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Consumer Credit Card Debt and Immigrants: A Cross-Sectional Study of U.K. Immigrants' Financial Capability

Paul Thompson

College of Management and Technology, Walden University, 100 S Washington Ave 900, Minneapolis, MN 55401, United States

Email: paul.thompson2@waldenu.edu

Abstract

Purpose: This study examines the ubiquitous nature and high level of consumer debt associated with certain demographics, with a specific focus on immigrants in the U.K.

Methodology: A cross-sectional approach was deemed appropriate because the information used for analysis was based on specific points in time for the years 1995, 2000, and 2005. The sample method used was representative of all persons who were resident in Britain at multiple time points consistent to the waves of data collection. The sample used for this analysis was U.K. residents included in the BHPS during the years 1996, 2001, and 2006.

Findings: The results showed that individuals with higher levels of education acquired more debt compared to lesser educated people, that credit card debt increased the total consumer debt owed, and that larger households incurred more consumer debt.

Unique contribution to theory, practice and policy: The findings from this study may assist in positive social change by providing specific information to banks and lending institutions on how they can manage the credit This study might help in expanding the body of knowledge about the association of credit debt and immigrants in UK, which has received a growing interest among researchers in the field of finance, economics and ethnopolitics.

Keywords: *Credit debt, Immigrants, Consumer behavior, ethnicity, financial inequality*

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1. Introduction

The financial crisis of 2008 had far-reaching impacts on financial institutions throughout the world, especially regarding how credit is distributed by banks and used by consumers. According to a Bank of England (2016) report on household credit conditions between the months of May and June 2016, there was a slight tightening in the credit available to households. Findings from lenders who responded to the Bank of England's survey indicated that, while secured credit interest rates remained fairly stable over the preceding 2 years, the availability of unsecured credit had reached its highest level since 2007 (Bank of England, 2016). However, it is important to note that most of the data in the report relied on information collected prior to the referendum dissolving the United Kingdom's affiliation with the European Union, which somewhat complicates the drawing of conclusions about the current state of credit in the United Kingdom (Bank of England, 2016).

As of 2016, there were approximately 65 million credit cards in circulation throughout the United Kingdom. At the same time, the average British consumer had approximately $2,452 worth of credit card debt (Bank of England, 2016). Similarly, in 2016, the average adult consumer in the United States had approximately $5,540 of credit card debt (Federal Reserve, 2013), while the average Australian's credit card debt amounted to approximately $3,100 (Ray & Gharemani, 2016). These statistics evidence that credit card debt is a worldwide concern that impacts financial institutions and consumers in many different ways.

Credit card debt is not equally distributed among all individuals, with some being more vulnerable to credit card related debts than others. Scholars argue that the vulnerabilities associated with certain individuals acquiring more credit card debt than others may be predicted by specific factors, such as personality traits, social norms, socioeconomic status, and other demographic variables (Caputo, 2012; Dean, Joo, Gudmunson, Fischer, & Lambert, 2013; Drentea & Reynolds, 2012; Kamleitner, Hoelzl, & Kirchler, 2012; Oksanen, Aaltonen, & Rantala, 2015; Sotiropoulos & D'Astous, 2013). Despite the vast amount of existing literature identifying the factors associated with the accumulation of credit card debt, there is a scarcity of available research investigating whether immigrant credit card debt varies from that of native U.K. citizens. As such, the focus of this study was on examining the relationship between immigrant demographics and credit card debt. More specifically, this quantitative cross-sectional correlational study investigated whether there was an association between credit card debt and the income gap among U.K. immigrants and British citizens through an analysis of data collected by the British Household Survey using the tri-component attitude model (ABC model). In addition to this, this study examined the extent to which the ABC model indicates the relationship between credit card debt and immigrant status on the income gap between immigrants in the U.K. and British citizens.

2. Materials and Methods

2.1 Theoretical foundation

In line with the purpose of the study, the ABC model was used. The ABC model is one way to better understand consumer behavior and is the basic model of consumer attitude (Solomon, 2017). Researchers have used the model to understand consumer attitudes and their relationship to consumer behavior, as it helps researchers to explain how consumers process information that directly influences their choices. In this study, the model was used to understand the

relationship between credit card debt and immigrant status among U.K. immigrants and British citizens. In an attempt to operationalize the concept of attitude, researchers have identified three primary characteristics of an attitude: The attitude object element, the consistency of an attitude, and that attitudes are learned predispositions (Asiegbu et al., 2012). The attitude object characteristic refers to the attitude an individual has toward any object, whereas the attitudes as learned predispositions characteristic refers to the ways in which attitudes influence behaviors (Asiegbu et al., 2012). Since attitudes are considered learned and therefore malleable in light of new information, marketers seek to capitalize on this by evoking positive attitude object associations among consumers (Asiegbu et al., 2012). Understanding the relationship between attitudes and beliefs is of increasing interest to scholars and marketers alike (Asiegbu et al., 2012). The desire to understand this relationship has inspired some to construct theoretical models that address the core aspects of an attitude to better illuminate and forecast behavior (Asiegbu et al., 2012).

The ABC model is comprised of three primary components: Affect, behavior, and cognition. First, affect refers to how an individual feel about an object, which is a key factor influencing how consumers evaluate brands (Solomon, 2017). Since brand evaluations are one of the major determinants of the intended behavior of the consumer, this aspect of the ABC model was used to determine how U.K. immigrants feel about credit card debt. Next, the behavioral element of the model refers to the intended actions of individuals in relation to their attitudes toward an object, also known as behavioral intention (Solomon, 2017). According to Solomon (2017), behavioral intention is the closest alternative to actually purchasing a product; therefore, this element of the ABC model was used to determine the overall intentions of U.K. immigrants toward acquiring credit cards. Finally, the cognition component of the ABC model refers to an individual's beliefs (Solomon, 2017). Since beliefs are subjective and influenced by a variety of factors, such as past experiences of an object and information received from outside sources, this aspect of the ABC model is of particular relevance to the present study.

2.2 Sample and sampling procedure

The population of interest for this study was residents of the United Kingdom who were over the age of 16, owned a credit card, and participated in the British Household Survey Panel (BHSP) during the years 1996, 2001, and 2006. Since longitudinal surveys are conducted over long periods of time, it is somewhat difficult to ascertain the exact sample size that will be used for analysis (Lynn, 2006). The BHPS was conducted in annual waves, with the first wave occurring in 1991 and the last wave completed in 2008, making it one of the longest-running longitudinal surveys in the United Kingdom (Institute for Social and Economic Research, 2006). The waves of interest for this study were Waves 6, 11, and 16, which correspond with the years 1996, 2001, and 2006, respectively. These waves were considered because, prior to the financial crisis in 2008, debt and financial data related to debt was only collected in 1996, 2001, and 2006. Accordingly, the percentage of eligible first wave respondents with continued participation in the study declined steadily from the first wave of the survey (Lynn, 2006). Primary sampling units were created using postcodes, and postcodes with fewer than 500 delivery points (addresses) were grouped with adjacent postcodes to form sectors. These were further stratified by region, and approximately 33 households were sampled per sector. Non-residential addresses were excluded, to produce the total sample of 5,505 households used for

the BHPS in 1991; additional samples were added at later dates (Institute for Social and Economic Research, 2006).

2.2.1 Procedures for Recruitment, Participation, and Data Collection

All data and subjects were obtained from the BHPS, which is publicly available. As such, there were no procedures for recruitment, consent, or participation of subjects. Appropriate permission for use of this dataset was obtained. Identification of the immigrant subjects within the dataset was achieved using question wPLBORNC, which asks the country of birth of the respondent. All of the BHPS panel interviewers received interviewer briefings to ensure their adequate education about the BHPS survey procedures (Lynn, 2006).

