

Household Consumption Spending Disparities as a Function of Economics Education

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Abstract: A major challenge in economics and financial education is frequently the attempt to explain the disparities in household consumption spending. Household income determines the quality and quantity of goods and services that a household could consume. The amount of income available to a household is a major determinant of the disparities in household consumption spending. Although the role of income in household consumption spending is widely documented, other economic factors also contribute to the disparities such as accumulated wealth, price, taste, and preference of the household. Interestingly, these economic factors or economic knowledge are learnable and acquired from basic economic education. Consequently, this paper assumes that basic economic education knowledge predicts household consumption spending disparities. A pre-survey of 120 out of 150 individuals participating in professional development training indicated that they have difficulties living financially well as compared to some of their friends with the same or less salaries and similar family responsibilities. After participating in basic economics education classes, a post-survey from the same participants was analyzed using SPSS multiple regression. The result from the data analysis and the progressions of the paper revealed that economic education significantly predicts household consumption spending disparities.

Keywords: Household income, Consumption spending disparities, Economics education

Introduction

While most individuals engaged in community economics and financial management continuing education agree that income is the determinant of consumer spending, most find it challenging to explain why the disparities in consumption spending within limited-income households. The challenge aligns with a common assertion that household income determines disparities in the quality and quantity of goods and services that the household consumes (Attanasio, & Pistaferri, 2016). Although it is obvious that household consumption spending is a function of the household income, it is not obvious why families that make similar incomes and have similar responsibilities are not able to derive similar utility, the satisfaction derived from consuming goods and services, from similar incomes. These disparities in household income utilization are therefore an indication that there are other factors besides income accounting for household consumption spending disparities. These

factors other than incomes are not far fetched and are encapsulated in economic education contributing to household consumption spending disparities such as the amount of accumulated wealth, price, taste, and preference of the household goods and services (Landes, 1990; Appleton, 2001; Lyubomirsky, 2001; Smeeding, 2006; Case, & Fair, 2007).

This paper assumes that household consumption spending disparities are a function of economic education (the amount of accumulated wealth, price, taste, and preference), which are also essentially the foundation of financial education including income (Blundell, Pistaferri, & Preston, 2008). Two households may have the same qualifications, and make the same income, but disparities may exist in their consumption spending (Lyubomirsky, 2001). Therefore, it is difficult to assert that income disparity is the sole reason for the consumption spending disparities. If this assertion is correct, what else besides income could contribute to household consumption spending disparities.

Limited income individuals who were engaged in basic economics training indicated in a survey before the training disproportionate difficulties in living financially well as compared to some of their friends with the same or lesser income and similar family responsibilities (Stantcheva, 2022). After participating in basic economics education classes in the training, a post-survey was administered to the same participants to understand the effect and relationship of economics education on household consumption spending disparities (Krueger, & Perri, 2006).

Both surveys (pre and post) were analyzed based on SPSS multiple regression to predict the effect and relationship of basic economics classes on household consumption spending disparities. The results indicated that economics education (the amount of accumulated wealth, price, taste, and preference) significantly predicts household consumption spending disparities. The following sections of this paper deal with the method, results, discussions, and conclusions including a list of references cited in the paper.

Method

201 participants attended community classes in economics education (income, wealth, prices, taste, and preference) to acquire knowledge in managing household consumption spending. Before participating in community classes, a pretest 5-point Likert scale survey was assigned to participants to collect data on their economics knowledge and understanding of income in household consumption spending.

After participating in the community classes a post-survey (the same as a pretest) was assigned to participants to capture the difference between the pre-test and post-test surveys. The community classes in economics and financial education comprised of the amount of income available to the household, the amount of household accumulated wealth, the price of products the household consumes, and the taste, and preferences of the household. Below is a brief discussion of each of the basic economics classes.

