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## Abstract

The fact that members of an immigrant community may have different demographic characteristics, or may have different tastes, to the indigenous population, may manifest itself in differences in saving behaviour. In addition, depending on their ethnic background, there could be differences among the immigrants themselves. Using household level panel data for the UK, this paper analyzes the saving behaviour of the immigrants of different ethnicities vis a vis the natives. Our estimation results provide evidence of diverse saving behaviour among British households, which depends on both immigration status as well as ethnic background. Decomposition analysis indicates that these differences are primarily attributable to unobservable rather than to the differences in observed characteristics.

## 1. Introduction

People of different country of origin as well as of different ethnicities may differ in their demographic, occupational or educational features, which is expected to be reflected in their preference towards consumption and savings. In addition, ethnicity or country of origin may itself act as an influential factor in an individual's economic decision making process. In this context, as argued by Carroll et al. (1994, 2000) the immigrants might possess certain cultural features originating from their country of birth and if such attributes are different from those of the host country then their saving profile might differ from that of the natives.[1] The issue of culture might have interesting impact not only for the saving differential between the native and the immigrant, but also for the indigenous people who differs in terms of ethnicity. According to Carroll et al. (1994, 2000) the *immigration effect* which corresponds to the effect relevant for all groups of immigrants as well as the *cultural effect* which is associated to the immigrants of a particular country (or of a particular indigenous ethnic group) might contribute to the saving differential (if any) among different groups. However over time via assimilation, such effects might fade away and we might not observe significant differences based on ethnicity and/or immigration status. In addition, given the fact that the immigrants are self-selected group of people, their characteristics, preferences etc. might not correspond to the members of their home country and their preferences might not exhibit significant differences from those of the indigenous population. Immigrants are also argued to be risk lovers and might posses certain type of skills or attributes and such factors could influence their consumption/saving behaviour as well. Therefore the issue of country of origin and ethnicity could be better addressed empirically where depending on the home as well as the host country of the respondent saving behaviour could differ.

In the context of the UK, the history of immigration is quite long and well-diversified. Migration is considered as the prime contributing factor of the population change of the UK in recent years. Present immigrants are primarily the result of immigration in the post-war period and are originated mainly from former colonies. A more recent wave of immigrants has come from the East-European countries. As a whole, all such waves

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[1] For detailed discussion, see Carroll et al. (1994), pp. 690-92.

have resulted in a community of diverse culture, ethnicity and socio-economic features. In case of the indigenous population, UK can also be characterized by such diversity due to the co-existence of a large number of black, mixed, Asian and several other races along with the white. It is therefore interesting to examine whether country of birth and/or ethnicity contributes to the pattern of savings of the British households.

In spite of the growing number of literature on the performance of immigrants and different ethnic groups, very few studies have attempted to analyze saving behaviour across groups. Existing literature primarily concentrated on the performance of immigrants/minorities in the labour market. However, saving behaviour is an important indicator of the economic profile as well as the performance of the immigrants/minorities in the host economy. There exists only a few studies dealing with the impact of country of origin on saving behaviour and the work of Carroll et al. (1994, 2000) on Canada and the US are two leading literatures in this context. While comparing the saving behaviour of the US immigrants, Carroll et al. (2000) found significant discrepancies across the immigrants of different origin but the saving pattern of the immigrants do not match to that of their country of origin. According to the study of Carroll et al. (1994) there is, however no significant evidence of cultural factors for the Canadian immigrants but their results support that the immigrant's saving rate is lesser than that of the natives. A number of theoretical studies have examined the effect of the probability of return migration on saving pattern and documented the relationship as a positive one. As revealed by Galdor and Stark (1990), the possibility of return migration may act as an important diverging factor between the saving behaviour of the immigrants vis a vis the natives. A similar conclusion has also been established by Dustmann (1997) as he argued that, due to perceived uncertainty and riskiness of home country labour market, migrants are expected to generate higher precautionary savings. However, such a finding has not been strongly supported by real-life data. For the immigrants in Germany, although Merkle & Zimmermann (1992) found planned duration of stay in the host country as a significant determinant of remittance, their result for savings has not reflected such relationship. The importance of remittance has also been emphasized by Bauer & Sinning (2006) and they have found that when remittances are considered in the model the temporary migrants in West Germany saved more than the permanent migrants and the natives. In contrast, without considering remittances, migrants were found to save less than a comparable native. In

the context of the UK, to our knowledge no study has attempted to investigate the pattern of savings of different groups and in this paper we have provided the first empirical evidence of the saving behaviour of the British households in terms of ethnic background.

While using a 13 year long panel data set, our analysis suggests significant differences in the pattern of savings of the households on the basis of ethnicity and immigration status. In comparison to the indigenous people, the immigrants save less where based on ethnicity there is distinctive preference across the immigrants as well. Especially, our results indicate that the black as well as the Asian native saves significantly more than their white counterparts. The black immigrants, on the other hand have lesser propensity to save. On the basis of the decomposition analysis, for the Asians as well as for the white immigrants, differences in endowments can explain only a small proportion of the saving differential with the white British and the major part of such difference is attributable to certain 'unexplained' features. As a whole, decomposition results provide evidence of the importance of unobservable factors on household saving behaviour.

The paper is organized as follows: in section 2 the theoretical motivation is outlined. Section 3 deals with the data and methodological issues and the estimation results are presented in section 4. Finally section 5 concludes.

**2. Theoretical Motivation**

Based on the standard theoretical model of consumption-savings, Galdor and Stark (1990, 1991), provided a simple model of savings for the immigrant and the native. As suggested by them an economy is comprised of two types of individuals, immigrants (m) and natives (n) where each of them maximizes an inter-temporal utility function. In period 1 both live in the host country and in period 2 immigrants have a positive probability of leaving the host country and returning to the source country. It is also assumed that the stock of assets will be zero at the end of $2^{nd}$ period and an individual discounts future at the rate $\rho$.

$$U^i = (C_1^i, C_2^i) \qquad i = m, n \qquad (1)$$

$$U(C_1^i, C_2^i) = u(C_1^i) + \rho\, u(C_2^i) \qquad (2)$$

$$A_2^i = (1 + r)(A_1^i + Y_1^i - C_1^i) \qquad (3)$$

Here 'U' denotes level of utility, 'A' stands for assets, 'Y' is income level, 'C' denotes consumption and 'r' is the interest rate. In this set up, an individual's labour income is expected to be affected by uncertainty and we can broadly formalize such uncertainty into two categories: (1) unforeseeable future events affecting labour income and lifetime income streams for both groups of people residing in the same country-but depending on immigrant's place of stay in the 2nd period, it may differ between these two groups as well; (2) immigrants may face additional uncertainty due to imperfect information or incompatible skill level in the host country. Therefore, income in both periods can be defined as $Y_1^i(t^i, u_1^i, x^i)$ and $Y_2^i(t^i, u_2^i, x^i)$, where $u_1^i$ and $u_2^i$ are random variables with known joint-density function, $x^i$ is a vector of control variables and $t^i$ is the time spent in the host country. $Y_1^i$, $Y_2^i$, $S_1^i$, $S_2^i$ denote income and savings in respective periods.

