



The Effect of Perceived Inflation on Green Purchase Behavior: The Moderated Mediation of Financial Literacy

By

Dr. Dina Mohyee Eldin Mohamed

Economics Department, Faculty of Business, Ain Shams University -ASU, Cairo, Egypt dina mohyee@bus.asu.edu.eg

Dr. Noura Anwar Abdel-Fatah

Cairo University, Giza, Egypt. School of Business and Economics, Badr University in Cairo- BUC, Egypt nournwr@cu.edu.eg

Dr. Marwa M. Header

Business Adminstration Departement, School of Business and Economics, Badr University in Cairo-BUC, Egypt marwa.medhat@buc.edu.eg

Dr. Samira M. Allam

Business Adminstration Departement, Faculty of Business, Ain Shams University-ASU, Cairo, Egypt. samira.allam@bus.asu.edu.eg

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Abstract

This study aims to investigate the effect of perceived inflation on green purchase behavior in the food industry, and the mediating role of attitude toward green products, in addition to financial literacy as a moderator in explaining green purchase behavior. An exploratory study is conducted to assess the interrelationships between the variables and test criteria for perceived inflation and its effect on green purchase behavior throughout two phases. First, a questionnaire was designed to collect relevant data. Second, Structural Equations Modelling was used to test the direct relationship between perceived inflation and green purchase behavior, test the moderated mediation of attitude and financial literacy on the direct relation. A total of 404 individuals responded to the questionnaire. The analysis was implemented using SPSS AMOS v.24. A crucial finding is that attitude toward green products was found to be a key variable that notably improves the model's ability to interpret results and draw conclusions, as it significantly enhances the model's explanatory power. This study offers valuable insights for academics, decision-makers, and consumers interested in green products. It significantly advances our knowledge of inflation's effect on green purchase behavior, alongside enriching literature from multi-disciplinary perspectives. The current study breaks new ground through its contribution to understanding a topic worth studying like inflation and how it affects green purchase behavior by incorporating marketing, economics, and financial variables. It offers an insightful picture of inflation and its effect on tackling environmental problems by focusing on the moderating mediation of the variables in question.

Keywords: Attitude towards Green Products; Financial Literacy; Green Purchase Behavior; Moderated Mediation; Perceived Inflation.

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Introduction

Egypt is experiencing tough macroeconomic instability due to turbulent global economic circumstances. The Russian-Ukrainian war which has out broken since February 2022, aggravated global supply chain bottlenecks. In addition, tightening monetary policy adopted by many countries contributed to the threat of stagflation (World Bank, 2022). At the same time, there's a major concern about increasing food insecurity due to the decline in the supply of energy, food, and major primary commodities (African Development Bank, 2023). Consequently, as a net food importer, Egypt is facing a surge in domestic prices especially food prices with food inflation recording a peak of 31.9% in 2024 (Central Bank of Egypt, 2024).

The price of goods and services serves as an important determinant of consumer behavior. Therefore, a rise in the price affects the demand of consumers and their purchases, in addition to finding substitutes (Hubber, 2022). According to world development indicators, annual growth of final consumption expenditure fell to 2.94% in 2022 compared to 5.97% in 2021 due to rising inflation. Moreover, its share of GDP declined to 89.79% contrasted with 93.56% during the same period according to the World Development Indicators.

On the other hand, the global economy is currently confronted with heightened environmental degradation due to climate change, captivating people to change their consumption behavior towards sustainable lifestyles. However, consumers don't have enough awareness about the impact of their consumption patterns on the environment. Although the organic food market is witnessing notable growth and there are some improvements in environmental awareness, more efforts need to be made (Talaat and Apostolidis, 2023). In this context, it's important to study how consumers' perceptions of current inflation can affect their consumption of organic food products.

Literacy in financial matters has been an increasingly important issue in recent years, particularly in the wake of the economic crisis in 2008 (Tooze, 2018). This is not the only evidence for its importance, but it is a fact to be acknowledged that change has become a constant principle in our lives, the epidemic caused by COVID-19 followed by economic uncertainty consequences affects personal financial actions on society, therefore responses and behaviors resulting from such crises should be tested (Allam,

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2024). The current situation confirms that there is a need for solid financial literacy to protect one's financial well-being (Mavlutova et al, 2021; Chhatwani and Mishra, 2021; Lusardi et al, 2017), to issue judgments and make decisions based on accurate information (Barth et al, 2014). As (Struckell et al, 2022; Huston, 2010; Aren & Zengiin, 2016) define it as an explicit indicator needed to make an economic decision. So, it is necessary to have a good understanding of financial principles to successfully navigate the complicated markets that exist today (Cavalcante et al, 2016), possessing this knowledge will enable investors and customers to manage these intricate instruments, making well-informed decisions regarding their finances. However, research conducted all around the world reveals that there is a widespread lack of financial literacy, highlighting the critical requirement needed for improving financial knowledge and abilities (Lusardi, 2019). In addition, the prevalence of financial illiteracy, in turn, leads to some differences in knowledge and skills, which explains more than half of wealth disparities (Lusardi et al, 2017; Michaud, 2017).