2.2.2 Instrumentation and Operationalization of Constructs

The only instrument used in this analysis was the BHPS, which was initially proposed to the Economic and Social Research Council (ESRC) in an attempt to establish an Interdisciplinary Research Council (IRC) at the University of Essex (Lynn, 2006). According to Lynn (2006), the BHPS had a range of research aims, with a primary goal of providing longitudinal data on a cross-sectional population to secondary analysts from various social science disciplines. To facilitate those engaging in a secondary analysis of the information collected during annual waves of the survey, micro-datasets were made available to researchers. The BHPS was considered a valid and reliable source of data for this analysis. Quality checks were conducted throughout the development and data collection phases of the BHPS. Checks during the sampling phase included ensuring that the stratification of postal sections had been implemented correctly and checking that the sampling interval for sectors had been calculated and applied correctly (Institute for Social and Economic Research, 2006). The implementation of quality control checks during data collection included field call-backs with household composition information and in-office checks to ensure the assignment of correct sample status to individuals.

2.2.3 Consumer debt

Consumer debt was measured as the amount of debt owed by the respondent. Respondents were asked “about how much in total do you owe?” and responses were provided in absolute amounts. One important issue to acknowledge is the lack of information provided by the BHPS on the time period over which the debt was calculated; the data contained only a measure of the extent of consumer debt at a point in time.

2.2.4 Household net income

The BHPS net income variable referred to net income before the deduction of housing costs. The income sources included in the net household income are: a) usual gross earnings from employment; b) earnings from subsidiary employment; c) profit or loss from self-employment; d) social security benefits and tax credits; e) private and occupational pensions; f) income from investments and saving; g) private transfers and other income; h) income tax (employees and self-employed); i) National Insurance contributions (employees and self-employed); j) contributions to occupational pension schemes; and k) local taxes. The total net household income is generated using the formula a + b + c + d + e + f + g – h – I – j – k. The BHPS net income reference period for the majority of the income sources was the period around the time of the interview, i.e., current rather than annual. The unit over which incomes were aggregated

was the household. In the present study, the net income for each household was matched to the individual data using the HID. For the purpose of this study, the annual net income was used as the covariate variable.

2.2.5 Owe credit card debt

This variable indicated whether the respondent owed a credit card debt or not. If the respondent owed a credit card debt (including store cards) the response was coded 1, and 0 if credit card debt was not mentioned.

2.2.6 Ethnicity and race

This variable indicated the ethnic group membership of the respondents. Respondents were asked "could you look at this card (6) please and tell me which of these groups you consider you belong to?" The responses available were coded as follows:

1. Caucasian
2. Black–Carib
3. Black–African
4. Black–Other
5. Indian
6. Pakistani
7. Bangladeshi
8. Chinese
9. Other ethnic group

2.2.7 Household size

Household size was a desired variable that referred to the number of persons in the household. It was a continuous variable in the full dataset but was treated as a categorical variable after transforming the data to ensure necessary assumptions were met. The variable was measured in three categories: 1 represented 1–2 people in the household; 2 represented 3–5 people; and 3 indicated more than five people in a household.

2.2.8 Highest academic qualification

This variable indicated the highest level of education the respondent had achieved. It was a variable derived from questions regarding respondents' educational background and attainments. The categories were coded as follows:

1. Higher degree
2. First degree
3. HND, HNC, teaching
4. A level
5. O level
6. CSE

7. None of these

2.2.9 Years came to Britain

This variable was a continuous variable that indicated the year the respondent arrived in the United Kingdom. Respondents were asked "In what year did you first come to this country to live (even if you have spent time abroad since then)?" The responses provided were used to determine if the respondent was an immigrant. For the purpose of this study, this variable was used to represent immigrants, in which a score of 1 signified they were an immigrant if the year was provided, and a score of 0 signified that they were born in the United Kingdom if the response provided was inapplicable (-8).

2.3 Data Analysis

All analysis was carried out using the Statistical Package for the Social Sciences (SPSS) software. The first step was the generation of summary statistics of the dataset. The number of subjects was presented, and summary statistics of continuous variables were calculated including the mean, standard deviation, minimum, and maximum. Summary statistics for categorical variables were provided using count and frequency information. Based on the summary statistics, some categorical variables, such as those with too many levels or levels with only a few subjects, were grouped together to improve statistical quality.

Additionally, the following hypothesis were postulated:

H1. The independent variable of highest academic qualification is significantly related to the dependent variable of consumer debt between immigrants in the United Kingdom and British citizens in terms of income gap.

H2. The independent variable of ethnicity is significantly related to the dependent variable of consumer debt between immigrants in the United Kingdom and British citizens in terms of income gap.

H3. The independent variable of credit card debt is significantly related to the dependent variable of consumer debt between immigrants in the United Kingdom and British citizens in terms of income gap.

H4. The independent variable of household size is significantly related to the dependent variable of consumer debt between immigrants in the United Kingdom and British citizens in terms of income gap.

H5. The independent variable of immigrant status is significantly related to the dependent variable of credit debt between immigrants in the United Kingdom and British citizens in terms of income gap, when controlled for demographic factors.

As part of the analysis, ANCOVA was then used to answer the research questions. The independent variables were a mix of categorical and continuous variables, and the outcome variable was treated as continuous; this was the most appropriate method of analysis for determining the effect of immigrant status while controlling for the other independent variables. First, assumption testing took place. The two assumptions that were tested were normality of the dependent variable and homogeneity of variances. The normality of the dependent variable was tested using the Shapiro-Wilks test of normality. The homogeneity of

variances was tested using Levene's test. ANCOVA makes use of an underlying multiple regression model; in the present study, the model took the following form:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon \qquad \text{(Eq. 1)}$$

Where Y was the dependent variable of credit debt measured on a scale of 1 through 5, as described in the operationalization of variables. X_1 was immigrants, whose particular coding was decided during data analysis based on the breakdown of ethnicities present in the dataset. The analysis included the following ethnicities: Indian, Mixed Indian, Pakistani, Bangladeshi, Sri Lankan, Caribbean/West Indian, Mixed Caribbean/West Indian, North African, Black African, African Asian, Chinese, Far Eastern, Turkish, Middle Eastern/Iranian, and None of these. X_2 was educational level, measured by the different categorical groups of education level and using the coded levels present in the BHPS raw data. X_3 was household size, measured by the actual number of persons living in the household. X_4 was number of years living in the United Kingdom as an immigrant, measured by the actual number of years the immigrant had been living in the United Kingdom; and ε was the error term reflecting factors other than the above independent variables. β represented the associated parameters of each variable.

A significance level of 0.05 was used in this analysis. There was significant relationship if the *p* value was less than or equal to the level of significance value. In instances wherein the ANCOVA determined significant relationships between independent and dependent variables, a post hoc Tukey's honest significant difference test of multiple comparison was also conducted to further identify the relationships between independent and dependent variables.

3. Results and Discussion

3.1 Data

The BHPS nationwide survey was separated into years, referred to as waves. The survey ran for 18 waves (1–18) from 1991 to 2008, which was denoted by A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, and R. The waves of interest in this study were Wave 5 (1995) denoted by E, Wave 10 (2000) denoted by J, and Wave 15 (2005) denoted by O. All variable names began with a single character wave identifier, replaced by a generic 'w', and the rest of the name was a mnemonic which attempted to provide some information as to the content of the variable. The second and third characters gave some indication of the general subject area of the variable (HH = household, IND = individual, RESP = respondent).