The level of consumption for the native can be described as:

$$C_1^n = A_1^n + Y_1^n(u_1^n, x^n) - S_1^n \qquad (4a)$$

$$C_2^n = Y_2^n(u_2^n, x^n) + (1+r)(S_1^n + A_1^n) \qquad (4b)$$

Given the fact that immigrants may face different socio-economic circumstances and may possess different characteristics than that of the natives they could exhibit different propensities to save:

➢ Immigrants have a positive probability of returning home. In that case if they behave according to the precautionary motive and if their home country wage is lower than the host country wage, they might save more. On the other hand higher probability

of returning may act as a disincentive to invest in skill enhancing training or educational programmes and, as a result, they could have flatter earning profile than the natives in the 1$^{st}$ period and that could influence their saving behaviour.

➤ Immigrants are expected to remit and that could affect savings.

➤ Due to lack of knowledge of host economy, incompatible qualification, discriminatory attitude of the employers etc. immigrants might have higher probability of lower wages/increased fear of job loss, which could affect their earnings in the 1$^{st}$ period and as a consequence savings as well.

➤ In the 2$^{nd}$ period if they do not end up returning, then given their probability of return migration, they are assumed to exert higher level of effort in the 1$^{st}$ period (Galdor and Stark, 1991). If they follow precautionary behaviour then such higher earnings could induce them to save more.

➤ Absence of inheritance in host country and absence of any benefit income in home country may induce him to save more in the 1$^{st}$ period.

➤ Due to additional cost of migration (eg. repayment of loan) immigrants could have additional spending and might end up saving less.

➤ As suggested by Carroll et al. (1994, 2000), saving behaviour of the immigrants may reflect cultural differences of their country of origin and as a result could differ from that of the natives.

In this backdrop the optimal consumption level for the immigrants in the 1$^{st}$ period can be described as:

$$C_1^m = A_1^m + Y_1^m (t^m, u_1^m, x^m) - (S_{11}^m + S_{12}^m) \qquad (5)$$

where $S_{11}^m$ and $S_{12}^m$ are savings accumulated in the host country and savings in the form of remittances respectively. In case of consuming at home, immigrants are expected to face new set of prices in the 2$^{nd}$ period and it is reasonable to assume that

such price level is a fraction of price level in the host country (0<P<1). For the 2nd period his consumption can be expressed as:

$$C_2^m = Y_2^m (t^m, u_2^m, x^m) + (1+r) (S_{11}^m + A_1^m) \quad \text{with a probability of } (1-\alpha) \quad (6a)$$

$$PC_2^m = Y_2^h(t^m, u_2^h, x^m) + (1+r) (S_{11}^m + A_1^m) - E^m \quad \text{with a probability of } \alpha \quad (6b)$$

In this framework, while following Galdor and Stark (1990, 1991) the optimal level of savings for individual *i* can be written as:

$$S_i^* = \text{Argmax} \ [u\{A_1^i + Y_1^i (t^i, u_1^i, x^i) - S_1^i\} + \rho\{\alpha^i \ u \ 1/P^i[Y_2^h(t^i, u_2^h, x^i) + (1+r)(S_1^i + A_1^i) - E^i] + (1- \alpha^i) \ u[Y_2^i(t^i, u_2^i, x^i) + (1+r)(S_1^i + A_1^i)\}] \quad (7)$$

Given the rationale provided before, we expect $S_i^*$ to be different for the immigrants. In this context, it is important to mention that there could be several other factors like lower wages, greater probability of unemployment, bigger family size, informal means of savings (e.g. in the form of cash, jewellery, assets), cultural features etc. influencing saving behaviour which haven't been incorporated in this theoretical framework. Therefore it is difficult to ascertain the direction of saving differential a priori and it depends on the relative importance of a variety of factors on individual's saving decision.

## 3. Data & Methodology

According to equation (7) saving behaviour can be thought as a function of income, demographic variables, random shocks capturing unexpected events and in case of the migrant, their expected time to stay in the host country. The basic structure of the saving model can be illustrated in the following manner:

$$\log (S_{it}) = \alpha_0 + \alpha_1 \log Y_{it} + \alpha_2 X_{it}' + \alpha_3 VAR_{it} + \alpha_3 t_{it} + \varepsilon_{it} \quad (i=1,2,3\ldots; t=1,2\ldots.13)$$
$$(8)$$

where, $S_{it}$, $Y_{it}$, $X_{it}$, $VAR_{it}$ and $t_{it}$ denotes level of savings, level of income, demographic/household/educational/occupational variables, variables proxying level of

risk faced by the individual and time spent in the host country respectively.[2]

The data used in this paper has come from the British Household Panel Survey (BHPS) which has sampled approximately 15,000 persons in 5000 households. In the BHPS all respondents are asked whether they save and if so the amount they save per month and we obtain household savings and income while adding individual level reported savings and income. The analysis covers the period from 1991 to 2003 and considers only adults.  In order to capture the educational structure of the household, we have included the proportion of individuals with higher education, A level education, O level education, other (non-academic) education, no education and those still at education (student) among the adults in the household. Similarly, for occupation we calculated the proportion of wage-employed, self-employed, unemployed and non-employed among the adults. In addition, 19 regional dummies have been used. Respondents who are born outside of the UK are considered as immigrant. On the basis of the broad classification provided by the BHPS we have classified the ethnic background of the individuals as white, black, Asian (comprising of south Asians & Chinese) and other races. We have used a linear spline for age with knots 25, 45 and 65 and for those above 65, we incorporated both intercept and slope dummies.

In one of the models permanent income and transitory income have been used and permanent income is calculated while following the method outlined in Guiso et al. (1992) (see Appendix C).  In Appendix B we outlined the model while incorporating uncertainty in saving behaviour and attempted to apply 4 different measures of uncertainty.

All monetary variables used in the analysis are in real terms and are expressed in 2005 pounds.[3]

## 4. Empirical Analysis

### 4.1 Descriptive Statistics

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[2] Here $\varepsilon_{it}$ is the error term of the model and depending on the econometric specification, specification of $\alpha_0$ and $\varepsilon_{it}$ may differ as well.

