economic conditions influence FAFH spending in the United States. In addition, this study builds upon empirical models that estimate FAFH spending from the macroeconomic perspective. Policymakers can better understand the effect of macroeconomic factors and utilize the model to estimate future FAFH spending.

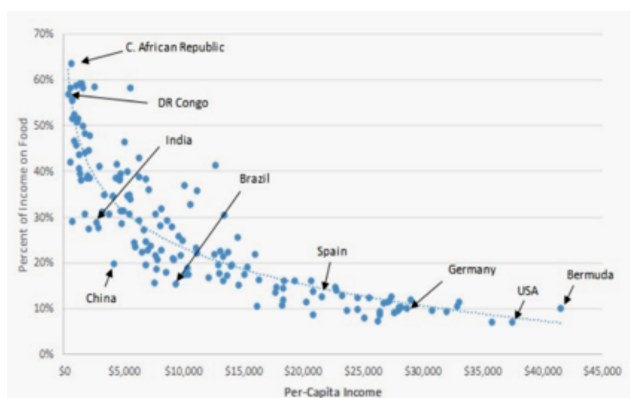


Figure 1. *The Relationship Between Food Consumption and Income*

Source: Adopted from Lusk, 2017; data from Clements & Si, 2018.

Literature Review

Socioeconomic Factors that Influence General Household Spending

Household spending reflects the notions of well-being and wealth; thus, it is vital to understand factors that influence consumer spending (Varlamova & Larionova, 2015). In addition, socioeconomic

refers to society-related economic factors (Pdhp .net, 2017), and many socioeconomic factors have been found to impact household spending (Varlamova & Larionova, 2015). For example, empirical evidence from several studies suggested that domestic disposal income and the price of products (Dvořáková & Seidler, 2012; Tellis & Ackerman, 2001) were related to household spending. In addition, the price of oil could also impact household spending (Mehra & Ptersen, 2005; Odusami, 2010; Wang, 2013). Odusami (2010) indicated that a rise in oil prices could reduce the proportion of general household spending. The inflation rate has also been found to have an effect on consumer expenditure. However, while Varlamova and Larionova (2015) found a positive impact, Verter and Osakwem (2014) found a negative impact on household spending. Also, stock prices (Berben & Brosens, 2007; Garner, 1988; Poterba, 2000), short-term interest rates (Varlamova & Larionova, 2015), home prices (Ludwig & Sløk, 2004; Tang, 2006), and economic growth (Gerstberger & Yaneva, 2013) were all found to have a positive impact on household expenditure. On the other hand, the share of taxes in GDP, import share, and general government consumption had a negative impact on household spending (Varlamova & Larionova, 2015).

Social Factors Influencing Consumer Food Expenditure

In early studies of food expenditure, Rogers and Green (1978) found that income and other demographic factors, such as race, education, family size, age of the family head, region of the United States, and residence in the metropolitan area were the most important variables influencing food expenditure. Other more recent cross-sectional studies have investigated the impact of various socioeconomic factors, such as family compositions (Liu et al., 2013), race (Lanfranco et al., 2002), homeownership (Mian et al., 2013), obesity (Drichoutis et al., 2012), and consumer preferences (Stewart et al., 2005).

Most recently, Gupta, Mirghasemi, and Rahman (2021) analyzed longitudinal data and found that age and education of the head of the household, race, family income, female workforce participation (female head), marital status, and economic recessions were significant determinants of food expenditure in the

United States. Gupta et al. (2021) compared white versus non-white (which includes Black, American Indian, Aleut, Eskimo, Asian, Pacific Islander, and Hispanic) and found that non-white consumers tended to show lower expenditure on overall food category, that is FAH and FAFH expenditures, compared to white counterparts. This finding is consistent with other research at different points in time (Liu et al., 2013; Nayga, 1996; Stewart & Yen, 2004). In the findings of Gupta et al. (2021), differences in expenditure showed different patterns between FAH and FAFH, where the authors found a decrease in FAH and an increase in FAFH in the higher-income quartile. Stated differently, non-white consumers tended to have overall lower food expenditure, but as their income increased, the FAH spending increased, showing a more similar pattern with white consumers. On the other hand, unlike white consumers, non-white consumers' FAFH spending decreased, showing a much bigger gap with white consumers.