The selected parameters included individual (INDRESP) and household (HHRESP) level data for the variables of ethnicity (wRACE), year came to the United Kingdom (wYR2UK), credit card debt (wDEBTC), highest academic qualification (wOQFACHI), household size (wHHSIZE), household net income (wHHNETI), and consumer debt (wDEBTY). The BHPS questions for each variable were extracted by their codes to ensure the same data point was selected in the different waves (E = Wave 5, J = Wave 10, and O = Wave 15). This was followed by matching individuals to their household for data such as household size, consumer debt, and household net income available only at the household level using the wHID number for each respondent. The HID was the household ID at that wave, which was the identifier variable found in the household record as well as the individual level data files. In total, this led to the identification of 22,569 unique individuals (Personal Identifiers, PIDs) in the dataset for Waves 5, 10, and 15. However, only 9,505 unique individuals had valid financial management data, i.e., credit and debt data, for the 3 years that constituted the scope of the research.

The research sample comprised of residents in the United Kingdom who were over the age of 16, owned a credit card, and participated in the BHPS during the years 1995, 2000, and 2005. However, subjects without consumer debt and individuals with no ethnicity membership available were excluded from the analysis. The data extracted focused on individual responses and all subjects with valid debt data, regardless of the position they held in the household. After applying the selection criteria, the number of people with debt and ethnicity data that were included in the sample was 96 respondents in 1995, 277 respondents in 2000, and 118 in 2005.

3.2 Descriptive statistics

Descriptive statistics for 1995, 2000, and 2005 datasets are presented in Tables 4.1, 4.2, 4.3, and 4.4, respectively. These tables describe the sample size, minimum, maximum, mean, and standard deviation of the variables used in the study.

Table 4.1 Descriptive Statistics for Wave 5 (1995) Mean

	N	Min.	Max.	Mean	Std. Dev.	Skewness	Kurtosis
Owe money - how much	95	0	10,000	1,897.92	2,171.518	1.768	2.825
Highest academic qualification	95	1	7	4.19	1.553	-0.149	-0.186
Ethnicity	95	1	7	1.07	0.623	9.388	89.807
Owe money - credit card(s)	95	0	1	0.6	0.492	-0.415	-1.868
Immigrants (came to Britain)	95	1	2	1.03	0.176	5.444	28.226
Household size category	95	1	3	1.59	0.644	0.634	-0.562
Annual hhousehold net Iincome	86	752.04	11,481.24	5,084.75	2150.333	0.803	1.112

Descriptive statistics for the mean 1995 dataset was conducted and only two data outside the expected limits were found. Tests for skewness and kurtosis were then run. George and Mallery (2016) stated that skewness and kurtosis values between +/- 1.0 are considered to be excellent while values between +/- 2.0 are acceptable. The only items beyond this limit for both skewness and kurtosis were total amount owed, ethnicity, and immigrants, but the total amount owed did not exceed the limits in the 2000 and 2005 dataset and so the variable was retained.

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Table 4.2 Descriptive Statistics for Wave 10 (2000) Mean

	N	Min.	Max.	Mean	Std. Dev.	Skewness	Kurtosis
Owe money - how much	276	10	18,000	4,016.18	4,008.75	1.374	1.715
Highest academic qualification	275	1	7	3.83	1.573	0.246	-0.428
Ethnicity	276	1	9	1.09	0.743	9.601	96.212
Owe money - credit card(s)	276	0	1	0.57	0.496	-0.28	-1.936
Immigrant status	275	1	2	1.05	0.22	4.109	14.989
Household ssize ccategory	276	1	3	2.27	0.56	-0.013	-0.455
Annual hhousehold net income	229	662.16	24,927.84	5,844.55	3,387.90	2.212	9.741

Descriptive statistics for the mean 2000 dataset were calculated and, once again, two data points outside expected limits were found (see Table 4.2). Tests were run for skewness and kurtosis. Not all items were below George and Mallery's (2016) limit of +/- 2.0. The only items beyond this limit for both skewness and kurtosis were ethnicity and immigrants.

Table 4.3. Descriptive Statistics for Wave 15 (2005) Mean

	N	Min.	Max.	Mean	Std. Dev	Skewness	Kurtosis
Owe money - how much	116	50	30,000	8,169.34	6,632.36	0.965	0.552
Highest academic qualification	116	1	7	3.5	1.541	0.61	-0.165
Ethnicity	116	1	9	1.26	1.259	4.953	24.081
Owe money - credit card(s)	116	0	1	0.49	0.502	0.035	-2.034
Household ssize ccategory	116	1	3	1.63	0.583	0.284	-0.696
Immigrant sTATUS	116	1	2	1.09	0.282	2.987	7.046
Annual hhousehold net Iincome	105	461.4	18,054.36	7,601.95	3,491.14	0.472	0.124

The descriptive statistics for the mean 2005 dataset once again had two data points outside the expected limits (see Table 4.3). Similarly, tests were run for skewness and kurtosis. Not all items were below George and Mallery's (2016) limit of +/- 2.0. The only items beyond this limit for both skewness and kurtosis were again ethnicity and immigrants. The lack of

normality in the ethnicity and immigrant data for the 3 years was a result of low diversity in the data. This did not necessarily influence the results of the analysis as the tests used (ANOVA and ANCOVA) are relatively robust to deviations from normality.

Table 4.4. ***Distribution of Consumer Debt by Study Sample Characteristics***

	Consumer Debt (Mean)					
	1995		2000		2005	
Characteristics	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**
Household ssize						
1 to 2 people	2,105.26	2,374.34	3,915.63	4,717.05	7,929.59	6,199.24
3 to 5 people	1,910.62	2,057.54	3,725.61	4,148.74	8,272.02	7,189.45
Greater than 5	616.25	723.03	4,582.93	3,568.34	9,083.33	4,565.27
Owe credit card debt						
Not mmentioned	1,926.18	2,043.82	3,737.33	3,468.28	7,560.76	5,434.42
Credit card	1,879.07	2,270.34	4,227.55	4,373.27	8,799.26	7,677.96
Highest aacademic qual.						
Higher degree	3,380.00	2,122.97	4,488.46	4,007.92	8,125.00	2,594.06
First ddegree	2,638.69	2,234.66	4,633.61	4,111.86	9,843.59	7,525.28
HND, HNC, tteaching	1,300.00	1,812.92	3,478.85	3,435.35	5,129.17	3,748.60
A level	1,707.12	2,026.32	4,171.69	3,161.13	8,571.66	6,985.75
O level	2,029.04	2,562.34	3,517.87	4,723.34	6,869.71	5,796.78
CSE	1,655.00	1,184.94	4,092.00	6,413.29	-	-
None of these	781.50	1,361.62	3,474.72	4,994.82	5,877.78	5,399.02
Ethnicity/race						
Caucasian	1,916.85	2,186.28	4,031.98	4,039.12	8,268.41	6,583.74
Black–African	-	-	-	_	_	_
Black–Carib.	35.00	_	1,500.00	_	_	_
Black–other	-	_	5,000.00	_	_	_

Indian	-	-	4,800.00	-	6,000.00	-
Pakistani	-	-	-	-	50.00	-
Bangladeshi	2,000.00	-	-	-	2,300.00	-
Chinese	-	-	-	-	1,500.00	-
Other ethnic group	-	-	2,250.00	353.55	20,000.00	-
Immigration status						
Born in U.K.	1,775.02	2,039.69	3,979.57	4,009.96	8,430.52	6,657.80
Came to the U.K.	5,666.67	3,214.55	4,735.71	4,212.18	5,400.80	5,967.55