[3] We have deflated the nominal values by the CPI of the corresponding year.

The sample comprises of 73291 person-years where 66% have male household heads. Average age of the head of households is 50 years where approximately 39% belong to the age group of 25-44 years and 31% are of the age group of 45-64 years. An overwhelming majority of the sample is white (97%), while the remaining are black (1.05%), Asian (1.11%) or of other races (0.99%). Approximately 5.3% of the panel are immigrants where the majority are of white ethnicity. The average monthly income level of sample households is £1965 although there exists striking disparity among households.

Around half of the households (52%) report zero monthly savings and among the savers a significant percentage (41%) reported for a monthly savings of less than £100 and only 9.6% said to save more than £500 per month. In Figure A.1 of Appendix A, a histogram of the distribution of savings (between £1 and £1000) is shown. Among different ethnicities (irrespective of immigration status), the data reveals two distinctive sub-groups: the black and the other races appear to save substantially less than whites and Asians. According to the descriptive statistics, Asians have highest level of savings (£149) followed by whites (£106). The other two races save less (approximately £80 per month). When comparing the 'raw' statistics, we can say that immigrants save slightly more (£113) than natives (£106). A more detailed dis-aggregation of saving behaviour of immigrants from different ethnic identity also indicates similar structure of savings. The remarkably high savings of Asian immigrants (£145) are clearly in contrast with that of the black (£60) and other immigrants (£85). White immigrants tend to have relatively higher savings level (£116) as well. In Figure A.2, Appendix A, a comparison of savings level of different ethnic groups is shown.

Now, as more than half of the sample has no savings, saving behaviour of the households can better be understood while observing only those with positive level of savings. Table 1 reports the percentage of households with non-zero savings and their mean level of savings. We have disaggregated the sample by demographic characteristics, age, education and occupation. As high as 75% of those with positive savings are male headed, with an average savings of £241 per month. In addition, a significant percentage of the middle-aged households also tend to save regularly, supporting the life-cycle theory. As expected, the non-zero savings is higher among the

households having at least one adult with higher degree as well as those with wage-employed people.

**Table 1: Saving Profile according to Age, Demographics, Education & Occupation**

|  | % of households who save on a monthly basis | Non-zero Mean Monthly Saving (£) |
|---|---|---|
| *Full Sample* | *48.39* | *218.22* |
| *Demographic Variables* | | |
| Male | 75.17 | 241.15 |
| Married | 60.31 | 250.12 |
| No Children | 67.89 | 222.60 |
| One or more Children | 32.11 | 208.96 |
| *Age* | | |
| 18-24 | 4.21 | 155.41 |
| 25-44 | 43.36 | 228.67 |
| 45-64 | 34.93 | 247.74 |
| 65 & above | 17.50 | 148.54 |
| *Education*[4] | | |
| Higher education | 54.34 | 268.01 |
| A level | 22.07 | 242.84 |
| O level | 31.29 | 214.49 |
| No education | 34.13 | 175.10 |
| *Occupation*[5] | | |
| Wage-employed | 75.04 | 239.53 |
| Self-employed | 13.07 | 285.89 |
| Un-employed | 04.42 | 174.58 |
| Not-employed | 41.32 | 185.03 |

Table 2 depicts the categorization of savers in terms of ethnicity and immigration status. As an overwhelming majority of the sample are white most of the savers are also of that ethnicity where as it is interesting to observe that although a very small percentage of savers are Asians this small group has the highest level of non-zero average monthly savings. They also appear to have the highest saving propensity irrespective of their country of birth where non-immigrants save more than immigrants. In terms of country of origin, although white immigrants save more than their native counterparts, black natives have higher savings than the immigrants of same ethnicity.

**Table 2: Saving Profile According to Ethnicity and Immigration Status**

|  | % of households who save on a monthly basis | Non-zero Mean Monthly Saving (£) |
|---|---|---|
| *Full Sample* | *48.39* | *218.22* |
| White | 96.84 | 218.38 |
| Black | 0.99 | 170.90 |
| Asian | 1.15 | 296.45 |
| Otherrace | 1.02 | 161.53 |
| *Immigrant* | | |

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[4] Atleast one adult member has corresponding level of education.
[5] Atleast one adult member belongs to corresponding occupation group.

| | | |
|---|---|---|
| All | 5.06 | 243.55 |
| White | 3.19 | 253.74 |
| Black | 0.41 | 147.60 |
| Asian | 0.96 | 292.11 |
| Other | 0.49 | 161.89 |
| *Native* | | |
| All | 94.94 | 216.87 |
| White | 93.64 | 217.17 |
| Black | 0.58 | 187.61 |
| Asian | 0.18 | 319.26 |
| Other | 0.54 | 161.21 |

## *4.2 Estimation Results*

In Table 3 estimation results of different specifications are presented. Given the panel structure of our data set, in addition to OLS both linear fixed effect (hereafter FE)[6] and linear random effect (hereafter RE) models have been estimated and according to Hausman specification test, fixed effect is the preferred alternative for our linear models.[7] However because of the censored nature of the dependent variable, we consider tobit specification rather than linear model as the preferred alternative.[8] In order to capture the panel dimension of the data set, random effect tobit model which captures the censored nature along with the panel structure is also estimated and we consider both linear tobit and RE tobit as the preferred specifications. While considering saving decision as a two stage process, a Heckman model of saving decision has also been estimated.[9]

According to simple OLS (column 1, Table 3) almost all immigrant and ethnic dummies came out as significant and we observe a significant impact of immigration status on saving behaviour. However it is interesting to note that being an 'immigrant' appears to have negative impact on savings: ceteris paribus a white immigrant tends to save 9.5% less than a native of similar ethnicity. In terms of ethnicity, a black as well as an Asian British with similar characteristics tends to have greater savings than a white local. The results of the pooled RE and FE models are somewhat in contrary to other

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[6]In traditional FE models, we are unable to analyze time invariant variables like ethnicity or country of birth. Therefore two alternative methodologies have been adopted: (a) we run FE with time-varying variables (FE1) and in the next step run simple OLS of the estimated FE on the time-invariant variables (as adopted by Sampson et al., 2005), (b) we also interacted the time invariant variables with a time-varying variable ('age' in this case) and run FE (FE2).

[7] chi2(34)=460.35, Prob>chi2=0.000

[8] For convenience of analysis, £1 is added to household savings so it is censored at 1.