Macroeconomic conditions also have salient effects on household spending. More specifically, researchers have focused on the recessionary periods and found that economic downturns have negatively impacted food expenditure (Antelo et al., 2017; Griffith et al., 2013). Although the negative effect of the recession on total food and food at home expenditure is consistent across all income ranges, higher-income quantile consumer's FAFH has not been affected by an economic recession (Gupta et al., 2021). Other studies have examined consumer demand for convenience food or ready-to-eat food and have found income (financial resources) and time constraints (Rahkovsky et al., 2018) to influence convenience food consumption significantly. Participation in the Supplemental Nutrition Assistance Program (SNAP) can increase the purchase of ready-to-eat food and non-ready-to-eat food but can significantly decrease full-service restaurant meal purchases. That is, individuals who participate in the SNAP may have higher ready-to-eat food spending from stores rather than restaurants (Rahkovsky et al., 2018).

Macroeconomic Factors that Influence FAFH Spending

According to the USDA, food away from home outlets are categorized into three types: full-service

restaurant, limited-service restaurant, and cafeteria. In the full-service restaurant, customers receive foodservice while seated; while in the limited-service restaurant, customers generally order and pay before eating. Finally, the cafeteria prepares and serves immediate consumption food using cafeteria-style or buffet serving equipment. In 2019, U.S. consumers, businesses, and government entities spent \$1.77 trillion in food expenditure, and FAFH spending accounted for 54.8% of total food expenditures within the household spending category, compared to 50.1% in 2009 (USDA Economic Research Service, 2020). Changes in the FAFH spending may indicate the change in the marketing, distribution, retailing, and foodservice systems and on farm-level demand for agriculture products (McCracken & Brandt, 1987).

Based on the literature in the previous section, the effect of social factors on food expenditure or FAFH has been extensively examined. However, the literature is relatively mute about studies of the economic effect on the FAFH, especially from the macroeconomic perspective. Macroeconomic factors exist outside the company and not under management control; they include social, environmental, and political conditions, suppliers, competitors, government regulations, and policy (Adidu & Olanye, 2006). Key economic factors include the consumer price index (CPI), unemployment, gross domestic product (GDP), stock market index, corporate tax rate, interest rates, and oil price (Broadstock et al., 2011; Wang, 2013; World Bank Group, 2015).

In addition, according to the business cycle literature, business activities, including the FAFH spending, can fluctuate (Bruno et al., 2017). The business cycle theory has been used to investigate the economic phenomenon in the food systems (Galizzi & Venturini, 2012), thus it is vital to extend it to FAFH spending literature (Orden, 2020). In addition, FAFH is also an essential part of household spending (USDA Economic Research Service, 2020), and it shows similar trends of fluctuation with household spending in a holistic manner (Verter & Osakwe, 2014). This study indicated that the effect of some macroeconomic factors impacting the general household spending may have the same pattern in the FAFH context. Also, there are scant studies on the FAFH, and this current study refers to those macroeconomic factors (unemployment

rate, inflation rate, stock price, short-term interest rate, oil price, and CPI) impacting general consumer consumption to examine those effects on the FAFH. Therefore, this study raises a research question: How do macroeconomic factors impact FAFH spending? This study develops a model to examine the relationship between macroeconomic factors and FAFH spending that is supported by prior literature.

Methodology

Data

This study focused on the relationship between macroeconomic factors and individual FAFH spending. The current study collected macroeconomic variables and individual FAFH spending from multiple databases, including the USDA's Food Expenditure Series, Federal Reserve Bank, Bureau of Labor Statistic, S&P global, and Bloomberg. Such databases have been popular sources for U.S. macroeconomic data (Kilian & Vega, 2011). The time range of the data was from January 1997 to February 2020. The FAFH data was available up to December 2020. However, this study did not include the range of March to December 2020 since the COVID-19 pandemic significantly changed the individual FAFH pattern (see Figure 2). The FAFH percentage for both nominal and constant spending had a salient drop since March 2020. FAFH spending percentage change could result from multiple reasons beyond this model's breadth, such as consumer confidence level and different state and county level quarantine standards, and indoor and outdoor dining policies. Therefore, this study focused on the pre-COVID-19 FAFH spending.

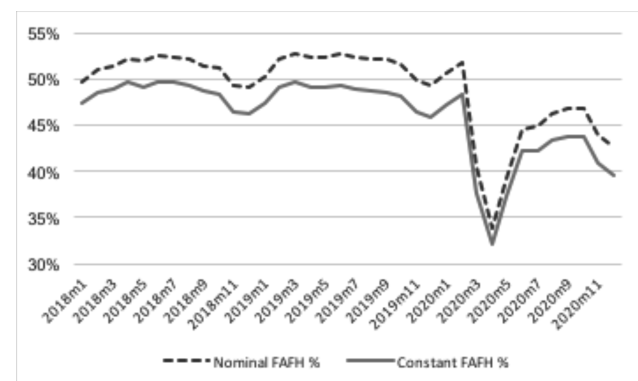


Figure 2. FAFH Distribution from 2018 to 2020

Model and Variable Description

To accomplish the current study's purpose, the study investigated the relationship between macroeconomic factors and individual FAFH spending. In the models, FAFH spending percentage has been selected as a dependent variable. In order to strengthen the validity of the analysis, two different types of FAFH percentages, nominal and constant, were chosen. The interest variables were macroeconomic variables that may impact individual spending patterns. Models for analyses are as follows:

$$\begin{aligned} \text{Nominal FAFH percentage} &= \beta_0 \\ &+ \beta_1 \text{ Unemployment} + \beta_2 \text{ CPI} + \beta_3 \text{ Interest} \\ &\quad + \beta_4 \text{ Stock index} + \beta_5 \text{ Oil price} \\ &+ \beta_6 \text{ Personal disposable income} + \varepsilon \end{aligned} \quad (1)$$

$$\begin{aligned} \text{Constant FAFH percentage} &= \beta_0 \\ &+ \beta_1 \text{ Unemployment} + \beta_2 \text{ CPI} + \beta_3 \text{ Interest} \\ &\quad + \beta_4 \text{ Stock index} + \beta_5 \text{ Oil price} \\ &+ \beta_6 \text{ Personal disposable income} + \varepsilon \end{aligned} \quad (2)$$

To measure FAFH spending, this study employed FAFH spending percentage calculated using the average of individual's FAFH spending divided by the average of individual's total food-related spending (including both FAH and FAFH spending). Specifically, USDA ERS (2020) FAH spending included food expenditures in grocery stores, convenience stores, other food stores, warehouse clubs, supercenters, mass merchandisers, other stores and foodservice, mail order and home delivery, direct selling by farmers, manufacturers, and wholesalers, and home production and donations. On the other hand, FAFH spending included food expenditures in a full-service restaurant, limited-service restaurants, drinking places, hotels, motels, retail stores and vending, recreational places, schools and colleges, other FAFH sales, and food furnished and donated. For example, 40% FAFH spending percentage indicated that individuals on average spent 40% of their food expenditures on food products away from home. In particular, two FAFH percentages were included in the models: nominal and constant FAFH percentage. Nominal FAFH percentage used the actual dollar food spending, whereas constant FAFH percentage used the constant dollar food spending by converting the nominal spending

based on the constant year 1988 dollars, which was transformed by USDA ERS.

In this study, the explanatory variables were macroeconomic factors that may affect individual FAFH spending. This study included six macroeconomic factors: unemployment rate, CPI, interest rate, stock index, oil price, and disposable personal income (e.g., Arbel, 1983; Kumcu & Kaufman, 2011; Lutz & Smallwood, 1997; Nord et al., 2014; Varlamova & Larionova, 2015). Specifically, the unemployment rate measured the percentage of the labor force that was unemployed. The monthly data was collected from the Bureau of Labor Statistics. The unemployment rate could provide insights on the level of workers and their family job loss, which may impact their purchasing power and production loss. CPI measured the average change in the prices paid by urban consumers for a market basket of consumer goods and services over a time period. The monthly data was collected from the Bureau of Labor Statistics. CPI indicated the price inflation in goods and services that could influence consumer purchasing intentions. The interest rate was measured by the short-term interest rate that featured the short-term borrowing activities affected by financial institutions. The monthly data was collected from Organization for Economic Co-operation and Development (OECD). The short-term interest rate could affect the financing activities' cost (Bernanke & Reinhart, 2004). A higher short-term interest rate may limit the consumer borrowing capacity, such as personal loans.

The stock index was measured by the S&P 500 monthly index, representing the market capitalization of the 500 largest publicly traded companies in the United States as a weighted index. The monthly data was collected from S&P global. The high stock index represented more wealth for the publicly traded businesses that enhanced consumer confidence by indicating economic growth. Oil price was measured by the West Texas Intermediate (WTI) crude oil price per barrel. The monthly data was collected from Bloomberg energy. High oil prices indicated a growth of the economic activities that increased the demand for crude oil for transportation. Finally, disposable personal income was the amount of money that an individual or household can save or spend after deducting their tax obligation. The monthly data was collected from

the Federal Reserve Bank. A higher level of disposable personal income could allow individuals to be flexible on their spending on hedonic consumption, such as on FAFH consumption.