Marketing's main goal is to find the consumers to influence their purchase decisions before they make it. As it aims to educate, influence, and inform consumers and society. Not only from an economic perspective but also from a marketing viewpoint, climate change and pollution have risen internationally and resulted in more challenges confronting both consumers and producers. These challenges are combined with the increased demand for green products which leads to a high emphasis on green marketing. Green marketing comprises the marketing of products and services that consider the environment sustainably. Today, the need for green marketing has increased, as environmental problems facing the world have become more severe.

In research, green consumption outlines involve acquiring green food, clothing, products and life. However, consumers do not essentially aim at obtaining green products despite the positive attitude of consumers towards the green purchase, and they pursue their actual purchasing behavior (Wang et al, 2022). The attitude gap towards green products, and green product purchase intention has confused both green policymakers and producers who invest in green products (Fang et al, 2011).

In this regard, the main objective of the current study revolves around examining how perceived inflation influences choices regarding green food products, beginning with investigating the relationship between inflation and green purchase behavior, and then considering attitude as a mediating variable. Finally, it aims to test the ability of financial literacy to moderate this relationship.

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Literature Review

According to economic theory, the price level is one of the major determinants of aggregate demand (Parkin, 2018). Being the largest source of demand for goods and services, consumers' response to inflation is crucial. However, Literature about the microeconomic impact of inflation - particularly the impact of inflation on consumer behavior - has been relatively scarce compared to its macroeconomic impact.

In the postwar period, consumers changed their marginal propensity to consume in response to rising prices either by increasing their purchases or by decreasing them in favor of more savings (Mueller, 1959). Thus, consumer behavior might be destabilizing or stabilizing because of these two opposing responses. Consumer behavior would be destabilizing when consumers buy what they need in advance due to an expected rise in inflation. This behavior is most critical because it leads to further price increases. Another, but less extreme, destabilizing behavior is the rise of the average propensity to consume of people with fixed money incomes who seek to maintain their standard of living or those with rising money incomes who seek to enhance their standard of living. On the other hand, consumers' response to inflation would be stabilizing when they reduce their spending as they see their real incomes falling because of inflation (Mueller. E, 1959).

Traditional economic thinking depends on consumers' expectations about inflation. In periods of rising inflation, people tend to raise their current expenditures to avoid buying things at higher prices in the future (McDaniel et al, 1986). This attitude would create less rational consumers. More impulse buying by consumers results from their perceptions of goods seeming cheaper than in the future (Sherman, 1983). Katona (1974) investigated the important role of consumer psychology as a response to inflation at a time when inflation became a defining feature of many economies.

In their study, McDaniel et al. (1986) described inflation as a cyclical economic phenomenon that decelerates during certain periods while returning higher afterward. This phenomenon urged us to gain a better understanding of consumers' responses to rising prices. They studied this concern in their study on adaptive behavior concerning food consumption. They analyzed the effect of inflation on consumers' adaptive behavior toward the purchase of food products in an inflationary environment.

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Concluded that consumers reduce their food purchases and be more cautious in the face of inflation. This result contradicted previous literature on more impulse consumer buying when confronted with rising prices. In addition, results revealed that price sensitivity and consciousness of consumers increase in periods of high inflation. Moreover, when it comes to changing consumption patterns, consumers in general tend to be reluctant to change their behavior radically even when faced with inflationary pressures. Essentially, adaptive behavior differs according to different income classes. Accordingly, lower-income consumers tend to have greater adaptive behavior than richer ones. As high-income consumers tend to spend less portion of their incomes on food products than do poorer ones.

In a study on the buying behavior of consumers during a period of stagflation, Kelley and Scheewe (1975) argued that consumers alter their buying behavior when they perceive a higher price of individual items they buy regardless of any change in the level of wages. They claimed that buyers create a hedging strategy in response to inflation to shield themselves against perceived losses in their purchasing power. This response might include changing consumption patterns and/or demanding higher wages. During the 1970s, consumers increased their purchases of items such as toilet paper, sugar, and small cars more than their needs as a response to rising prices.

Negm (2023) studied how inflation influences consumer spending decisions and whether consumers switch to alternative brands. Concluded that high inflation rates increase consumer's sense of anxiety and make them more worried causing them to alter their accustomed lifestyle. Further, it showed that during periods of high inflation, consumers decrease their spending on nonessential products such as eating out, and buying foreign brands, and search among stores for lower-price deals. Another interesting finding that supports existing literature is that during high inflation periods, consumers don't stop spending, yet they change their buying habits as their sensitivity to price changes increases. Moreover, consumers tend to continue buying when faced with a high inflation rate as they fear their inability to obtain those goods in the future.

Despite the importance of consumers' perception of inflation, the literature on inflation expectation has been greater (Stanisławska, 2019). According to Jonung (1981), Perceived inflation refers to the understanding of people of historical developments in the price level. He argued that perceived inflation plays a crucial role in determining

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inflation expectations. In general, economists established a proxy for the expected rate of inflation by using households' perceptions about past inflation rates. In this regard, they assumed that people have similar perceived inflation rates and that their perceptions are identical to the actual rates. However, he mentioned that empirical studies showed divergences among people's inflation perceptions and expectations. In his paper, Jonung investigated perceived and expected inflation rates in Sweden by using a survey of Swedish households. The survey asked respondents about how they perceived past price developments over the last year and their expectations for future rates of inflation over the next year. Literature on determinants of inflation perception is scarce so far. The process of perceived inflation formation depended on two datasets. The first concerned people's recollection of the published price index. The second set concerned each person's own experience of reviewing the prices of purchased goods and services. Perceptions would not largely differ with respect to the first data set because they were based on officially published data. However, they would differ because of the second set of data due to large differences in consumption patterns and individual price indices. Accordingly, it can be concluded that perceived inflation had a strong positive impact on expected inflation in Sweden. Moreover, demographic variables such as age and gender helped explain both perceived and expected inflation because people depended on their own experience of changes in the prices of goods they buy (Jonung, 1981).