[9] In the 1st step a probit model of the decision to save is estimated and in the 2nd stage amount of savings is modelled. For the purpose of identification of the models regional dummies are used only in the 1st stage.

models. According to FE1 model (column 3, Table 3) immigrants are found to have slightly higher level of savings and except for other races, ethnicity has not come out as significant. Similar result is reflected in the FE model with interactions (FE2, column 4, Table 3). The pooled RE model (column 5, Table 3) reflects the Asian native having higher propensity to save whereas the black immigrant with lesser level of savings.

In comparison to the pooled linear model, the censored model differs mainly in terms of the magnitude of coefficient estimates (column 6, Table 3). The negative impact of immigration status on household saving behaviour is also reflected in the tobit model and our estimation indicates that a white immigrant saves 11% less than a white native of similar characteristics. On the contrary, other things remaining constant, being black as well as being Asian tends to have positive effect on saving behaviour. In comparison to their white counterparts, a black British have 51% higher savings where the corresponding figure for their Asian counterparts is as high as 72%. The Asian immigrants although saves less than the Asian natives, they save 18% more than the white British. However, the estimation indicates no significant difference in saving pattern for the black immigrant.

According to RE tobit estimates (column 7, Table 3), in case of ethnicity and country of origin, estimation result reflects mixed outcome. It is mainly the Asian native and the black migrant who are found to have significantly different saving profile than a white British. Households of Asian ethnic background tend to save 64% more than their white counterparts with no significant difference between immigrants and natives. Among the immigrants, the black immigrants are found to save significantly less than the white British and ceteris paribus, the former is expected to have 30% lesser savings than the latter.

If we consider saving decision as a two step procedure then according to the selection equation of Heckman model (column 9, Table 3), in comparison to a white British both Asians as well as the black British have greater probability to save, whereas except the white immigrant, other groups of immigrants are not found to have significantly different probability. The 2nd stage of Heckman (column 8, Table 3) confirms the high savings of Asians along with the lesser savings of black immigrants.

In case of other covariates used in the estimation, our results are consistent across specifications. Households with members having 'O level' education or with more students or having non academic qualification along with those having non educated members tend to save significantly less than those with highly educated members. Ceteris paribus, married people are found to save significantly more than their unmarried counterparts whereas number of children tends to have negative effect on their saving behaviour. In comparison to a household with more self employed or unemployed member, those with more wage employed person tend to have higher level of savings.

It is believed that the individuals with greater level of income uncertainty or health risk or any other form of risk will tend to have higher level of savings to protect themselves in case of uncertain events. Therefore we have attempted to incorporate different measures of uncertainty in our analysis which provide evidence of 'precautionary saving' behaviour of the British households (Appendix B).

It is often argued that, saving behaviour is determined by permanent rather than current income and our existing models have been extended while disaggregating income into permanent and transitory components (Appendix C).

|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
|---|---|---|---|---|---|---|---|---|---|
| | OLS | FE1 | FE1 | FE2*** | RE | TOBIT | RETOBIT | HECKMAN | SELECTION |
| *Dep. variable* | *lnsaving* | *lnsaving* | *fitted saving* | *lnsaving* | *lnsaving* | *lnsaving* | *lnsaving* | *lnsaving* | *saving 0,1* |
| BlackBritish | 0.329 | | -0.005 | -0.048 | 0.045 | 0.511 | 0.294 | 0.115 | 0.277 |
| | (2.81)*** | | (0.99) | (1.21) | (0.22) | (4.21)*** | (1.48) | (1.38) | (4.08)*** |
| AsianBritish | 0.756 | | -0.011 | 0.040 | 0.695 | 0.720 | 0.643 | 0.558 | 0.309 |
| | (3.58)*** | | (0.96) | (0.67) | (2.26)** | (3.25)*** | (1.79)* | (3.69)*** | (2.39)** |
| OtherBritish | -0.108 | | 0.005 | -0.083 | -0.169 | -0.091 | -0.136 | -0.163 | -0.035 |
| | (0.94) | | (18.91)*** | (2.59)*** | (0.79) | (0.75) | (0.73) | (1.93)* | (0.51) |
| WhiteImmigrant | -0.095 | | 0.004 | -0.011 | -0.040 | -0.109 | -0.070 | -0.025 | -0.068 |
| | (2.08)** | | (5.39)*** | (0.71) | (0.54) | (2.18)** | (0.95) | (0.69) | (2.47)** |
| BlackImmigrant | -0.106 | | 0.002 | 0.049 | -0.303 | -0.090 | -0.301 | -0.184 | -0.025 |
| | (1.01) | | (0.89) | (1.41) | (1.76)* | (0.67) | (1.80)* | (1.94)* | (0.34) |
| AsianImmigrant | 0.229 | | -0.002 | -0.008 | 0.166 | 0.179 | 0.045 | 0.275 | 0.046 |
| | (2.59)*** | | (0.52) | (0.32) | (1.11) | (1.91)* | (0.30) | (4.29) | (0.87) |
| OtherImmigrant | -0.176 | | -0.007 | 0.015 | -0.216 | -0.062 | -0.115 | -0.249 | 0.000 |
| | (1.46) | | (1.12) | (0.48) | (1.00) | (0.47) | (0.57) | (2.77) | (0.00) |
| LnIncome | 0.931 | 0.402 | | 0.403 | 0.604 | 1.038 | 0.710 | 0.994 | 0.440 |
| | (53.03)*** | (19.91)*** | | (19.91)*** | (35.78)*** | (58.50)*** | (39.09)*** | (33.91)*** | (45.86)*** |
| Age1 | -0.030 | 0.027 | | 0.029 | 0.004 | -0.012 | 0.011 | -0.017 | -0.007 |
| | (2.69)*** | (1.34) | | (1.44) | (0.29) | (0.87) | (0.80) | (1.67)* | (0.96) |
| Age2 | 0.012 | 0.029 | | 0.031 | 0.013 | 0.010 | 0.010 | 0.003 | 0.007 |
| | (6.61)*** | (6.15)*** | | (4.86)*** | (5.60)*** | (4.85)*** | (4.06)*** | (2.09)** | (5.93)*** |
| Age3 | -0.003 | 0.012 | | 0.013 | -0.000 | 0.003 | 0.007 | 0.004 | 0.000 |
| | (1.18) | (2.33)** | | (1.94)* | (0.12) | (1.34) | (2.35)** | (2.50)** | (0.07) |
| Age4 | 0.003 | 0.006 | | 0.007 | 0.004 | -0.002 | 0.002 | -0.007 | 0.001 |
| | (1.45) | (1.31) | | (1.33) | (1.29) | (0.60) | (0.70) | (2.94)*** | (0.63) |
| Intercept65 | 0.076 | -0.072 | | -0.073 | 0.002 | 0.194 | 0.076 | 0.099 | 0.088 |
| | (1.85)* | (1.31) | | (1.33) | (0.05) | (4.07)*** | (1.57) | (2.83)*** | (3.42)*** |
| Male | 0.117 | | -0.002 | -0.000 | 0.160 | 0.123 | 0.142 | 0.188 | 0.036 |
| | (5.61)*** | | (2.89)*** | (0.08) | (5.11)*** | (5.11)*** | (4.48)*** | (10.88)*** | (2.76)*** |