The results in Table 4.4 present the descriptive characteristics of the sample for 1995, 2000, and 2005 (household size, credit card debt, academic qualification, ethnicity, and immigrant status) by the magnitude of consumer debt. Among the sample in 1995, households with one to two people had more consumer debt (£2,105). Those with a higher degree had accumulated more debt (£3,380) than those with other academic qualifications. Immigrants (those who had come to the United Kingdom) were more indebted (£5,666) than those who had been born in the United Kingdom. Participants who did not mention that they had credit card debt had slightly more consumer debt (£1,926) than those that stated they had credit card debt (£1,879). For the Wave 10 (year 2000) dataset, households with more than five people had the highest average consumer debt of approximately £4,582 compared to their counterparts with one to five people in the household. However, within the sample, those who reported having credit card debt had more consumer debt (£4,227) than those who did not mention having credit card debt (£3,737). Contrary to the result for 1995, those with a first degree had more consumer debt (£4,633) than their counterparts, although immigrants also had more debt (£4,735) than those participants born in the United Kingdom. A similar pattern was observed with the sample for 2005: the household size with the highest amount debt was those with more than five people (£9,083); those who reported having credit card debt also had more debt (£8,799); participants with first degrees also had more consumer debt (£9,843) than those with other qualifications. However, those who had been born in the United Kingdom had a lot more debt (£8,430) than immigrants (£5,400) in 2005.

Across the 3 years (1995, 2000, and 2005), the debt level of the consumers had more than doubled in 2005 compared to 1995. Households with one to two people reported an average debt of £7,929 compared to £2,105 in 1995, and £3,915 in 2000. The debt reported by Caucasian participants more than tripled over a period of 10 years, from an average of £1,916 in 1995 to £4,031 in 2000, and £8,268 in 2005.

3.3 Correlation with Consumer Debt

The table below presents the relationship between independent variables (highest academic qualification, ethnicity, credit card debt, immigrant status, and household size) and consumer debt in 1995, 2000, 2005. Based on the results shown in Table 4.5, the independent variable, highest academic qualification, demonstrated a weak positive relationship with consumer debt in 1995 (r = 0.276), 2000 (r = 0.113), and 2005 (r = 0.244). The independent variable of ethnicity also showed a weak positive relationship with consumer debt in 1995 (r = 0.089), 2000 (r = 0.057), and 2005 (r = 0.240). Finally, the independent variable of credit card debt also showed a weak positive relationship with consumer debt in 1995 (r = 0.011), 2000 (r = 0.061), and 2005 (r = 0.094). Regarding immigrant status, the results showed a moderate significant positive relationship with consumer debt in 1995 (r = 0.315), but a weak positive relationship with consumer debt in 2000 (r = 0.041) and 2005 (r = 0.129). The independent variable of household debt showed a weak positive relationship with consumer debt in 1995 (r = 0.185), 2000 (r = 0.099), and 2005 (r = 0.041).

Table 4.5 ***Correlations between the Independent Variables and Consumer Debt***

Dependent variable: Consumer debt			
Independent variable	**1995**	**2000**	**2005**
Highest academic qualification	0.276	0.113	0.244
Ethnicity	0.089	0.057	0.24
Credit card debt	0.011	0.061	0.094
Immigrant status	0.315**	0.041	0.129
Household size	0.185	0.099	0.041
N	95	276	116
****Correlation is significant at 0.05 level**			

3.4 ANOVA

One-way ANOVA was conducted to determine whether consumer debt differed significantly based on credit card debt, highest academic qualification, household size, ethnicity, and immigrant status in 1995; the results are shown in Table 4.6. For highest qualification, the results showed that the differences between the qualification groups (higher degree; first degree; HND, HNC, teaching; A level; O level; CSE; and none) with regards to consumer debt was not statistically significant, $F(6, 93) = 1.414$; $p = 0.218$. This result supported the conclusion from the correlation test in that there was no statistically significant relationship between the highest academic qualification group and consumer debt, hence, the hypothesis could be rejected. For ethnicity, the result also showed that the differences between the ethnicities (Caucasian, Black–Carib, Bangladeshi) with regards to consumer debt were not statistically significant, $F(2, 93) = 0.392$; $p = 0.677$. For credit card debt, the results showed that the differences between the groups (not mentioned, credit card debt) with regards to

consumer debt were not statistically significant, $F(1, 93) = 0.204$; $p = 0.652$; hence, the hypothesis could be rejected. For immigrant status, the results indicated that consumer debt was statistically significantly different between those born in the United Kingdom and those who had come to live in the United Kingdom, $F(1, 93) = 12.805$; $p < 0.05$. This result also supported the conclusion from the correlation test which showed that there was a statistically significant relationship between immigrant status and consumer debt; hence, the hypothesis can be accepted. For household size, the result showed that the differences between the groups (1–2 people, 3–5 people, and greater than five people) with regards to consumer debt was not statistically significant, $F(2, 93) = 1.562$; $p = 0.215$; hence, the hypothesis could be rejected.

Table 4.6 ***ANOVA Test of Group Differences for 1995 Data***

Dependent Variable: Consumer Debt

Independent Variable		Sum of Squares	Df	Mean Square	F	Sig.
Highest academic qualification	Between Groups	33490831.56	6	5581805.26	1.414	0.218
	Within Groups	343423071.2	87	3947391.624		
	Total	376913902.8	93			
Ethnicity	Between Groups	3219619.819	2	1609809.91	0.392	0.677
	Within Groups	373694283	91	4106530.582		
	Total	376913902.8	93			
Credit card debt	Between Groups	835674.259	1	835674.259	0.204	0.652
	Within Groups	376078228.6	92	4087806.832		
	Total	376913902.8	93			
Immigrant status	Between Groups	46051491.11	1	46051491.11	12.805	**0.001**
	Within Groups	330862411.7	92	3596330.562		
	Total	376913902.8	93			
Household size	Between Groups	12508135.22	2	6254067.608	1.562	0.215
	Within Groups	364405767.6	91	4004458.985		
	Total	376913902.8	93			

Table 4.6 above shows the results of a one-way ANOVA conducted to determine whether consumer debt differed significantly based on credit card debt, highest academic qualification, household size, ethnicity, and immigrant status in 2000. For highest academic qualification, the results showed that the differences between the qualification groups (higher degree; first degree; HND, HNC, teaching; A level; O level; CSE; and none) with regards to consumer debt

were not statistically significant, $F(6, 274) = 0.581$; $p = 0.745$. This finding supported the conclusion from the correlation test there was no statistically significant relationship between the highest academic qualification and consumer debt; hence, the hypothesis could be rejected. For ethnicity, the results also showed that the differences between the ethnicities (Caucasian, Black–Carib., Black–Other, Indian, Other ethnic group) with regards to consumer debt were not statistically significant, $F(4, 275) = 0.219$; $p = 0.928$. This finding also showed that there was no statistically significant relationship between ethnicity and consumer debt; hence, the hypothesis could be rejected. For credit card debt, the results showed that the differences between the groups (not mentioned, credit card debt) with regards to consumer debt were not statistically significant, Welch's $F(1, 275) = 1.078$; $p = 0.3$. This finding also showed that there was no statistically significant relationship between having credit card debt and consumer debt. For immigrant status, the results showed that the differences between the groups (born in the United Kingdom, came to live in the United Kingdom) with regards to consumer debt were not statistically significant, $F(1, 274) = 0.47$; $p = 0.494$. This finding showed that there was no statistically significant relationship between immigrant status and consumer debt; hence, the hypothesis could be rejected again. For household size, the results showed that the differences between the groups (1–2 people, 3–5 people, and greater than five people) with regards to consumer debt were not statistically significant, $F(2, 275) = 1.355$; $p = 0.26$. This finding showed that there was no statistically significant relationship between household size and consumer debt; hence, this hypothesis could be rejected.