In 2009, Del Giovani et al., studied perceived inflation in Italy and investigated some factors that affect it by using a representative sample of Italian consumers. They found that the consumers' socioeconomic factors such as gender, education, and economic conditions significantly affected their inflation perceptions. Further, the results showed that the level of knowledge of the inflation concept and its measures and consumers' memory of past prices had a significant impact as well, whereby consumers with low knowledge and incorrect memory had higher inflation perception. In addition, they suggested that the inflation perception of consumers comprises a more complex combination of factors that are not measured in the official inflation rate making perceived inflation higher than the official rate.

According to the theory of planned behavior (Ajzen, 2000), attitudes, subjective norms, and perceived behavioral control lead to intentional behavior which in turn leads to actual behavior. The customer's intention is an important factor in this theory, as the

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person's intention is directed to perform a certain behavior. Intentions work as proof of how customers are interested and willing to perform and how much effort they exert to make this behavior. This means that the stronger the intentions, the stronger the performance of a certain behavior. Nik et al, (2009) defined green purchase intention as the customer's willingness to purchase products with positive environmental effects rather than products with negative effects on the environment when they are making their purchases. Chen and Chang (2012) defined green purchase intention as the probability of a customer buying a product according to his or her environmental needs. Rashid (2009) noted that green purchase intention is that the customer aims at purchasing green products rather than non-green products.

Green purchase behavior is defined as "purchasing eco-friendly or sustainable products that are recyclable and not harmful to the environment" (Mostafa, 2007). So, changing minds and consumers' attitudes from buying non-green products to green is very important to decrease negative impacts on the environment (Quoquab et al, 2019). The willingness to buy recyclable products, decrease over-packaging, and use biodegradable products are all considered factors to reduce pollution which in turn considered green purchase behavior (Paco et al, 2019). Consumers' intentions or conscious behavior to buy a product beneficial to environmental sustainability become a part of their green purchase decision (Joshi and Rahman, 2015). According to Sheng et al, 2009, consumers that were aware of positive factors surrounding green products while having a positive attitude towards green products are most likely to have positive green purchase behavior.

The most comprehensive theory that expresses green purchase behavior is the theory of planned behavior (TPB) by (Fishbein et al, 1980), this theory describes that behavioral intentions are the final step of the consumer attitude, subjective norms, and perceived behavioral control, these factors explained the consumer buying intention and buying behavior.

In an effort to clarify consumer green purchase behavior, the theory of reasoned action (TRA) by Ajzen and Fishbein (1980) and the theory of planned behavior (TPB) were the two actual theoretical approaches that could explain the phenomena. Many studies have tracked TPB to investigate consumer attitudes, intentions, and actual buying behavior with regard to green products (Arvola et al, 2008; Smith and Paladino, 2010; Tanner and Kast, 2003; Tarkiainen and Sundqvist, 2005). However, the conventional

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studies noticed a weak relationship between the specified positive attitude of consumers toward purchasing green products and their real purchase behavior (Tanner and Kast, 2003; Vermeir and Verbeke, 2008; Wheale and Hinton, 2007). The projecting capability of attitudes rest disputable in the context of environmental concerns; most studies show that attitudinal variables fall short of gaining green purchase behavior (Bamberg, 2003; Schultz et al, 1995; Scott and Willis, 1994). Also, preceding studies have not regulated the influence of various situational factors such as economic factors as well as financial factors that may explain the relationship between environmental attitudes and behavior (Mainieri et al, 1997).

Numerous theories asserted that attitude not only does not influence behavior but also the intensity of the attitude-behavior relationship. Guagnano et al, (1995) introduced the Attitude-Behavior-Context (ABC) model to enhance human behavior. According to this model, consumer green behavior is not only influenced by attitude but also by contextual factors. Olander and Thøgersen (1995) introduced the Motivation– Ability– Opportunity (MAO) model for understanding consumer behavior. MAO model exercised two concepts - ability and opportunity, as necessary fundamentals to green consumer behavior. The ability construct integrates both habit and task knowledge, whereas the opportunity construct combines facilitating conditions or 'opportunity' to perform the behavior. According to this model, consumers' positive attitude will result in a desired behavior merely if they acquire the ability and the opportunity to conduct the expected behavior.

According to Amstrong and Kotler (2009), "Attitude is a person's consistently favorable or unfavorable evaluations, feelings, and tendencies towards an object or idea." Attitude refers to the psychological activity of measuring the degree to which a certain situation is accompanied by gain or loss (Ezziz and Mandrik, 2022). The consumers' responsibility toward the environment increased their green attitude (Sadiq et al., 2022). Green attitude is the significant variable that positively affects environmental concerns (Lavuri, 2021), Sustainable clothes purchasing (Rausch and Kopplin, 2021), and green purchase behavior (Luo et al., 2020).