The table title "Table 3: Key Estimation Results*,**" appears at the top.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Married | 0.266 | 0.070 | | 0.069 | 0.193 | 0.232 | 0.152 | 0.202 | 0.106 |
| | (10.58)*** | (1.48) | | (1.46) | (6.20)*** | (8.78)*** | (4.94)*** | (10.44)*** | (7.16)*** |
| LnHHSize | 0.173 | 0.897 | | 0.899 | 0.546 | 0.239 | 0.575 | -0.032 | 0.161 |
| | (5.67)*** | (17.53)*** | | (17.57)*** | (15.41)*** | (7.47)*** | (16.19)*** | (1.31) | (8.96)*** |
| Children | -0.317 | -0.480 | | -0.481 | -0.409 | -0.331 | -0.396 | -0.196 | -0.173 |
| | (22.87)*** | (20.48)*** | | (20.48)*** | (25.01)*** | (22.15)*** | (24.03)*** | (13.76)*** | (20.69)*** |
| Alevel | 0.042 | 0.235 | | 0.239 | 0.031 | 0.102 | 0.085 | -0.020 | 0.074 |
| | (1.10) | (3.03)*** | | (3.08)*** | (0.64) | (2.54)** | (1.72)* | (0.73) | (3.30)*** |
| Olevel | -0.247 | 0.100 | | 0.100 | -0.237 | -0.145 | -0.149 | -0.174 | -0.059 |
| | (8.05)*** | (1.32) | | (1.32) | (5.60)*** | (4.44)*** | (3.51)*** | (7.66)*** | (3.25)*** |
| OtherEducation | -0.294 | 0.020 | | 0.028 | -0.315 | -0.180 | -0.199 | -0.262 | -0.067 |
| | (7.51)*** | (0.15) | | (0.21) | (5.42)*** | (3.98)*** | (3.33)*** | (8.14)*** | (2.73)*** |
| Student | -0.790 | -0.318 | | -0.326 | -0.693 | -0.783 | -0.705 | -0.687 | -0.355 |
| | (2.56)** | (0.45) | | (0.46) | (1.99)** | (1.73)* | (1.46) | (2.02)** | (1.49) |
| NoEducation | -0.641 | -0.196 | | -0.194 | -0.685 | -0.658 | -0.672 | -0.507 | -0.296 |
| | (23.48)*** | (2.34)** | | (2.32)** | (18.16)*** | (21.56)*** | (17.08)*** | (18.41)*** | (17.92)*** |
| Selfemployed | -0.302 | -0.206 | | -0.207 | -0.290 | -0.318 | -0.274 | 0.111 | -0.234 |
| | (6.12)*** | (2.81)*** | | (2.83)*** | (5.03)*** | (6.86)*** | (5.22)*** | (3.19)*** | (9.06)*** |
| Unemployed | -1.318 | -1.014 | | -1.013 | -1.198 | -1.897 | -1.646 | -1.042 | -0.909 |
| | (30.83)*** | (18.57)*** | | (18.55)*** | (28.00)*** | (27.54)*** | (25.76)*** | (12.97)*** | (25.41)*** |
| Notemployed | -0.831 | -0.872 | | -0.873 | -0.914 | -0.957 | -1.020 | -0.486 | -0.483 |
| | (28.60)*** | (21.41)*** | | (21.44)*** | (29.03)*** | (28.79)*** | (29.17)*** | (12.83)*** | (26.89)*** |
| Constant | -4.166 | -1.017 | 0.996 | -1.028 | -2.089 | -12.928 | -8.651 | -3.378 | -3.232 |
| | (27.88)*** | (3.90)*** | (2382.97)*** | (3.82)*** | (13.24)*** | (44.83)*** | (28.96)*** | (11.67)*** | (38.09)*** |
| Observations | 72904 | 72904 | 73291 | 72904 | 72904 | 72904 | 72904 | 72904 | 72904 |
| R-squared | 0.252 | 0.055 | 0.000 | 0.055 | | | | | |
| No. of cross-wave person identifier | | 15027 | | 15027 | 15027 | | 15027 | | |

 t statistics in parentheses; * significant at 10%; ** significant at 5%; *** significant at 1%

*Regional dummies are included in the model but not shown in the table; **For tobit and RE tobit the relevant coefficients are marginal effects conditional on censoring and evaluated at the means of the individual variables; ***For the time-invariant variables the coefficients are interaction of revenant variables with 'age'.

*4.3 Decomposition Analysis*

Our linear as well as censored regressions indicate significant impact of ethnicities as well as immigration status on people's saving behaviour. In this regard it is important to consider that, people of different ethnicities or of country of origin could have different saving profile if they differ in terms of income, household composition, demographic profile, educational or occupational achievements. It is of interest to examine if, after controlling for such differences, there exists any difference, due solely on the basis of immigration status or ethnic background. In this regard, we use the 'Blinder-Oaxaca decomposition' technique, which decomposes the differential into that due to endowments (eg. differences in the level of education, occupation, household composition etc.) and that due to differences in unexplained part (effect of coefficient and model constant). Given the censored nature of our model the results of both OLS and pooled tobit estimates (based on the estimation results of Table 3) have been analyzed which are shown in Table 4 and Table 5 respectively. In terms of results although there are differences in the magnitude, in broad term both sets of analyses suggest similar conclusion.

From the decomposition of OLS results, it seems that the differential between the white native and the Asian native arises mainly due to the difference in returns to income where the endowment effect is negligible in comparison to the coefficient effect. Differences can also be attributable to age and household compositional features (see Appendix D for detailed analysis). As a whole, the saving differential is contributed mainly by the coefficients rather than the characteristics. Similar factors are important for the saving profile of Asian immigrants and coefficients again play the dominant role.

From the results of Table 4, for the black immigrant we however find the opposite conclusion as most of the saving differential (72%) can be explained by the differences between endowments. Although there is significant difference in income, age, household size etc. (Appendix D) arising from the 'unexplainable' part, such effect is compensated by the 'explainable' endowment and 'unexplainable' shift effects and as a whole the endowment effect dominates. For the black British, difference in return to income plays the major role for their high saving propensity but it is both endowments as well as coefficients which determine the saving differential.