Table 4.7 ***ANOVA Test of Group Differences for 2000 Data***

Dependent Variable: Consumer Debt

Independent Variable		Sum of Squares	Df	Mean Square	F	Sig.
Highest academic qualification	Between Groups	56572751.53	6	9428791.922	0.581	0.745
	Within Groups	4347296524	268	16221255.69		
	Total	4403869275	274			
Ethnicity	Between Groups	14219886.67	4	3554971.667	0.219	0.928
	Within Groups	4405041661	271	16254766.28		
	Total	4419261548	275			
Credit card debt	Between Groups	16267456.47	1	16267456.47	1.078	0.3
	Within Groups	4402994091	274	16069321.5		
	Total	4419261548	275			
Immigrant status	Between Groups	7597113.015	1	7597113.015	0.47	0.494
	Within Groups	4411397019	273	16158963.44		
	Total	4418994132	274			
Household size	Between Groups	43424285.63	2	21712142.82	1.355	0.26
	Within Groups	4375837262	273	16028707.92		
	Total	4419261548	275			

Table 4.7 presents the results of a one-way ANOVA conducted to determine whether consumer debt differed significantly based on credit card debt, highest academic qualification, household size, ethnicity, and immigrant status, in 2005. For highest academic qualification, the results showed that the differences between the qualification groups (higher degree; first degree; HND,

HNC, teaching; A level; O level; CSE; and none) with regards to consumer debt were not statistically significant, Welch's $F(5, 115) = 1.921$; $p = 0.127$; hence, the hypothesis was rejected. For ethnicity, the results also showed that the differences between the ethnicities (Caucasian, Black–Carib., Black–Other, Indian, Other ethnic group) with regards to consumer debt were not statistically significant, $F(5, 115) = 1.341$; $p = 0.252$; hence, the hypothesis was rejected. For credit card debt, the results from the table showed that the differences between the groups (not mentioned, credit card debt) with regards to consumer debt were not statistically significant, Welch's $F(1, 115) = 0.999$; $p = 0.32$; hence, the hypothesis was rejected. For immigrant status, the results showed that the differences between the groups (born in the United Kingdom, came to live in the United Kingdom) with regards to consumer debt were not statistically significant, $F(1, 115) = 1.922$; $p = 0.168$; hence, the hypothesis was rejected. For household size, the results showed that the differences between the groups (1–2 people, 3–5 people, and greater than five people) with regards to consumer debt were not statistically significant, $F(2, 1155) = 0.095$; $p = 0.91$; hence, the hypothesis was rejected.

Table 4.8 ***ANOVA Test of Group Differences for 2005 Data***

Dependent Variable: Consumer Debt

Independent Variable		Sum of Squares	Df	Mean Square	F	Sig.
Highest academic qualification	Between Groups	301881301.8	5	60376260.36	1.921	0.127
	Within Groups	4756758916	110	43243262.87		
	Total	5058640218	115			
Ethnicity	Between Groups	290612831.1	5	58122566.23	1.341	0.252
	Within Groups	4768027387	110	43345703.52		
	Total	5058640218	115			
Credit card debt	Between Groups	44469394.16	1	44469394.16	0.999	0.32
	Within Groups	5014170824	114	43983954.59		
	Total	5058640218	115			
Immigrant status	Between Groups	83878863.83	1	83878863.83	1.922	0.168
	Within Groups	4974761354	114	43638257.49		
	Total	5058640218	115			
Household size	Between Groups	8471871.734	2	4235935.867	0.095	0.91
	Within Groups	5050168346	113	44691755.28		
	Total	5058640218	115			

3.5 ANCOVA

The results presented in Table 4.9 show whether there was an overall statistically significant difference in the total amount owed (consumer debt) between the different groups of independent variables (credit card debt, highest academic qualification, household size, ethnicity, and immigrant status) in 1995, once their means had been adjusted for annual household income. For highest academic qualification, the results showed that, after adjustment for annual household net income, there was no statistically significant difference in the total amount owed (consumer debt) between the different qualification groups (higher degree; first degree; HND, HNC, teaching; A level; O level; CSE; and none), $F(6, 78) = 0.940$; $p = 0.471$; partial $\eta^2 = 0.067$. For ethnicity, the results showed that, after adjustment for annual household net income, there was no statistically significant difference in the total amount owed (consumer debt) between the ethnicities (Caucasian, Black–Carib., Bangladeshi), $F(2, 82) = 0.372$; $p = 0.691$; partial $\eta^2 = 0.009$.

In terms of credit card debt, the results showed that, after adjustment for annual household net income, there was no statistically significant difference in the total amount owed (consumer debt) between the groups (not mentioned, credit card debt), $F(1, 83) = 0.173$; $p = 0.678$; partial $\eta^2 = 0.002$. For immigrant status, the results showed that, after adjustment for annual household net income, there was a statistically significant difference in the total amount owed (consumer debt) between the immigrant groups (born in the United Kingdom, came to live in the United Kingdom), F (1, 83) = 4.148; $p < 0.05$; partial $\eta^2 = 0.048$. Due to the statistical significance, follow-up tests were conducted to evaluate pairwise differences among the adjusted means for immigrant status. The Bonferroni procedure was used to control for Type I error across the two pairwise comparisons. The results showed that immigrants who had come to the United Kingdom (Mean = $4,987.03, SE = $1,530.07) had statistically significantly higher consumer debt while controlling for the effect of their annual household income, than those who had been born in the United Kingdom (Mean = $1,832.86, SE = $233.29). The effect size for these significant adjusted mean differences was 0.048. For household size, the results showed that, after adjustment for annual household net income, there was no statistically significant difference in the total amount owed (consumer debt) between the groups (1–2 people, 3–5 people, and greater than five people), F (2, 82) = 1.397; $p = 0.253$; partial $\eta^2 = 0.033$.

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Table 4.9 ***ANCOVA Test of Group Differences for 1995 Data***

Dependent Variable: Consumer Debt

	Tests of Between-Subjects Effects						
	Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
1	Highest academic qualification	26857988.88	6	4476331.481	0.94	0.471	0.067
	Error	371341925.8	78	4760793.92			
	Total	711350088	86				
2	Ethnicity	3577758.045	2	1788879.023	0.372	0.691	0.009
	Error	394622156.6	82	4812465.324			
	Total	711350088	86				
3	Credit card debt	829599.51	1	829599.51	0.173	0.678	0.002
	Error	397370315.1	83	4787594.158			
	Total	711350088	86				
4	Immigrants	18954821.82	1	18954821.82	4.148	**0.045**	0.048
	Error	379245092.8	83	4569217.986			
	Total	711350088	86				
5	Household size	13124305.37	2	6562152.686	1.397	0.253	0.033
	Error	385075609.3	82	4696044.016			
	Total	711350088	86				

The results presented in Table 4.9 show whether there was an overall statistically significant difference in the total amount owed (consumer debt) between the different groups of the independent variables (credit card debt, highest academic qualification, household size, ethnicity, and immigrant status) in 2000, once their means had been adjusted for annual household income. For highest academic qualification, the results showed that ,after adjustment for annual household net income, there was no statistically significant difference in the total amount owed (consumer debt) between the qualification groups (higher degree; first degree; HND, HNC, teaching; A level; O level; CSE; and none), $F(6, 221) = 0.572$; $p = 0.752$; partial $\eta^2 = 0.015$. For ethnicity, the results showed that, after adjustment for annual household net income, there was no statistically significant difference in the total amount owed (consumer

debt) between the ethnicities (Caucasian Black–Carib., Black–Other, Indian, Other ethnic group), $F(3, 224) = 0.246$; $p = 0.864$; partial $\eta^2 = 0.003$.