Attitude is considered a good predictor of green purchase behavior in ecological consumer studies. Consumers have specific feelings towards eco-friendly products, so they support environmental concerns (Riethmuller and Buttriss, 2008). Many studies have supported the application of attitude of consumer purchase intention towards green

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products (Tan et al., 2022; Higueras-Castillo et al., 2020; Ali et al., 2019; Bashir et al., 2019; Qi and Ploeger, 2019; Jaiswal and Kant, 2018; Yadav and Pathak, 2016).

Several studies have presented complex definitions regarding literacy and described it as a complex and multifaceted relationship that varies in conclusions, outputs, and even recommendations. Seminal early definitions focused on basic money management abilities like tracking finances, budgeting, and avoiding debt (Potrich et al, 2016; Świecka, 2019). Consumers' inclination to save, budget, and manage their spending is influenced by their knowledge and financial means (Perry and Morris, 2005). As markets modernized, conceptualizations expanded to encompass comprehending diverse financial instruments, leveraging knowledge to make informed choices, and financial security planning (Nanda and Banerjee, 2021), transcending rote knowledge to enable sound decision-making through informed attitudes and behaviors (Huston, 2010). Amagir et al, (2020) added critical facets like access self-efficacy and actual behaviors to represent the full span from perceptions to external outcomes. Goyal and Kumar, (2021) considered the actual financial behavior of individuals, attitudes towards money, and financial self-efficacy as essential components of financial literacy, which in turn shapes the decision-making processes that individuals engage in toward their finances. Integrating awareness, understanding, skills, motivations, and confidence to apply financial knowledge across contexts to improve individual and societal wellbeing (OECD,2015). A combination of abilities and human capital enables informed monetary judgments (Brent et al, 2018). A lack of financial literacy significantly hinders their ability to make informed financial decisions (Chen and Volpe, 1998). Allam and Khalil, (2023) acknowledged that the concept of financial literacy encompasses not only the acquiring of knowledge but also the ability and motive to properly apply it. In the same vein, they pointed out that both financial literacy and knowledge could not be used as synonyms for each other. Financial knowledge must include a kind of gradual concept and application, as well as the need for an attitude supporting its outputs, compatible with the opinion of (Xu et al,2022) that obtaining knowledge and understanding financial matters is a crucial element in influencing and enhancing one's financial conduct. Which supports the aim of the current study. Therefore, reliance on both attitude and knowledge as components of literacy. (Hasler et al, 2018) mentioned that many demographic factors play a role in determining

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differences in financial literacy consistent with the opinion of (Cwynar et al, 2019; Lusardi and Mitchell, 2014).

Measures of Financial literacy have varied according to different definitions. As critics note, these metrics may not fully capture real-world skills and behaviors (Kuruczleki, 2020) confirming that there is a lack of precise identification of this concept, which supports the need to highlight it in future research. A detailed examination of criticisms of financial literacy has found that consumers may struggle to keep pace with market innovations regardless of their knowledge and educational investments (Willis, 2008). Others note such improvement efforts often have minimal reach among groups most in need. Additionally, improved knowledge does not necessarily change behaviors given emotional and psychological factors influencing decisions (Meier and Sprenger, 2007).

It is becoming increasingly apparent that governments all over the world recognize financial literacy as an essential ability that must be obtained (Xiao and O'Neill, 2016). According to (Michaud,2017) financial education could potentially enhance financial literacy the study of (Amagir et al,2020) in both recommendations and implications towards paying attention to the educational aspect, this also was confirmed by (Kumar et al, 2023) underscored academic, regulatory, and managerial implications, emphasizing the need for concerted efforts to recognize the intricate interplay among skills, financial decision-making, and perceived financial well-being. However, it is frequently neglected, which highlights the continued requirement for comprehensive education and awareness programs (Lusardi,2015). Enhancing literacy requires diagnosing current weaknesses at individual and societal levels, Thus, basic knowledge tests offer a useful starting point for segmentation and resource targeting (Bruine de Bruin et al, 2010). This enables educators to tailor offerings to address precise knowledge gaps through focused, data-driven interventions (Harding et al,2015).

Regarding the educational aspect, researchers have found that numerous studies have been conducted to highlight the significance of financial literacy education in various nations. (Alsemgeest,2015) provided practical guidelines for governmental and institutional interventions to address this multifaceted issue realistically. Lusardi,(2008) concluded that lack of financial literacy had repercussions that reach beyond the realm of cash. (Marcolin and Abraham,2006) identify aspects and discrepancies in Australia, Abdel-Fatah and Dr. Samira M. Allam

the USA, and the UK regarding conducting a review, comparison, and analysis of research about literacy. As well (Sarpong-Kumankoma, 2023) explored how financial literacy influences savings behavior and retirement planning in Ghana. They found that there is a significant shortage of understanding of basic financial concepts among most individuals. Gallego-Losada et al, (2022) examined the evolution trends in retirement planning and financial literacy (FL) research and how literature has evolved. While (Van Nguyen et al, 2022) studied the influence of demographics, socio-economic factors, internet, smartphone, and bank usage, as well as cultural factors on the financial literacy of Vietnamese. Nonetheless, access to quality information remains vital for navigating everyday choices and planning one's financial future. Thus, enabling broad-based comprehension of key principles merits ongoing attention, using more qualified, tailored delivery methods (Dynarski et al, 2023).