After controlling for ethnicity, immigration solely could be an influential factor and endowments could only explain 20% of the saving differential between the white immigrant and the indigenous people of the same ethnicity.

As reflected in Table 4, 62% of the saving differential between the indigenous people and the immigrant arises from the 'unexplainable' portion where the differences seem to come from the differences in income, household size, age and gender with coefficients playing the dominant role (Appendix D).

As argued by Bauer and Sinning (2005), in case of the censored model, traditional Oaxaca decomposition methodology will not be appropriate as it ignores the variance of the error term of the model.[10] They proposed alternative decomposition technique in case of non-linear outcome variable (in our case 'tobit'). In Table 5, we decomposed our result while following their methodology, therefore incorporating the non-linearity in the decomposition analysis. Decomposition results based on tobit estimates suggest similar finding to those of the OLS and except for the black immigrants in all other cases, endowment could explain only a small percentage of saving differential.

As a whole Table 4 and Table 5 indicate that, irrespective of the type of model used, the difference is generated primarily from some 'unexplainable' factors rather than from the differences in skill level or other endowments. In the context of the immigrant and ethnic minority, we could think about the important effect of the difference in *taste* towards consumption and savings. While following Carroll et al. (1992, 2001) such a taste factor can be considered as a combination of *immigration effect* and/or *cultural effect*. Broadly speaking the former can be thought as the effect from being an immigrant, which is common to all immigrants whereas the latter might be the effect specific to certain ethnicity or immigrant community (Carroll et al. 1992, pp. 690-691). In case of the immigrants with different ethnicities, we could consider the cultural effect playing key role for the difference in saving behaviour. On the other hand, due to immigration effect people of same ethnic group but of different country of birth might exhibit different preference towards savings. In terms of our decomposition analysis,

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[10] For detailed discussion, see Bauer & Sinning (2005).

the difference in savings between the white native and the Asian or the black native could be influenced, amongst other factors by certain cultural features. On the contrary, a major part of the unexplained part of the difference in savings between the white native with their immigrant counterparts could be attributable to the immigration effect. Both cultural as well as immigration effect could prevail in case of the savings differential between the white native with the Asian immigrants. However, while interpreting the results, it should be kept in mind that our analysis has disaggregated the households only into four major ethnic categories and within each category there could be considerable heterogeneity in terms of cultural differences and due to small sample size it was not possible to examine such savings differential in greater detail.

| Table 4: Oaxaca Decomposition (OLS estimates)[11][12] | | | | | | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| | White Natives vs. Asian Native | White Natives vs. Asian Immigrant | White Natives vs. Black Native | White Natives vs. Black Immigrants | White Native vs. White Immigrant | Natives vs. Immigrants |
| Raw Differential[13] | -0.474 | -0.221 | -0.014 | 0.484 | 0.100 | 0.065 |
| Amount Attributable to Endowments[14] | 0.286 | -0.011 | 0.246 | 0.348 | 0.019 | 0.025 |
| Amount Attributable to Coefficients[15] | 4.281 | 2.674 | 4.850 | 4.673 | 2.392 | 2.071 |
| Effect of Shift Coefficient[16] | -5.041 | -2.884 | -5.109 | -4.538 | -2.312 | -2.031 |
| Adjusted Differential[17] | -0.76 | -0.221 | -0.259 | 0.135 | 0.080 | 0.040 |
| Endowment as a Ratio of Total | -0.603 | 0.050 | -17.90 | 0.720 | 0.195 | 0.382 |
| Unexplained Factor as a Ratio of Total | 1.603 | 0.950 | -18.90 | 0.280 | 0.805 | 0.618 |

| Table 5: Oaxaca Decomposition (TOBIT estimates)[18] | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | (1) | | (2) | | (3) | | (4) | | (5) | | (6) | |
| | White Native vs. Asian Native | | White Native vs. Asian Immigrant | | White Native vs. Black Native | | White Native vs. Black Immigrant | | Native vs. Immigrant | | White Native vs. White Immigrant | |
| | Omega =1 | Omega =0 | Omega =1 | Omega =0 | Omega =1 | Omega =0 | Omega =1 | Omega a=0 | Omega =1 | Omega =0 | Omega =1 | Omega= 0 |
| Raw Differential | -0.521 | -0.521 | -0.219 | -0.219 | -0.015 | -0.015 | 0.453 | 0.453 | 0.061 | 0.061 | 0.094 | 0.094 |
| Endowments | 0.559 | 8.911 | 0.093 | 0.062 | 0.282 | 0.241 | 0.540 | 0.283 | 0.014 | -0.092 | -0.019 | -0.108 |
| Coefficients | -1.080 | -9.432 | -0.312 | -0.281 | -0.297 | -0.257 | -0.087 | 0.169 | 0.047 | 0.153 | 0.112 | 0.201 |
| Endowment as a Ratio of Total | -1.072 | -17.09 | -0.426 | -0.284 | -18.37 | -15.72 | 1.193 | 0.626 | 0.230 | 1.501 | -0.20 | -1.153 |
| Unexplainable Factor as a Ratio of Total | 2.072 | 18.09 | 1.426 | 1.284 | 19.37 | 16.72 | -0.193 | 0.374 | 0.769 | 2.501 | 1.20 | 2.153 |

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[11] We consider 'white native' as the base category.

[12] Positive number indicates white native having higher savings and negative sign implies white natives having lower savings than the other category.

[13] It is the sum of the contribution of endowments, coefficients on covariates and shift coefficient.

[14] It is the sum of the contribution of all endowments used in the model.

[15] It is the sum of the contribution of coefficients.

[16] It captures the difference between model constants.

[17] It is the sum of the effect of coefficients on covariates and shift coefficient.

[18] Omega is the weighting matrix of decomposition analysis.

## 5. Conclusion

As discussed in the theoretical section, due to various socio-economic factors immigrants are expected to exhibit different saving pattern than that of the natives. In addition, based on their ethnicity and country of origin, there could be interesting divergence among them as well. The existing theoretical models although suggest in favour of expected higher savings of the immigrants, the analyses do not seem to capture relevant empirical regularities. From our estimates, it appears that in comparison to the natives, immigrants save significantly less. The Asian British as well as the black British appears to have higher saving profile in comparison to their white counterparts. Black immigrants however exhibit lesser savings in comparison to the white indigenous people. As a whole saving behaviour of the immigrants indicate lesser saving propensity of the immigrants with diverse pattern across different ethnicities.

On the basis of the decomposition analysis, it also appears that the saving differential is attributable primarily to certain 'unexplainable' factors rather than to the differences in endowments. Therefore in the context of the UK, saving pattern of different ethnicities and country of origin is likely to reflect diverse cultural origin and/or distinct preference pattern. In addition, our estimations also provide evidence in favour of 'precautionary motive', suggesting strong tendency of the British households to accumulate higher savings in the face of greater income uncertainty.