The Amount of Income Available to the Household (AIAH)

The amount of income available to the household at any given period is an essential factor that accounts for disparities in household consumption spending. A hypothetical example can be visualized in the Applegate and the Patterson households. If the Applegate household has twice as much monthly income as the Patterson household (\$1,000) and assuming all things are equal, the Applegate household would have twice (\$2,000) as much spending ability as the Patterson household. Additionally, if the consumption baskets for both families are equal in monthly spending (\$500) then, the Applegate household would be three times richer than the Patterson household would be based on their unspent income. From this hypothetical example, the amount of income available to the household accounts for major disparities in household consumption spending. In a nutshell, the higher the household income the higher the ability to spend on consumer goods and services. The lower the income the lower ability to spend on consumer goods and services. Therefore, income available to the household is a major factor in the disparities in household consumption spending (Jenkins, 2000). The household depends on income more than any other factor in consumer spending, making income the dependent variable in this study.

The Amount of Household Accumulated Wealth (AHAW)

The household's accumulated wealth is also an obvious determinant of the quantities of goods and services that the household consumes, which accounts for the disparities in household consumption spending. There are some households where money management may not be a problem to sustain their present and future consumption at any given time. Many households have accumulated wealth that can sustain their consumption spending for years even in times of temporary financial adversities. Other households with zero wealth or zero savings depend on paycheck to paycheck with restricted household income for consumer spending. Yet, limited household income earners can be motivated to learn to acquire knowledge to increase their household income (Baker, Farrokhnia, Meyer, Pagel, & Yannelis, 2020).

The Price of Products the Household Consumes (PPHC)

Price is an indication of the actual market value of any goods and services. Price is also a measure of market demand (the willingness and ability to buy) and supply (the willingness and ability to sell). There is a general principle in economics: the higher the price, the lower the demand (people are less likely to or should not buy). Conversely, the lower the price the greater the demand. The derivation of this principle is two economic laws: The Law of Demand, which states that consumers should buy goods and services at lower prices and should not buy at high prices; and the Law of Supply which states that suppliers should supply goods and services or products to the market only when there is a higher demand for the product. Inherently, if the price for the product that a household is willing to buy is becoming unaffordable, the household should not buy. Most limited-income households should practice the Law of Demand and adhere to it. Note that if any household

ignores this Law of Demand there are no legal consequences, no police arrest for breaking the Law of Demand, but the effect could be an eventual money hardship (Ngobo, 2011).

The Tastes and Preferences of the Household (TPH)

Taste and preference account for disparities in household consumption spending. Regarding taste, most people would like to eat food that tastes good. Since there are plenty of good tasty foods households have preferred preference on the quality of the food, and if they have to choose from various food to eat they would elect their preference. Preference goes along with taste, and if a consumer does not care where to go for a burger meal, then the consumer might not care about going to McDonald's, Burger King, or Checkers. To this consumer, the taste of a Burger meal has no preference in the dining decision-making. Tastes and preferences become a little complicated when price becomes a major factor (Spiller, & Belogolova, 2017). A household with high taste and preference would spend more money than others with low taste and low preference (Hoyer, & Stokburger-Sauer, 2012).

Level of Economics and Financial Education (EF-Ed)

Although income, the amount of accumulated wealth, the price of products, and tastes and preferences are economic factors embedded in disparities in household consumption spending. Yet, these factors are not fully explored to bring to understanding the implications of economics and financial education regarding the household consumption spending disparities. Some wonder if financial education makes a difference in the financial decision-making of most households (Hilgert, Hogarth, & Beverly, 2003). Interestingly, holding such an opinion does not stipulate that learning basic economics and financial decision-making does not increase the level of understanding in most households (Hastings, Madrian, & Skimmyhorn, 2013). This paper explores some pertinent economic factors affecting disparities in household consumption spending and examines if each of these economic factors (after participating in classes) predicts household consumption spending disparities. In this study, pre and post-surveys were assigned to each of the classes to assess participants' economics and financial knowledge acquired before and after each class.

Data Analysis

The data from both pre and post-survey were collected and analyzed using SPSS multiple regression analysis. The importance of the analysis is to examine if there is a relationship between the dependent variable, Household Consumption Spending Disparities based on Income (AIAH), and the independent variables, the Amount of Household Accumulated Wealth (AHAW), Prices of Products the Household Consumes (PPHC), Tastes and Preferences of the Household (TPH), and the Level of Economics and Financial Education (EF-Ed) of the household. Moreover, the significance of the effect of each of the independent, explanatory, or predictor

variables in contributing to predicting the dependent variable was also essential and examined. The general linear multiple regression model can be summarized as $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \epsilon$

This brings the study to the following hypotheses:

- $H_0: \beta_{AHAW} = \beta_{PPHC} = \beta_{TPH} = \beta_{EF-Ed} = 0$ (No relationship between the dependent variable and the independent or explanatory or predictor variables, combined)
- H_1 : At least one of the β coefficients is not equal to 0

Results

The following results are based on data analyses using SPSS from pre and post-surveys data collected from 201 participants. The ANOVA table below summarizes the regression model, and the relationship between the dependent variable and the predictor or explanatory variables combined.