On the other side, financial literacy needs to be examined to understand its methods and determine barriers. Huston, (2010) reviewed existing literature to pinpoint challenges and then suggest a strategy for creating a more uniform assessment. Offered a summary of how financial literacy is defined and gauged, emphasizing present shortcomings and aiding researchers in devising widely accepted, standardized instruments for assessment of FL. (Mitchell and Abusheva.2016) investigated the contemporary obstacles on a global scale and offered a systematic approach to addressing challenges associated with financial literacy. It is necessary to expand the study of financial literacy as the gap between financial literacy and knowledge issues cannot be filled without research. The emphasis of (Knoll and Houts, 2012) was mainly on financial knowledge, as opposed to other literacy components like financial skills. Oliver-Márquez et al, (2021) aimed to address a notable gap in the existing research landscape, which has primarily focused on microeconomic analyses using surveys by introducing a novel Financial knowledge Index (FKI) which enabled them to explore macroeconomic determinants of financial knowledge and assess how financial literacy is influenced by macroeconomic variables such as inequality or development, among others.

Consumers daily face myriad complex decisions carrying significant financial implications. It ranged from purchases to major investments like retirement planning and mortgage financing or even daily simple goods. Sound choices require substantial cognitive effort (Brent et al, 2018). Given literacy's profound influence, anomalies in

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consumer financial behaviors frequently get attributed to knowledge gaps or biases versus deliberate choices (Stella et al, 2020). Brent et al. (2018) found that higher levels of financial literacy led to decisions that aligned more closely with conventional consumer preferences and increased the likelihood of selecting investments with the lowest lifetime costs. To address this, interventions through academic research seek to empower selections through enhanced decision-relevant information. For example, labels detailing operating expenses and efficiency comparisons aid consumers in evaluating products (Sharma and Shafiq, 2022). Such efforts recognize consumers often lack the prerequisites to optimize complex purchase tradeoffs related to budgets, investments, and planning. Equipping individuals with literacy fundamentals and key details at decision points enables more informed judgments. This serves as a promising approach to improve financial behaviors (Salisbury et al, 2023).

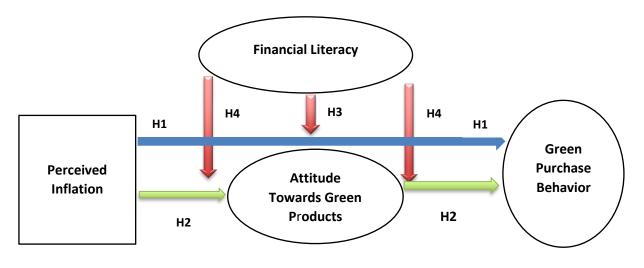
However, open questions remain regarding appropriate types, timing, and customization of financial literacy initiatives across heterogeneous customers. As research continues developing in this critical domain, evidence-based education programs show strong potential for enhancing individual and household welfare via better everyday economic decisions (Koskelainen et al, 2023). Especially in the light of the economic consequences that consumers are experiencing today.

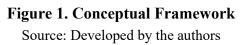
After reviewing the literature and identifying possible relationships, to the best of our knowledge, it was realized that there is no study investigating the current relationship using those dimensions.

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Conceptual Framework





Therefore, the following hypotheses are investigated in this study:

- H1: Perceived inflation has a significant effect on green purchase behavior
- H2: Attitude towards green products mediates the effect of perceived inflation on green purchase behavior
- H3: Financial Literacy moderates the relationship between perceived inflation and green purchase behavior
- H4: Financial Literacy moderates the mediating effect of attitude towards green products in the relationship between perceived inflation and green purchase behavior

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Methodology:

Sample and Data Collection

The study's participants were selected from Egyptian consumers who may be interested in purchasing green products in the survey as a part of the sample selection and data collection procedures. The sample size is determined at 480 using the formula of Cochrane, 1977. A questionnaire has been employed to measure a set of the study variables and obtain data. The questionnaire was disseminated through a face-to-face interview. 404 valid responses were collected out of 495 with a response rate of 84.2%. The respondents' background characteristics are presented in Table (1).

Characteristic		Frequency	Percentage	
Sex	Male	232	57.4	
	Female	172	42.6	
Age	18-35	183	45.3	
	36-45	132	32.7	
	46-65	72	17.8	
	65+	17	4.2	
Educational	Bachelor	227	56.2	
Attainment	MSc	76	18.8	
	PhD	76	18.8	
	Other	25	6.2	
Job	Employee	243	60.1	
	Employer	39	9.7	
	Not working	73	18.1	
	Other	49	12.1	
Г	otal	404	100.0	

Table (1) The frequency and percentage distribution of respondents by background
characteristics.

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Data collection tool

Sources of items used in the questionnaire can be summarized in the following table:

Tuble (2) The source of each module items				
Variable	Source			
Perceived Inflation.	(Del Giovane et al, 2009)			
Green Purchase Behavior.	(Suki and Suki, 2019)			
Financial Literacy.	(Stella etal, 2020; Potrich and Vieira, 2018)			
Attitude towards green products.	(Chan, 1999,2001; Chaihanchanchai and Anantachart,			
	2023).			

Table (2) The source of each module items

A five-point Likert scale was used ranging from strongly disagree to strongly agree to measure the variables of perceived Inflation, green purchase behavior, and attitude toward purchasing green products. While questions about financial literacy were designed according to (Stella et al., 2020; Potrich and Vieira, 2018).