Result

Demographic

Descriptive statistics of the data for the current study were summarized in Table 1, with a sample size of 278 monthly observations from January 1997 to February 2020. The mean and standard deviation (SD in parentheses) values for nominal and constant FAFH spending were 44,276.11 (13,826.88) and 24,136.11 (3,486.50), in dollars, respectively. For the main dependent variables (i.e., nominal and constant FAFH spending percentage) ranged from 0 to 1; nominal FAFH spending percentage had a mean of 46.76% and an SD of 2.62%, and constant FAFH spending percentage had a mean of 46.91% and an SD of 1.70%. For the macroeconomic variables, the mean and SD (in parentheses) of unemployment rate, CPI, interest rate, stock index, oil price,

disposable personal income were 5.73% (1.77%), 208.93 (29.73), 2.47% (2.18%), 1534.662 (594.41), 56.16 (28.36), and 10853.57 (2989.50), respectively.

Table 2 reported the results of Pearson's correlation analysis of variables. Nominal FAFH spending percentage was positively correlated with an interest rate ($p < 0.01$) and stock price index ($p < 0.001$), and negatively correlated with the unemployment rate ($p < 0.001$), CPI ($p < 0.01$), oil price ($p < 0.001$), and disposable personal income ($p < 0.05$). In addition, constant FAFH spending percentage was negatively correlated with unemployment rate ($p < 0.001$). Among the macroeconomic variables, the unemployment rate was positively correlated with CPI ($p < 0.001$) and oil price ($p < 0.001$), and negatively correlated with CPI ($p < 0.001$) and stock index ($p < 0.001$). CPI was positively correlated with oil price ($p < 0.001$) and disposable personal income ($p < 0.001$), and negatively correlated with stock index ($p < 0.001$). Moreover, interest rate was positively correlated with the stock index ($p < 0.001$) and negatively correlated with oil price ($p < 0.01$). The stock index was negatively correlated with oil price ($p < 0.001$) and disposable personal income ($p < 0.001$).

Table 1. Descriptive Statistics ($n=278$)

Variable	Mean	Std. Dev.	Min	Max
Nominal FAFH spending	44276.11	13826.88	22338.80	75155.61
Constant FAFH spending	24136.11	3486.50	14863.40	32291.31
Nominal FAFH percentage	46.76%	2.62%	40.52%	52.74%
Constant FAFH percentage	46.91%	1.70%	41.42%	50.72%
Unemployment rate	5.73%	1.77%	3.5%	10.09%
CPI	208.93	29.73	159.52	259.13
Interest rate	2.47%	2.18%	0.11%	6.90%
Stock index	1534.662	594.41	741.83	3225.36
Oil price	56.16	28.36	12.02	130.30
Disposable personal income	10853.57	2989.50	6010.90	16851.97

Table 2. Summary of Pearson's Correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) Nominal FAFH spending	1.00									
(2) Constant FAFH spending	0.99***	1.00								
(3) Nominal FAFH percentage	-0.14*	-0.13*	1.00							
(4) Constant FAFH percentage	-0.04	-0.04	0.84***	1.00						
(5) Unemployment rate	0.27***	0.27***	-0.53***	-0.20***	1.00					
(6) CPI	0.01	-0.05	-0.41**	-0.11	0.43***	1.00				
(7) Interest rate	-0.23***	-0.26***	0.29**	0.01	-0.72***	0.03	1.00			
(8) Stock index	-0.20***	-0.16**	0.43***	0.02	-0.85***	-0.50***	0.66***	1.00		
(9) Oil Price	0.08	0.05	-0.43***	-0.08	0.53***	0.90***	-0.16**	-0.56***	1.00	
(10) Disposable personal income	0.08	-0.01	-0.15*	-0.03	0.10	0.48***	0.09	-0.36***	0.48***	1.00

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Finally, the oil price was positively correlated with disposable personal income ($p < 0.001$).

Main Results

As the collection of monthly data in the models included a time trend, such a time trend was removed from all the variables. In the two OLS regression results (Table 3), the goodness of fit index (F statistic) implied that proposed models explained a significant proportion of the dependent variable. In both models, the values of variance inflation factor (VIF) were smaller than 10, indicating that there existed no substantial multicollinearity among variables (Belsley et al., 2005)

In model 1, unemployment rate ($\beta = -0.522$, $p < 0.001$), CPI ($\beta = -0.002$, $p < 0.01$), and stock index ($\beta = -0.000$, $p < 0.01$) negatively impacted nominal FAFH percentage. In model 2, unemployment rate ($\beta = -0.666$, $p < 0.001$), CPI ($\beta = -0.002$, $p < 0.05$), and stock index ($\beta = -0.000$, $p < 0.001$) negatively impacted constant FAFH percentage. In addition, oil price ($\beta = 0.000$, $p < 0.01$) positively impacted constant FAFH percentage.