ANOVA						
	Model	Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	4126.520	4	1031.630	10.749	.000 ^b
	Residual	18811.639	196	95.978		
	Total	22938.159	201			

- a. Dependent Variable: Household Consumption Spending Disparities based on Income (AIAH)
- b. Predictors: (Constant), Amount of Household Accumulated Wealth (AHAW), Price of Products the Household Consumes (PPHC), Tastes and Preferences of the Household (TPH), Level of Economics and Financial Education (EF-Ed).

ANOVA

ANOVA is the analysis of the variance and determines if a regression relationship exists in the model between (a) the dependent variables and (b) the independent or predictors predicting the relationship on the above ANOVA table.

Relating to the hypotheses mentioned above under data analysis:

- $H_0: \beta_{AHAW} = \beta_{PPHC} = \beta_{TPH} = \beta_{EF-Ed} = 0$ (No relationship between the dependent variable and the independent or explanatory or predictor variables, combined)
- H_1 : At least one of the β coefficients is not equal to 0

The ANOVA table helps to address the hypotheses by looking at the relationship on the table with the variables. What instructs the result most is the F Test statistics by examining if it is statistically significant or not.

The F-statistics is a test of the significance of the entire regression model and at $\alpha = 0.05$, and in this case and as indicated on the ANOVA table, the F-statistics, the regression model is statistically significant, $p = .000 < 0.05$. Therefore, based on the hypotheses, the F statistics is significant: $F = 10.749$ (p-value, $p = .000$), at $\alpha = 0.05$. As such, we reject H_0 , because there is evidence of a regression relationship between the dependent and the independent variables.

Looking at the effects of each predictor in contributing to the overall regression model the coefficients table below indicates the t-statistics and significance of each predictor

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	60.822	5.487		11.085	.000
Amount of Household Accumulated Wealth (AHAW)	5.165	.962	.348	5.370	.000
Price of Products the Household Consumes (PPHC)	-3.062	1.002	-.198	-3.057	.003
Tastes and Preferences of the Household (TPH)	-1.931	.956	-.131	-2.021	.045
Level of Economics and Financial Education (EF-Ed)	-1.482	.834	-.115	-1.778	.077

- a. Dependent Variable: Household Consumption Spending Disparities based on Income
- b. Independent (Predictor) Variables: At $\alpha = 0.05$
 - b_1. Amount of Household Accumulated Wealth (AHAW)

$$\beta = .348, t(201) = 5.370, p = .000 \text{ (the regression is statistically significant } p < 0.05)$$

The Amount of Household Accumulated Wealth (AHAW) is a significant predictor of household consumption spending disparities. Wealth is positive for household consumption spending

- b_2. Price of Products the Household Consumes (PPHC)

$$\beta = -.198, t(201) = -3.057, p = .003 \text{ (the regression is statistically significant } p < 0.05)$$

The Price of Products that the Household Consumes is a significant predictor of household consumption spending disparities. Having a car or no car makes a difference, and more, the quality of the car or the shopping choices (quality/quantities) for goods and services of the household accounts for consumption spending disparities. However, although there is a significant relationship, there is also a negative effect on the dependent

variable (Household Consumption Spending Disparities based on Income) when the household is not prudent in spending.

b_3. Tastes and Preferences of the Household (TPH)

$\beta = -.131$, $t(201) = -2.021$, $p = .045$ (the regression is statistically significant $p < 0.05$)

The tastes and preferences of the household (TPH) are a significant predictor of household consumption spending disparities. Although tastes and preferences are significant predictors, they hurt the dependent variable (Household Consumption Spending Disparities based on Income) based on the negative effect. When tastes and preferences are big in the household, households will be spending more income on consumption spending than on saving.

b_4. Level of Economics and Financial Education (EF-Ed)

$\beta = -.115$, $t(201) = -1.778$, $p = .077$ (the regression is not statistically significant $p > 0.05$)

The level of economics and financial education (EF-Ed) knowledge of the household contributes to the overall regression model, but by itself, it is not statistically significant in accounting for household consumption spending disparities. A household may have a high level of economics and financial knowledge. Still, the household may be going through a little hard time due to transitional difficulties. This could be typical of recent college graduates dealing with student loans and struggling to find appropriate jobs to their level of accomplished education.