Although our results provide interesting insights into the saving behaviour of the immigrants, smaller number of observations of ethnic minorities and immigrants in the data set constrains us from analyzing the saving behaviour of each class in greater detail. Moreover, as discussed in the theoretical section, information on expected future duration of stay and data on remittance payment could shed more light on the analysis. Finally, it is important to note that, our analysis only deals with the 'formal' savings reported by the households and therefore has not captured the savings made in 'informal' and/or in 'non-reported' forms. Information on informal savings would provide us with better understanding of the pattern of savings. Further analysis on the saving behaviour of different groups therefore centres on the availability of a larger data set with detailed information on relevant variables.

**Appendix A: Graph of Savings Pattern**

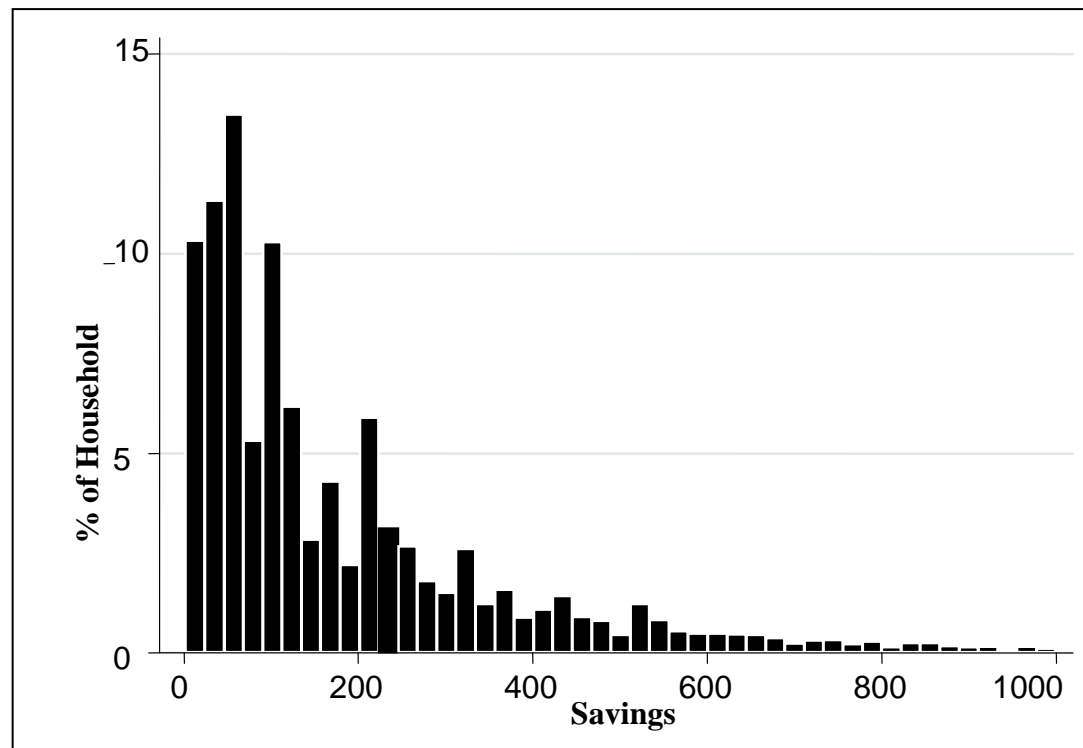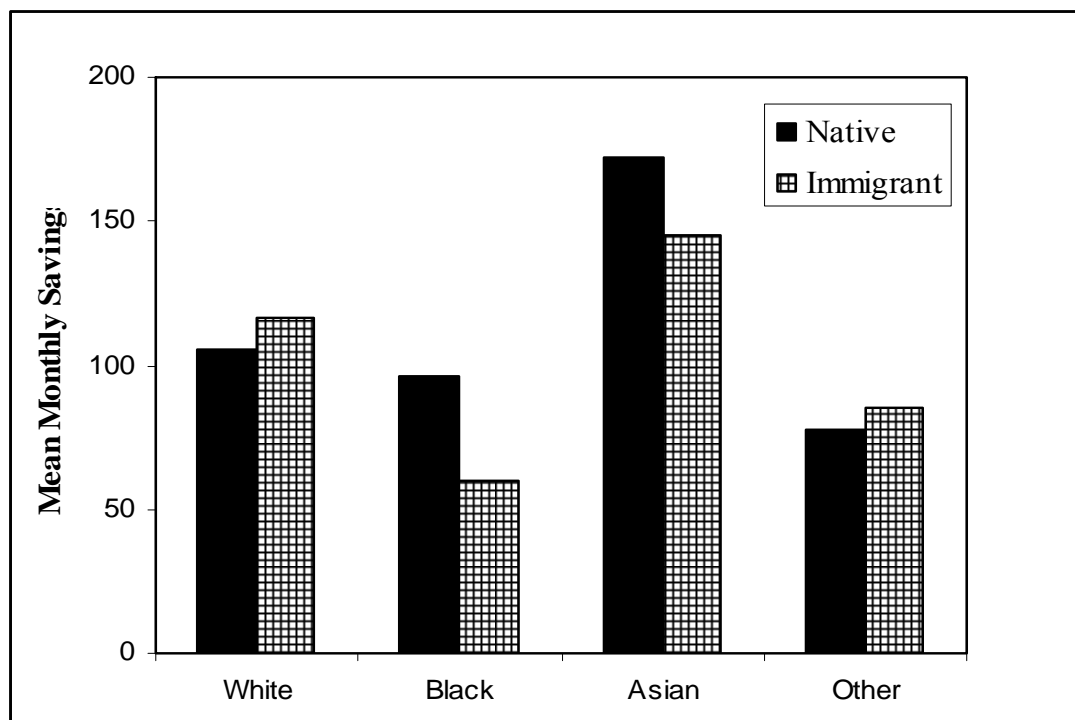**Figure A.1: Distribution of Household Savings (in £)**



**Figure A.2: Mean Monthly Savings (in £) across Different Groups**

**Appendix B: Effect of Uncertainty on Saving Behaviour**

In order to capture uncertainty we have worked with 4 different proxy variables. While utilizing the panel dimension of the sample, the 1st measure of uncertainty (VAR1) is calculated as the variance of the residual of income (Guariglia, 2001).[19] While following Carroll (1998), VAR2 is simply the variance of the log of income. For the 3rd measure (VAR3), we considered the ratio of household income to the predicted income obtained from a fitted regression (Carroll et al. 1992, Guariglia 1998).[20] For health uncertainty, an indicator variable (VAR4) ranging from 1 to 5 have been incorporated which reflects individual's health status where 1 denotes extremely good health and 5 represents very bad status (Guariglia 1998).