Descriptive statistics of respondents

Based on the data collected, the distribution of respondents according to their demographic characteristics is shown in Table (1).

It is remarkable that most of the respondents were between the ages of 18 and 35 about (45.3%). Additionally, men (about 57.4%) completed the survey. Among all respondents, the majority had completed their undergraduate education (56.2%). In terms of employment status, most of the respondents were employed (60.1%). These categories and their responses require a particular focus in the process of discussion and recommendation formulation.

Statistical Methods

Structural Equation Modeling (SEM) is the most suitable statistical method to test the study hypotheses where we would test the mediation, moderation, and moderated mediation effect of the exogenous variable (perceived inflation) on the final outcome

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(green purchase behavior). We have developed 4 separate SEM models, one to test each hypothesis.

The model fit indices present how well the SEM fits the observed data, so they are used to decide whether the model adequately explains the underlying relationships among the study variables. The definition and acceptable range of the SEM fit indices are presented in Table (3).

The measure	Definition	Acceptable range
Comparative Fit	CFI compares the fit of a user-specified	It takes a value between 0 and
Index "CFI",	model to that of a null model, which	1, where higher values
(Bentler, 1990)	assumes no relationships among the	indicate better fit.
	variables.	
Tucker-Lewis	TLI adjusts the chi-square statistic for	A TLI value of 0.90 or above
Index "TLI"	model complexity and sample size. It	is generally considered
(Tucker & Lewis,	penalizes for adding parameters that do	acceptable, and 0.95 or above
1973)	not significantly improve model fit.	suggests a good fit.
Root Mean	RMSEA measures the average	Lower values indicate a better
Square Error of	discrepancy between the observed and	fit. An RMSEA value of 0.08
Approximation	estimated covariance matrices per degree	or below is accepted as
"RMSEA"	of freedom. It accounts for model	indicative of reasonable fit,
(Steiger, 1990)	complexity and is sensitive to sample size.	while values below 0.05
		suggest a good fit.

Table (3) The SEM fit indices

Testing Hypotheses:

Testing the H1, H2 Hypotheses:

The effect of perceived inflation on the green purchase behavior was tested by a linear regression model. The model showed good levels of data fit, the model is significant at 0.01 level of significance (F = 36.76, p-value <0.001). The regression estimates are represented in Table (4). The results showed that as the level of perceived inflation increases by one unit, the behavior towards green products increases by 2.4.

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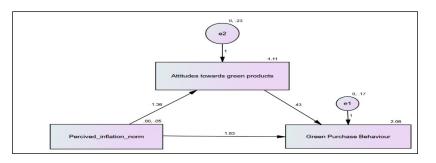
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	Model				
Relationships	Model (1)		Model (2) (Mediation of Attitude towards green products)		
	Coefficient	P-Value	Direct Effect	Indirect Effect	Total Effect
Constant	3.847	0.000			
Perceived Inflation \rightarrow GPB	2.415	0.019	1.826**	0.589**	2.124**
Perceived Inflation → Attitudes towards green products			1.357**		
Attitude towards green products → GPB			0.434**		

Table (4): Results of Testing the (H1, H2) Hypotheses

*Green Purchase Behavior (GPB)

When taking the consumers' attitudes towards green products as a mediator of the existent relationship between the level of perceived inflation and green purchase behavior, we found it has a significant partial mediation effect as shown in Table (4) and Figure 2. The direct effect of perceived inflation on the green purchase behavior decreased in the presence of the consumers' attitudes towards the green products but yet significant (p-value <0.01). The indirect effect of perceived inflation on green purchase behavior through the consumers' attitudes towards green products is estimated at 0.589 with a p-value<0.01. As for the goodness-of-fit measures of the model, (CFI = 0.92, TLI = 0.91, RMSEA = 0.07).



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Figure 2. The standardized mediation effect of consumers' attitudes towards green products

Testing (H3 and H4) Hypotheses:

In this section, we would test the moderation effect of financial literacy on both the direct effect of perceived inflation on green purchase behavior and the mediation path of consumers' attitudes towards green products.

	Model			
Relationships	Model (3) (Moderation by Financial literacy)	Model (4) (Moderated Media		diation)
	Coefficient	Direct Effect	Indirect Effect	Total Effect
Constant	3.849**	$2.062^{**1}, \\ 4.119^{**2}$		
Perceived Inflation \rightarrow GPB	2.401**	1.826**	0.579*	2.405
Perceived Inflation * Financial Literacy → GPB	-0.485		-0.462*	-0.462*
Financial Literacy \rightarrow GPB	0.131		0.096*	0.096*
Financial Literacy → Attitude towards green products		0.221*		0.221*
Perceived Inflation → Attitude towards green products		1.334**		1.334**
Perceived Inflation * Financial Literacy → Attitude towards green products		-1.065*		-1.065*
Attitude towards green products → GPB		0.434**		0.434**

Table (5): Results of Testing the (H3 and H4) Hypotheses

¹: the constant term of GPB

²: the constant term of the attitudes towards green products.