Although these economic factors may have different impacts on causing household consumption spending disparities, as a whole if combined the sum is statistically significant to the dependent variables (Household Consumption Spending Disparities based on Income) than the parts.

Graphical Results

Additionally, results from the study can also be visualized from the graph which despite its inconsistency, it follows the bell-shaped pattern of normal distribution attributed to a regression norm.

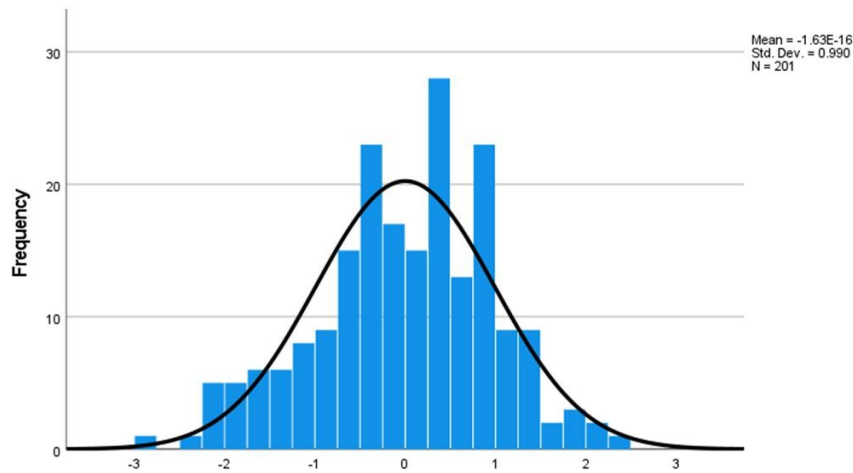
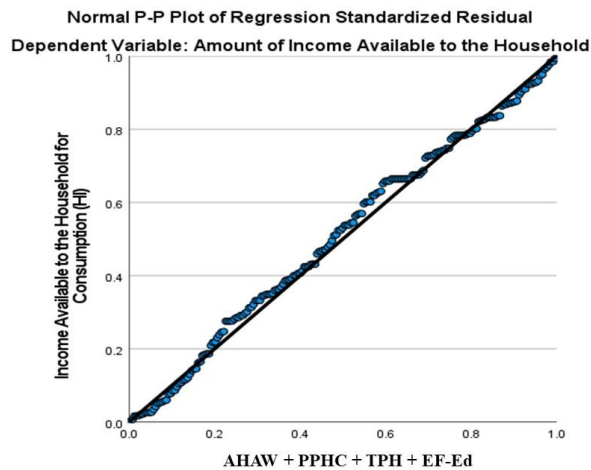


Chart Results

The normal probability plot of the regression indicates homoscedasticity. It is obvious that the data are evenly spread across the regression line, and the dots are closer to the regression line.



Discussion

This study focuses on struggling income earners or limited income households that are having difficulties managing their income to meet up with daily financial needs. The study centered on a sample of participants who willingly volunteered to participate in learning to improve their financial well-being, Taking into consideration the community of study, the sample size of 201 participants should be close to an adequate representation of the community that is estimated to have a population of 450 reported limited income households. The sample size used in this study is based on a 95% confidence interval and a 5% margin of error (Singh, & Masuku, 2014).