In terms of credit card debt, the results showed that, after adjustment for annual household net income, there was no statistically significant difference in the total amount owed (consumer debt) between the groups (not mentioned, credit card debt), $F(1, 226) = 0.713$; $p = 0.399$; partial $\eta^2 = 0.003$. For immigrant status, the results again showed that, after adjustment for annual household net income, there was no statistically significant difference in the total amount owed (consumer debt) between the groups (born in the United Kingdom, came to live in the United Kingdom), $F(1, 225) = 0.505$; $p = 0.478$; partial $\eta^2 = 0.002$. For household size, the results showed that, after adjustment for annual household net income, there was no statistically significant difference in the total amount owed (consumer debt) between the groups (1–2 people, 3–5 people, and greater than five people), $F(2, 225) = 0.207$; $p = 0.813$; partial $\eta^2 = 0.002$.

Table 4.10 ***ANCOVA Test of Group Differences, Mean 2000 Data***

Dependent Variable: Consumer Debt

	Tests of Between-Subjects Effects						
	Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
1	Highest academic qualification	59889504.17	6	9981584.029	0.572	0.752	0.015
	Error	3855315932	221	17444868.47			
	Total	7470212245	229				
2	Ethnicity	12845461.24	3	4281820.414	0.246	0.864	0.003
	Error	3902359975	224	17421249.89			
	Total	7470212245	229				
3	Credit card debt	12314000.48	1	12314000.48	0.713	0.399	0.003
	Error	3902891436	226	17269431.13			
	Total	7470212245	229				
4	Immigrants	8774345.117	1	8774345.117	0.505	0.478	0.002
	Error	3906383655	225	17361705.13			
	Total	7457962245	228				
5	Household size	7183391.974	2	3591695.987	0.207	0.813	0.002
	Error	3908022044	225	17368986.86			
	Total	7470212245	229				

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The results presented in Table 4.10 show whether there was an overall statistically significant difference in the total amount owed (consumer debt) between the different groups of the independent variables (credit card debt, highest academic qualification, household size, ethnicity, and immigrant status) in 2005 once their means had been adjusted for annual household income. For highest academic qualification, the results showed that, after adjustment for annual household net income, there was no statistically significant difference in the total amount owed (consumer debt) between the qualification groups (higher degree; first degree; HND, HNC, teaching; A level; O level; CSE; and none), $F(5, 98) = 1.754$; $p = 0.13$; partial $\eta^2 = 0.082$. For ethnicity, the results showed that, after adjustment for annual household net income, there was no statistically significant difference in the total amount owed (consumer debt) between the ethnicities (Caucasian, Black–Carib., Black–Other, Indian, Other ethnic group), $F(4, 99) = 1.47$; $p = 0.217$; partial $\eta^2 = 0.056$. For credit card debt, the results again showed that, after adjustment for annual household net income, there was no statistically significant difference in the total amount owed (consumer debt) between the groups (not mentioned, credit card debt), $F(1, 102) = 1.58$; $p = 0.212$; partial $\eta^2 = 0.015$. For household size, the results showed that, after adjustment for annual household net income, there was no statistically significant difference in the total amount owed (consumer debt) between the groups (1–2 people, 3–5 people, and greater than five people), $F(2, 101) = 0.496$; $p = 0.611$; partial $\eta^2 = 0.01$. For immigrant status, the results showed that, after adjustment for annual household net income, there was no statistically significant difference in the total amount owed (consumer debt) between the groups (born in the United Kingdom, came to live in the United Kingdom), $F(1, 102) = 1.185$; $p = 0.279$; partial $\eta^2 = 0.011$

Table 4.11 ***ANCOVA Test of Group Differences for 2005 Data***

Dependent Variable: Consumer Debt

	Tests of Between-Subjects Effects						
	Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
1	Highest academic qualification	384419926.7	5	76883985.33	1.754	0.13	0.082
	Error	4296349463	98	43840300.65			
	Total	12106144489	105				
2	Ethnicity	262403656	4	65600914.01	1.47	0.217	0.056
	Error	4418365734	99	44629956.91			
	Total	12106144489	105				
3	Credit card debt	71395758.89	1	71395758.89	1.58	0.212	0.015
	Error	4609373631	102	45189937.56			
	Total	12106144489	105				
4	Household size	45507836.6	2	22753918.3	0.496	0.611	0.01
	Error	4635261553	101	45893678.75			
	Total	12106144489	105				
5	Immigrants	53769541.55	1	53769541.55	1.185	0.279	0.011
	Error	4626999848	102	45362743.61			
	Total	12106144489	105				

The table below summarizes the testing of the hypotheses. A tick indicates that the hypothesis was supported and a cross indicates that it was rejected. The table shows that one of the tested hypotheses was supported.

Table 4.12 ***Summary of the Results of the Hypotheses Testing***

Study Hypothesis	1995	2000	2005
H1: The independent variable of highest academic qualification is significantly related to the dependent variable of consumer debt between immigrants in the United Kingdom and British citizens in terms of income gap.	✗	✗	✗
H2: The independent variable of ethnicity is significantly related to the dependent variable of consumer debt between immigrants in the United Kingdom and British citizens in terms of income gap.	✗	✗	✗
H3: The independent variable of credit card debt is significantly related to the dependent variable of consumer debt between immigrants in the United Kingdom and British citizens in terms of income gap.	✗	✗	✗
H4: The independent variable of household size is significantly related to the dependent variable of consumer debt between immigrants in the United Kingdom and British citizens in terms of income gap.	✗	✗	✗
H5: The independent variable of immigrant status is significantly related to the dependent variable of credit debt between immigrants in the United Kingdom and British citizens in terms of income gap, when controlled for demographic factors.	✓	✗	✗

3.6 Model examination

To determine the proportion of the variation in the dependent variable that was explained by the addition of new independent variables, a hierarchical regression analysis was carried out. In this case, this was the proportion of variance in the indebtedness of participants that was accounted for by the addition of income, credit card debt, highest academic qualification, household size, different ethnicities, and immigrant status. All model data and additional analysis can be found in the supplementary material.

The first model (Model 1) contained the control variable (Annual Income). In Model 2, credit card debt was added to Model 1. In Model 3, highest academic qualification was added to Model 2. In Model 4, household size was added to Model 3. In Model 5, ethnicity was added to Model 4. Finally, in Model 6, (also known as the Complete Model) the immigrant status variable was added to Model 5.

3.6.1 Data from 1995

As Model 1 was the starting model and reflected the control variables, when compared to a model with no independent variables, the change in R^2 (R square change) was the same as R^2. The result for this model was not statistically significant, $p > 0.05$. The addition of credit card debt variables (1–2) to the prediction of consumer debt (Model 2) led to a non-statistically significant increase of 0.002 in R^2, $p > 0.05$. In other words, credit card debt did not contribute significantly to the prediction of consumer debt in 1995. The addition of highest academic qualification (1–7) to the prediction of consumer debt (Model 3) led to a statistically significant increase of 0.046 in R^2, $p < 0.05$. This suggested that academic qualification contributed significantly to the prediction of consumer debt in 1995. The addition of household size (1–3) to the prediction of consumer debt (Model 4) led to a non-statistically significant increase of 0.023 in R^2, $p > 0.05$. This showed that household size did not contribute significantly to the prediction of consumer debt in 1995. The addition of ethnicity (1–9) to the prediction of consumer debt (Model 5) led to a non-statistically significant increase of 0.002 in R^2, $p > 0.05$. This meant that the ethnicity variable did not contribute significantly to the prediction of consumer debt in 1995.