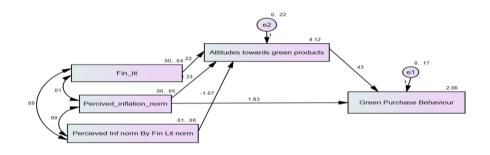
The models showed acceptable goodness-of-fit measures. Model (3) is statistically significant (($\chi^2 = 356.75$, df = 400, P - value < 0.001, CFI = 0.94, TLI = 0.92,

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RMSEA = 0.06). Model (3) is statistically significant (($\chi^2 = 356.75$, df = 400, P - value < 0.001, CFI = 0.94, TLI = 0.92, RMSEA = 0.06).

Results of Model (3) showed that financial literacy has an insignificant moderation effect on the relationship between perceived inflation and green purchase behavior. It can be noticed that the effect of perceived inflation has nearly its original effect on the green purchase behavior as appeared in Model (1) 2.415 and 2.401 respectively.

On the other hand, from the results of Model (4), financial literacy has a significant moderated mediation effect, since it influenced the partial mediation of perceived



inflation on the green purchase behavior through consumers' attitudes towards green products as shown in Table (5).

Figure 3. The standardized mediation effect of consumers' attitudes towards green products moderated by financial literacy

Discussion of Hypotheses' Test Results:

From table (6), it can be noted that annual headline inflation continued to increase for 6 consecutive months from April to October 2023, which was mainly driven by annual food inflation. Then, it took a slightly declining trend afterward – but still at high levels - with food inflation accounting for the bulk of the increase in prices. However, the perceived inflation of the study's respondents is much higher than the official rates indicating that they didn't feel the slight decline in prices. Our results suggest that people continue to increase purchasing green products despite their perceptions of

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higher prices which can be attributed to their expectation of higher inflation in the future – which is consistent with existing literature (Sherman 1983 and Macdaniel et. Al, 1986). These results open a new opportunity for future research to measure the impact of inflation expectations on green purchase behavior besides perceived inflation. Moreover, another variable that can be investigated in future research is the price sensitivity of consumers for green products which may have a significant role.

Date	Annual Headline Inflation	Annual Food Inflation
April 2023	30.6	54.7
May 2023	32.7	60.0
June 2023	35.7	65.9
July 2023	36.5	68.4
August 2023	37.4	71.4
September 2023	38.0	73.6
October 2023	35.8	71.3
November 2023	34.6	64.5
December 2023	33.7	60.5
January 2024	29.8	47.9
February 2024	35.7	50.9
March 2024	33.3	45.0
April 2024	32.5	40.5
May 2024	28.1	31.0

Table (6): Annual Headline Inflation and Food Inflation April 2023 – May 2024

Source: Central Agency for Public Mobilization and Statistics and Central Bank of Egypt.

In Table (4), we found a significant positive relationship between attitude and green purchase behavior with a coefficient (0.434) this result supports the Theory of Planned Behavior and attitude-behavior context (ABC).

While examining the relationship between Perceived inflation and Green purchase behavior shown in Table (5) we found that there is a significant positive relationship with a coefficient (2.401) which supports the existence of customers' expectations toward a continuous increase in prices of green products which explains the results.

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By using financial literacy as a moderator variable in the relation between perceived inflation and green purchase behavior we found that there is a negative insignificant relationship with a coefficient (-0.485). While using financial literacy as a moderator in the mediation relationship we found that the relationship is turned significant with a negative coefficient (-0.462) which means that the purchasing decision not only depends on the expectations toward the price of green products but also on the financial knowledge and attitude which results in noticeable decrease of buying behavior. It is evident from the exceeding debate that consumer behavior is not only influenced by attitude but also by various other situational factors. Additionally, these factors could either strengthen or weaken the strength of an attitude-behavior relationship.

In the direct relationship between financial literacy and GPB, we found no significant effect with a coefficient (0.131) which indicates that there is no, or little financial knowledge of Egyptian consumers which would enable them to make informed decisions. Moreover, the result reflects the need for using other variables to explain GPB and support the researchers' logic for using the moderation mediation role. Regarding the moderating role of financial literacy in the mediation relationship we found that the relationship is still positive with a significant effect of (0.096) which supports the importance of using the attitude as a mediator variable to explain the consumer green purchase behavior.

Regarding the direct effect of financial literacy on the attitude towards green products, results conclude that there is a positive significant relationship explaining financial literacy reflects positively in the attitude of consumers toward green products. This result emphasizes the necessity of possessing an attitude to support the outcomes of using knowledge also, confirming that financial knowledge can empower consumers to make informed choices and avoid financial scams. Financial literate consumers contribute to a more stable economy by making these informed financial decisions which lead to economic stability.

In the direct relationship between the interaction of perceived inflation and financial literacy on attitude, we found that there is a negative significant relationship with a coefficient (-1.065) this result explains the importance of financial literacy with the consumer perception in affecting their attitude toward green products negatively in light of increasing prices.

From the above discussion, we can conclude that perceived inflation has a significant positive effect on green purchase behavior while attitude towards green products has a

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significant impact. This can be attributed to the willingness of consumers to pay a price premium for green products which can reflect the increasing awareness of the importance of environmentally friendly products in addition to their expectation of higher inflation in the future. This explanation can be suggested for future research. Moreover, the results reveal the importance of financial literacy in explaining green purchase behavior whereby the effect of perceived inflation on green purchase behavior becomes negative. This result implied that financially literate people can make more informed decisions related to their consumption behavior.