Although the participants were well informed about the importance of income only very few of them were flexible in thinking that besides wages or salaries income received for working from an employer and welfare benefits (transfer payments), there are other sources of income such as business income (profit) and investment income (interest) that are other legitimate income sources. Additionally, there was a minimal understanding of some basic financial connections between income, consumer spending, and savings, and this was missing in their money management discussions. The linear relationship ($\text{income} = \text{spending} + \text{savings}$) also helps to explain why some of the economic factors in the regression relationship have a negative beta value. This also indicates that besides income, the dependent variable, in this case, is almost always positive and every other factor affecting this relation can assume a negative or a positive value depending on how income is allocated and managed. The lack of familiarity with this relationship among most participants were not surprising to the educator, this author because these are discussions (basic linear connections between income, consumer spending, and savings) that are deeply rooted in the study of basic economics, but not in basic financial literacy. Most educators believe that every educator can teach financial literacy (which could be true), but because financial literacy is rooted in economics, not every educator can teach financial literacy better than educators grounded in the study of economics. Although the learning of basic economics and financial literacy has no statistical significance in forming households to become consumption spending experts, learning brings the awareness of other economic factors that are significant in enhancing a household master the maximization of household income by minimizing consumption spending (Case, & Fair, 2007). This learning is incorporated in the discussion of this study in the statistical analysis and the effects of the explanatory or predictor variables on the dependent variable.

It is equally important to mention the satisfaction derived by participants participating in the study. This satisfaction derived is indicated on the teaching effectiveness feedback form which is the participants' evaluation of the teacher and the classes. The teaching effectiveness feedback form is for the teacher, and it is not a part of the pre and post-survey forms that capture participants' information. From the teaching effectiveness form, 95% of the participants find the classes essential, especially for almost every head of the household to participate and learn from the classes. It was also inferred from the feedback by participants that the basic economics classes generally make sense and provide pertinent knowledge. Therefore, even if the basic economic knowledge may not be needed at the time of learning by some participants, a repertoire of financial knowledge is always helpful.

Conclusion

In this paper, it is discussed that the amount of income available to a household is a major determinant of household consumption spending disparities. However, other essential factors such as the accumulated wealth of the household, the price of products the household consumes, and the tastes and preferences of the household are contributors to the disparities in household consumption spending. These factors can enable the household

towards two directions: first, effective money management and prudent consumption spending, and second, the lack of the factors can bring households to financial ignorance leading to spending money and not knowing the reasons for the spending (spontaneous spending).

Although economics and financial management education by itself does not contribute much to defining how effective a household can benefit from community education in maximizing household incomes, when combine with other economic factors, it helps a household develop confidence in making appropriate and significant financial decisions. Households that participated in the study indicated that the classes accounted for simplifying the understanding of the independent variables or the explanatory variable (AHAW, PPHC, TPH, and EF-ED) to be helpful to household financial decision-making. This implied that new knowledge was acquired from attending the basic economics classes, and this new knowledge if applied appropriately, could make a positive difference in household income disparities. Bringing the focus back to EF-ED, the significant level is 7% and just 2% over the 5% threshold value. Although this does not refute the fact that the p-value is greater than the alpha ($P > 0.05$), and the probability that the null hypothesis is true, it need not be convincing that with all the explanatory variables combined, the EF-ED contributes significantly to the regression model. Therefore, community education matters in the overall progression of improving household income disparities by closing pockets of potential poverty gaps.

Additionally, learning basic economics and financial education motivates responsible citizens to become less dependent on welfare, and most likely propel a reduction in public assistance dependency, which is impactful to the household well-being, community prosperity, and also, caseload management and recidivism.

Interestingly, a learning community of limited-income households can become creative with applied economics and financial education to become job creators, and business formation to develop business income (profit) that could eventually employ others in the community.

Conclusively, adult continuing community education is an essential enhancement in the community and its affordability, that is almost free all the time, and even when there is a fee, the fee is minimal and affordable. Even more encouraging, some institutions will provide free community education, especially state educational institutions with a College of Agriculture and Natural Resources. Most colleges of agriculture in the United States are affiliated with the United States Department of Agriculture (USDA) which provides funding to the colleges to promote and encourage Extension Education and Programs to provide education to both rural and urban residents. Agriculture Extension education ranges from agriculture (rural and urban) to family consumer sciences (financial management, expanded food and nutrition) to 4-H youth development. As an extension educator, this University Extension educator provides financial management education to adults and youth in his assigned counties and cities at no cost to individuals and families requesting financial management or financial literacy education. This programming is based on the university policy of affirmative action, equal access, and equal opportunity, and incorporates diversity, equity, inclusion, and respect for all participants.

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