Finally, the addition of the immigrant status variable (1–2) to the prediction of consumer debt (Model 6) led to a statistically significant increase of 0.092 in R^2, $p < 0.05$. This indicated that the immigrant variable contributed significantly to the prediction of consumer debt in 1995. The result in the R^2 column shows that the control variable (annual household net income) contributed 0.2% of the variance, credit card debt 0.4%, highest academic qualification 5%, household size 7.3%, and ethnicity/race 7.5%; and immigrant status explained a total of 16.7% of the variance. The interaction of the independent variables (academic qualification and immigrants) demonstrated a significant contribution to the model, as indicated by the Sig F change value (0.04 and 0.004). This result also suggested that the hierarchical regression model in Table 4.12 accounted for 16.7% of the total variance in the consumer debt of U.K. residents; when the variance explained by the control variable was subtracted from this, a total of 16.5% was accounted for by the independent variables.

3.6.2 Data from 2000

The regression model for the 2000 data with consumer debt as the dependent variable is illustrated in Table 4.13. As Model 1 was also the starting model and reflected the control variable, when compared to a model with no independent variables, the change in R^2 was the same as R^2. This model was also not statistically significant, $p > 0.05$. The addition of credit card debt variables (1–2) to the prediction of consumer debt (Model 2) led to a non-statistically significant increase of 0.003 in R^2, $p > 0.05$. In other words, credit card debt did not contribute significantly to the prediction of consumer debt in 2000. The addition of highest academic qualification (1–7) to the prediction of consumer debt (Model 3) led to a non-statistically significant increase of 0.006 in R^2, $p > 0.05$. This suggested that academic qualification did not contribute significantly to the prediction of consumer debt in 2000. The addition of household size (1–3) to the prediction of consumer debt (Model 4) led to a non-statistically significant increase of 0.002 in R^2, $p > 0.05$. This meant that household size did not contribute significantly to the prediction of consumer debt in 2000.

The addition of ethnicity (1–9) to the prediction of consumer debt (Model 5) led to a non-statistically significant increase of 0.001 in R^2, p >0.05. Finally, the addition of the immigrant status variable (1–2) to the prediction of consumer debt (Model 6) led to a non-statistically significant increase of 0.001 in R^2, p >0.05. This meant that the immigrant status variable did not contribute significantly to the prediction of consumer debt in 2000.

The R^2 column presents the percentage of variance that was accounted for by each block of independent variables, computed by multiplying the number by 100. In this case, the total variance explained was 1.5%, in line with Table 5.2.1. The 'R^2 Change' column in Table 5.2.2 shows the amount of variance that was added by each independent variable, and 'Sig F Change' shows whether this augmentation was statistically significant. The result in the R^2 column shows that the control variable (annual household net income) contributed 0.2% of the variance, credit card debt 0.5%, highest academic qualification 1.1%, household size 1.3%, ethnicity/race 1.5%, and immigrant status a total of 1.5% of the variance. The interaction of the independent variables did not show a significant contribution to the model, as indicated by the Sig F change value (> 0.05).

This result also suggested that the hierarchical regression model in Table 5.2.2 accounted for 1.5% of the total variance in the consumer debt of U.K. residents; when the variance of the control variable was subtracted from this, a total of 1.3% was accounted for by the independent variables. The results presented in Table 5.2.2 indicated that the Complete Model (Model 6) of control variables, credit card debt, highest academic qualification, household size, ethnicity/race, and immigrant status was not statistically significant. This showed that the model did not statistically significantly predict consumer debt in 2000 and that there was no statistically significant linear relationship between the independent and dependent variables.

3.6.3 Data from 2005

The regression model for 2005 data with consumer debt as the dependent variable is illustrated in Table 4.13. As Model 1 was also the starting model and reflected the control variable, when compared to a model with no independent variables, the change in R^2 was the same as R^2. This model was also not statistically significant, p >0.05. The addition of credit card debt variables (1–2) to the prediction of consumer debt (Model 2) led to a non-statistically significant increase of 0.015 in R^2, p > 0.05. In other words, credit card debt did not contribute significantly to the prediction of consumer debt in 2005. The addition of highest academic qualification (1–7) to the prediction of consumer debt (Model 3) led to a statistically significant increase of 0.044 in R^2, p <0.05. This suggested that academic qualification contributed significantly to the prediction of consumer debt in 2005. The addition of household size (1–3) to the prediction of consumer debt (Model 4) led to a non-statistically significant increase of 0.007 in R^2, p >0.05. This meant that household size did not contribute significantly to the prediction of consumer debt in 2005. The addition of ethnicity (1–9) to the prediction of consumer debt (Model 5) led to a non-statistically significant increase of 0.005 in R^2, p >0.05. Finally, the addition of the immigrant status variable (1–2) to the prediction of consumer debt (Model 6) led to a non-statistically significant increase of 0.011 in R^2, p >0.05. This meant that the immigrant variable also did not contribute significantly to the prediction of consumer debt in 2005.

The R^2 column shows the percentage of variance accounted for by each block of independent variables, computed by multiplying the number by 100. In this case, the total variance

explained was 10.6%. In line with Table 5.1 and 5.2. The 'R^2 Change' column in Table 4.13 shows the amount that was added by each independent variable and 'Sig F Change' shows whether this augmentation was statistically significant. The R^2 column indicates that the control variable (annual household net income) contributed 2.5% of the variance, credit card debt 3.9%, highest academic qualification 8.3%, household size 9%, ethnicity/race 9.5%, and immigrant status a total of 10.6% of the variance.

The interaction of the independent variables (academic qualification) showed a significant contribution to the model, as indicated by the Sig F change value (0.03). This result also suggested that the hierarchical regression model in Table 5.2.3 accounted for 10.6% of the total variance in the consumer debt of U.K. residents; when the variance of the control variable was subtracted from this, a total of 8.1% was accounted for by the independent variables.

3.7 Highest Academic Qualification and Consumer Debt

Those individuals with higher and first degrees incurred more debt than individuals with other degrees. Interestingly, those whose highest academic qualification was A level had more consumer debt than those whose highest qualification was HND/HNC/teaching. Individuals without any of these academic qualifications (higher degree, first degree, HND/HNC/teaching, A level, O level, and CSE) had the lowest debt in the years 1995 and 2000 but incurred more than those with an HND/HNC/teaching qualification in 2005. Overall, the results show that the higher an individual's level of education, the more likely they are to incur debt. Although the order of qualification levels with the highest amount of debt varied, those individuals with higher levels of educational attainment tended to owe more money. This result is similar to that found by Haq et al. (2018), who also concluded that the amount of debt owed by an individual increased with education. According to Crook (2006) and Del Rio and Young (2005), better-educated individuals will tend to have better job prospects, which lead to higher expected income and, hence, will have better access to loans. Although individuals seek education to improve their prospects in the job market, which could translate to increased income, the results from Haq's et al.'s (2018) study indicated that the effect of education on the decision to take on debt is not moderated by income. This means that a person having higher education may be more likely to decide to take on debt compared to those having less education, but their decision will not be affected by their income, and vice versa.