Conclusion:

This study presents a unique perspective on how an important macroeconomic variable such as inflation can affect daily consumers' decisions placing an emphasis on both knowledge and attitude. Results indicated that perceived inflation has a significant direct effect on the purchasing behavior of green products. Moreover, attitude toward green products and financial literacy play pivotal roles in determining this behavior, confirming the importance of these factors as mediators or moderators. However, the direct effect of perceived inflation on the green purchase behavior decreased in the presence of the consumers' attitudes towards the green products yet significant.

In addition, financial literacy has an influential effect on the purchasing behavior of green products in the presence of attitude as a mediator variable in the essential relationship between perceived inflation and green purchase behavior, which reflects the importance of financial literacy in enhancing the understanding of the purchasing behavior of green products.

Relevant to that matter, it is important to note that filling the gap between financial knowledge and literacy requires significant effort. Beginning with identifying weaknesses at the individual and societal levels, enabling the formulation of objectives that align with the country's available resources. Then, this step lays the foundation for developing an effective strategy to address this disparity. Considering that when improving financial knowledge does not automatically lead to changed behavior. As such behavior is influenced by emotional and psychological factors that inevitably affect decision-making, particularly during crises. These underscore the recommendations for further research on financial literacy to encompass not only financial knowledge and attitude but also financial behavior and skills, thus enhancing its explanatory power and strengthening the relationship. Moreover, it is recommended to utilize income level and money attitude as control variables in future studies.

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This study recommends more future research to explore the complex interactions among variables that increase the likelihood of strengthening the relationship, in addition to providing deeper insights into how inflation expectations and price sensitivity affect attitude and behavior. Moreover, marketing, economic, and financial policies as well as environmental and educational awareness can be improved to promote consumer green purchase behavior. This study offers valuable insights for academics, decision-makers, and consumers interested in green products. It significantly advances our knowledge about inflation's effect on green purchase behavior, alongside enriching literature from multi-disciplinary perspectives. Furthermore, this study is an attempt to delve into the analysis which helps researchers to draw a practical as well as academic conclusion.

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Abdel-Fatah and Dr. Samira M. Allam

مستخلص الدراسة:

هدفت الدراسة الحالية إلى التحقيق بشأن تأثير التضخم المُدرك على السلوك الشرائي لمنتجات الأغذية الخضراء، ودراسة التأثير الخاص بإتجاه المستهلكين نحو ذلك النوع من المنتجات كمتغير وسيط ، بالإضافة إلى استخدام محور الأمية المالية كمتغير مُعدل في تفسير سلوك الشراء الأخضر . وذلك من خلال إجراء در اسة استشكافية لتقييم العلاقات المتداخلة بين المتغيرات واختبار المعايير الخاصة بالتضخم المُدرك وتأثيره على سلوك الشراء للمنتجات الخضر اء وذلك من خلال مرحلتين أساسيتين . جاءت الأولى مُمثلةً في تصميم استبيان لجمع البيانات ذات الصلة ، كما تمثلت الثانية في استخدام نمذجة المعادلات الهيكلية لاختبار كل من العلاقة المباشرة بين التضخم المُدر ك وسلوك الشراء الأخضر، ثم اختبار نفس العلاقة السابقة في ظل إدخال كل من اتجاهات المستهلكين نحو المنتجات الخضراء كمتغير وسيط، ومحو الأمية المالية معبراً عنه بالمعرفة والسلوك المالي كمتغير مُعدل. وقد استجاب عدد (٤٠٤) فردا للاستبيان ، و تم الاعتماد على SPSS AMOS v.24 في عملية تحليل البيانات. ومن النتائج الجديرة بالذكر أنه قد أسفر التحليل عن الدور الحاسم للمتغير الخاص باتجاه المستهلكين نحو المنتجات الخضراء ، حيث ظهر كمتغير رئيسي بداية ً من أنه يُحسن وبشكل ٍ ملحوظ من القدرة التفسيرية للنموذج وصولاً لاستخلاص النتائج . تقدم الدر إسة الحالية رؤى أكاديمية يستفيد بها كلِّ من الأكاديميين ، صناع القرار والمستهلكين المهتمين بالمنتجات الخضراء . كما أنها تُسهم وبشكل فعّال في تعزيز المعرفة الخاصة بتأثير التضخم على سلوك الشراء الأخضر، إلى جانب قيامها بإثراء الأدبيات في الموضوع محل الدر اسة من وجهات نظر متعددة نتيجة لدمج متغيرات من تخصصات مختلفة تم تطويعها لتفسير العلاقات المُستخدمة . وتجدر الإشارة إلى أن الدراسة الحالية تفتح أفاقاً جديدةً من خلال مساهمتها في فهم وتفسير موضوع يُستحق در استه مثل التضخم وإدراك كيفية تَأثُّر السلوك الشرائي الأخضر به من خلال دمج متغيرات تسويقية ، اقتصادية ومالية . كما أنها تقدم صورة متعمقة للتضخم وتأثيره على معالجة المشكلات البيئية من خلال التركيز الدور الخاص بالمتغيرات الوسيطة و المُعدِلة موضع الدراسة .

الكلمات المفتاحية :

اتجاهات المستهلكين نحو المنتجات الخضراء، محو الأمية المالية ، سلوك الشراء الأخضر، التأثير المُعدّل للوسيط ، التضخم المُدرَك ، نمذجة المعادلات الهيكلية .