Discussion and Conclusion

Previous studies have examined the relationship between macroeconomic factors and general spending activities (e.g., Varlamova & Larionova, 2015; Verter & Osakwem, 2014). However, the analysis of household consumption patterns does not provide enough information about food-related spending, which is an important economic indicator of household well-being. There is a significant research gap

in understanding such a relationship between food-related spending in the broader household consumption pattern. This current study investigates the influence of various macroeconomic factors on individual FAFH expenditure. The statistical analysis reveals a significant relationship between individual FAFH expenditure and macroeconomic factors: unemployment rate, CPI, stock index, and oil price. In particular, the unemployment rate, CPI, and the stock index negatively influenced both nominal and constant FAFH spending percentage, and oil price had a positive influence on constant FAFH spending percentage.

The findings of this study are mostly consistent with findings in prior literature. From the perspective of consumer value obtained from food spending, FAFH consumption adds hedonic value compared to FAH consumption (Park, 2004). Individuals can obtain personal service and well-crafted meal experiences from foodservice providers, which may not be accessible at home. Therefore, FAFH consumption can be an alternative if an individual wants to escape their cooking responsibility at home (Sun & Morrison, 2007). From the perspective of macroeconomic factors, the unemployment rate is highly related to a country's GDP per capita and the population's income level affects FAFH spending (Feng et al., 2018). A high unemployment rate may lead to a lower income level such that individuals may reduce their FAFH consumption (Nord et al., 2014). In addition, CPI reflects the inflation level of product' and service prices. A higher CPI level can result in a higher overall price level, leading to a lower level of free cash, which can limit individual FAFH consumption (Walsh, 2011). Moreover, the oil price

Table 3. OLS Regression Results ($n=284$)

DV	Model 1	Model 2
	Nominal FAFH percentage	Constant FAFH percentage
Intercept	0.001	0.001
Unemployment rate	-0.522***	-0.666***
CPI	-0.002**	-0.002*
Stock index	-0.000**	-0.000***
Oil price	0.000	0.000**
Interest rate	0.067	-0.083
Disposable personal income	-0.045	-0.063
F statistic	51.84***	9.56***
R ²	34.40%	17.47%

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

can serve as a proxy for economic activities (Rafiq et al., 2009). Higher oil price means that the demand for oil increases based on increased transportation activity (Aggarwal et al., 2012). FAFH consumption can be higher due to a higher oil price because of an overall growing economy and potentially higher income levels. However, this study's results related to the stock index are different from those in findings in previous literature. Previous literature indicates that the stock index is a proxy of economic growth and stimulates general household consumption (Garner, 1988; Poterba, 2000). In the current study, the stock index had a negative impact on FAFH spending percentage. One plausible explanation is that a growing economy may lead to the consumption of larger investments, such as buying housing (Poterba, 2000). Such a preference for larger investment can lead to an increase in house prices (Tracy et al., 1999). Poterba (2000, p. 104) concludes that: "When house prices rise, the implicit "user cost" of living in a house also rises, so the relevant price index for the consumer's consumption basket rises." As a collateral consequence of investment, individuals may make monthly payment commitments, limiting cash flows and, therefore, FAFH.

This current study contributes to the literature and provides insightful implications. This study aims to fill the research gap of the influence of macroeconomic factors on FAFH consumption patterns. Such a relationship can enhance the understanding of the effect of macroeconomic factors on FAFH spending. Such findings can help policymakers to recognize the potentially negative effect on FAFH activities if the macroeconomic condition is taking a downturn. In particular, FAFH-related businesses are mainly in the restaurant industry, where more than 90% of restaurants are small and medium enterprises (SMEs), and about 70% of the restaurants are single-unit restaurants (National Restaurant Association, 2020). These businesses often connect with residents and communities by providing local employment and tax revenues (Nugent, 2020). Therefore, lower FAFH spending may undermine local communities' development, generating a vicious circle, harming the economy. This study provides policymakers a better understanding of FAFH activities, which can also have implications on small businesses viability and development.

This study is not without limitations. First, this study focuses on FAFH consumption in the United States. The macroeconomic factors are highly related to the economic and monetary policy. Future studies can investigate FAFH spending patterns in other countries. Second, this study uses monthly data to run the analysis. Some of the macroeconomic factors that previous literature have identified (e.g., import percentage of GDP and general consumption percentage of GDP) only have annual data. Such data cannot be decomposed or used in the monthly analysis unless the models need to create unrealistic assumptions. Future studies can include additional macroeconomic factors when the data becomes available.

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