3.8 Ethnicity and Consumer Debt

In 1995, the average debt owed by a Caucasian U.K. resident was lower (£1,916) than that owed by those in other ethnic groups (£2,000). This anomaly was as a result of there being just two non-Caucasian ethnic groups in the data for that year. In 2000, however, the average debt owed by a Caucasian U.K. resident was higher (£4,031) than that owed by other ethnicities (£3,387). Similarly, in 2005, Caucasian U.K. residents also owed more debt (£8,268) than other ethnic groups (£5,970). Not only did these results collectively show that Caucasian residents in the United Kingdom owed more in debt than other ethnic groups, but also, when different ethnic groups were examined individually, the Caucasian U.K. residents had a larger amount of debt. This result indicated that Caucasian U.K. residents took on more debt than other ethnicities in the United Kingdom, a finding which is reminiscent of the result from the study conducted by Edwards (2008), which explored the nuances of credit card debt, total debt, income, and assets among Hispanic, African American, and Caucasian households. The

findings showed that Caucasians had higher credit card debt than African Americans but slightly lower than Hispanics. In addition, the annual interest percentage rates of credit cards was found to be lower for Caucasians (14%) than for Hispanics (16%) and African Americans (17%). A similar result was found in a study by Brutus (2014), where Caucasian households had a higher percentage of debt than African American and Hispanic households. The mean value of the debt owed by each ethnic group was also higher for Caucasians than Hispanics, and more than double that of African American households. Killewald (2013) also found that, among young adults, Caucasian households were more likely than non-Caucasian households to hold various types of debt, such as mortgages, auto debt, and credit debt, and had higher debt-to-income ratios. Moreover, the median Caucasian debtor held approximately 60% more debt than the average African American debtor. These results highlight the stark differences in the amount of debt held by ethnicity.

3.9 Credit Card Debt and Consumer Debt

The results of the study showed that, aside from in 1995, individuals in the United Kingdom who owed credit card debt had higher total consumer debt than individuals who did not mention owing a credit card debt. This indicated that the presence of credit debt is likely to increase the total consumer debt owed by an individual. A main reason why credit card debt is likely to cause an increase in total consumer debt is that, unlike other debt (mortgage or auto loan debt), which is fixed, credit card debt is revolving, meaning it is open-ended in nature such that consumers can accrue different amounts of debt each month and pay the minimum of what is owed; this provides the opportunity to spend more up to the limit of the credit card (O'Connell, 2019). According to the results from the 2004 Survey of Consumer Finances, approximately 75% of all participating households owned at least one credit card, and 58% of those holding a credit card carried a balance (total amount of money currently owed on a credit card account). The availability of credit makes it easier for households to spend more instead of postponing a purchase; this, combined with the high interest rate on credit card debts, increases consumer debt (Prinsloo, 2002).

The U.K. Finance's Household Finance update as of December 2018 showed that the amount of money owed on credit card had grown to reach £44.8bn, the highest recorded amount since the data collection started in 1997. Furthermore, the outstanding level of credit card borrowing in the United Kingdom grew by 4.7% in 2018 and credit card spending in December was £11bn, 3.8% higher than in 2017 (Fenton, 2019). In the United States, according to the New York Federal Reserve data, at the end of 2018, credit cards were the fourth largest type of consumer debt after mortgages, student loans, and auto debt. Furthermore, the increase in credit card debt had been faster than the other categories of debt (Tanzi, 2019). The high interest rates on credit card debt combined with expenses that continue to outweigh income has resulted in households being unable to rid themselves of debt and, in fact, continue to take on more.

3.10 Household Size and Consumer Debt

During the period of 1995, households of one to two people had the highest mean consumer debt, while those with more than five people had the lowest consumer debt. This finding was unexpected as it is usual for spending to increase in proportion to the number of people in a household. This anomaly could have been the result of multiple streams of income from more than one person in the household. Although this result indicated that households with a lot of

people did not have high amounts of consumer debt in 1995, this trend did not continue to the 2000s. In the years 2000 and 2005, those with a household size greater than five had the largest amount of consumer debt. This indicated that the more people there were in a household, the higher the amount of debt likely to be incurred.

In an investigation regarding household debt, Haq et al. (2018) also found that larger households tended to have a higher amount of debt. The result of the present study supports the sentiment of the result from the USA Household Consumption and Financial Survey (Haq et al., 2018), which reported the likelihood of increased debt as larger household sizes lead to higher household expenditure, and eventually increased debt. Although the household sizes indicated in the present research and that of Haq et al. (2018) did not suggest the presence of children in the household, the study carried out by Kempson, McKay, and Willits (2004) for the Department of Works and Pension in the United Kingdom focused on the linkage between family size and debt and did include households with children. The results from their study are in line with the results of the present study, as the authors found that larger families with three or more children were more likely than small families to fall into debt. Specifically, 18% of families with children had debt of some kind, which rose to 22% for those with three children, and 32% for those with four or more children (Kempson et al., 2004).

3.11 Immigrant Status and Consumer Debt

The same trend as was observed among ethnic groups was also noticed among those who were born in the United Kingdom compared to those who had come to live in the United Kingdom. Aside from the years 1995 and 2000, those who were born in the United Kingdom (those whose status was ‘citizen’ and not ‘immigrant’) incurred more debt than those who had come to live in the United Kingdom. The average debt for citizens ranged from £1,775 to £8,430 across the 3 years studied, while for those who had come to live in the United Kingdom, average debt ranged from £4,735 to £5,666 across the 3 years. The data also showed that immigrant spending was higher in 1995 and 2000. This result was different from the norm as immigrants have been found to be more likely to be wary of incurring debt than citizens (Brown & Taylor, 2008; Datta and Aznar, 2018). Another reason is the reduced likelihood of minorities gaining access to credit (Economic Wellbeing of U.S. Households, 2013).

4. Conclusion

This study investigated the association between consumer debt and the income gap among U.K. immigrants and British citizens. This research explored demographic characteristics related to immigrants, such as household size, credit card debt, ethnicity, highest academic qualification, and immigrant status while treating annual net income as the covariate. The sample for the cross-sectional study was taken from three different years (1995, 2000, and 2005) of the BHPS and was analyzed using a correlation test, regression, and ANCOVA.

Results indicated that immigrants or non-Caucasian have less debt than citizens or Caucasian ethnic groups, the correlation and ANCOVA results revealed relationships between immigrant status and low levels of debt. The results also showed that people with higher levels of education acquired more consumer debt than their less-educated counterparts that credit card debt increased the total consumer debt owed, and that larger households incurred more consumer debt.

5. Recommendations

The policy implications of this study lies in the fact that the issuing of credit debt has been linked to increased bankruptcy claims, adverse credit histories, and difficulties obtaining employment among immigrant consumers. The mismanagement of credit debts increases the damage caused to an immigrant consumer's life as well as on the wealth management of the lending institutions Understanding the significant factors that contribute to the increased level of household debt among U.K. immigrants could lead to better formulation and implementation of lending strategies and better outcomes that can address such situations.

Policy Implications

The findings of this study are also relevant and timely to the review of the financial services and banking industry conducted by the Financial Conduct Authority of the United Kingdom, in light of the increase in credit debt that has been occurring for the past few years .In addition, findings from this study may aid in identifying individuals particularly vulnerable to credit debt, which would facilitate improvements in policies to protect credit card users and might provide information that enables financial institutions to better monitor their customers for credit card misuse .

Social Change Implications

The findings of this study may assist in bringing about positive social change by providing specific information to banks and lending institutions on how they can manage the credit lines of the specific groups studied. There are numerous studies that have linked credit debt to certain demographics; however, until now, there has been insufficient research on immigrants as a demographic in relation to credit debt. Most research on immigrants has studied their wealth overall, but not specifically at immigrant credit debt. Knowing which ethnic groups exhibit certain behaviors in terms of paying off debts and excessive spending using consumer credit provides banks and lending institutions with valuable insights on how they can manage the credit lines of these specific groups Finally, the findings of this study have expanded the body of knowledge about the association between credit debt and immigrant status in the United Kingdom, which has been the subject of growing interest among researchers in the field of finance , economics and Ethnopolitics

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