According to Table B.1, for VAR1 and VAR4 the sign of the coefficients are in contrast to our prior expectation. On the basis of OLS estimates, the sign and significance of the other two variables indicate that the households are behaving according to the precautionary motive and they tend to have higher savings in the face of greater income risk.

**Table B.1: Effect of Uncertainty on Saving Behaviour** [*,**]

|  | (1) | (2) | (3) |
|---|---|---|---|
|  | OLS | TOBIT | RETOBIT |
|  | lnsaving | lnsaving | lnsaving |
| VAR1 | -1.90e-09 | -5.12e-09 | -2.64e-09 |
|  | (2.84)*** | (4.16)*** | (1.48) |
| VAR2 | 0.047 | 0.015 | 0.004 |
|  | (2.32)*** | (0.75) | (0.18) |
| VAR3 | 0.178 | 0.016 | 0.018 |
|  | (4.47)*** | (0.64) | (0.82) |
| VAR4 | -0.171 | -0.190 | -0.109 |
|  | (18.95)*** | (17.80)*** | (9.82) |
| BlackBritish | 0.344 | 0.527 | 0.385 |
|  | (2.77)*** | (4.05)*** | (1.73)* |
| AsianBritish | 0.644 | 0.497 | 0.248 |
|  | (2.84)*** | (1.94)* | (0.65) |

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[19] For each year, we have regressed income on age, age squared, household and demographic variables, education and occupation dummies and the interaction of the last 2 sets of dummies with age and age squared. VAR1 is the variance of the residual obtained from this regression.
[20] We have calculated the average household income for each year of the panel and then divided each household's income by this average and this is the detrended income. In the next step, we have regressed this ratio on age, age squared, educational dummies, occupational dummies and the interaction of these two groups of dummies with age and age-squared. VAR4 is the ratio of each household's income to the fitted value obtained from this regression.

| | | | |
|---|---|---|---|
| OtherBritish | -0.138 | -0.092 | -0.161 |
| | (1.12) | (0.70) | (0.79) |
| WhiteImmigrant | -0.096 | -0.093 | -0.041 |
| | (1.95)* | (1.73)* | (0.51) |
| BlackImmigrant | -0.043 | -0.015 | -0.255 |
| | (0.38) | (0.10) | (1.34) |
| AsianImmigrant | 0.255 | 0.206 | 0.003 |
| | (2.69)*** | (2.04)*** | (0.02) |
| OtherImmigrant | -0.124 | -0.040 | -0.089 |
| | (0.97) | (0.28) | (0.39) |
| Observations | 63092 | 63092 | 63092 |
| Number of cross-wave person identifier | | | 14991 |
| t statistics in parentheses; * significant at 10%; ** significant at 5%; *** significant at 1% | | | |

*For brevity only the key variables are shown in the table; **For tobit and RE tobit the relevant coefficients are marginal effects conditional on censoring and are evaluated at the means of the individual variable.

## Appendix C: Permanent Income and Savings

We estimate permanent income while following Guiso et al. (1992) but rather than considering only earnings/labour income, total (labour as well as non-labour) income has been considered. In addition, for the cohort effect we have constrained households at the age of 65. According to Guiso et al. (1992), permanent income of a respondent (head of household) of age '$a_0$' can be expressed as:

$$Y(a_0) = Zb + (65 - a_0 + 1)^{-1} \sum_{a=a_0}^{65} f(a)$$

where 'Z' is a vector of household characteristics and f(a) is a quadratic function of age capturing cohort effect. In Table C.1 we re-estimate the main regressions while considering permanent and transitory income as explanatory variables. Here both forms of income appear to have strong positive impact on savings and it is interesting to observe the high responsiveness of savings to transitory income in particular.

## Table C.1: Permanent & Transitory Income and Saving Behaviour [*],[**]

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| | OLS | TOBIT | RETOBIT | HECKMAN |
| | lnsaving | lnsaving | lnsaving | lnsaving |
| Ln permanent income | 1.313 | 1.304 | 1.224 | 0.108 |
| | (13.90)*** | (12.27)*** | (10.36)*** | (1.51) |
| Ln transitory income | 2.683 | 2.319 | 1.698 | 1.317 |
| | (55.42)*** | (56.48)*** | (38.21)*** | (25.48)*** |

| | | | | |
|---|---|---|---|---|
| BlackBritish | 0.294 | 0.438 | 0.186 | -0.121 |
| | (2.62)*** | (3.59)*** | (0.97) | (1.67)* |
| AsianBritish | 0.619 | 0.559 | 0.477 | 0.308 |
| | (3.06)*** | (2.52)** | (1.38) | (2.38)** |
| OtherBritish | -0.087 | -0.078 | -0.121 | -0.090 |
| | (0.74) | (0.63) | (0.65) | (1.21) |
| WhiteImmigrant | -0.133 | -0.142 | -0.087 | 0.028 |
| | (2.91)*** | (2.80)*** | (1.20) | (0.88) |
| BlackImmigrant | -0.058 | -0.064 | -0.294 | -0.072 |
| | (0.55) | (0.47) | (1.71) | (0.86) |
| AsianImmigrant | 0.173 | 0.109 | -0.037 | 0.274 |
| | (1.97)** | (1.15) | (0.25) | (4.90)*** |
| OtherImmigrant | -0.158 | -0.072 | -0.121 | -0.202 |
| | (1.26) | (0.54) | (0.60) | (2.57)** |
| Observations | 71969 | 71969 | 71969 | 71969 |
| Number of cross-wave person identifier | | | 14991 | |
| t statistics in parentheses; * significant at 10%; ** significant at 5%; *** significant at 1% | | | | |

*For brevity only the key variables are shown in the table; **For tobit and RE tobit the relevant coefficients are marginal effects conditional on censoring and evaluated at the means of the individual variable.

**Appendix D: Decomposition Analysis**

**Table D.1: Decomposition Result as % of Variables (based on the OLS estimates of Table 3)**

| Variable | White Native vs. Asian Native | | White Native vs. Asian Immigrants | | White Native vs. Black Native | | White Native vs. Black Immigrant | | Native vs ImImmigrant | | White Native vs. White Immigrant | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Endowment | Coefficient | Endowment | Coefficient | Endowment | Coefficient | Endowment | Coefficient | Endowment | Coefficient | Endowment | Coefficient |
| lnincome | 11.8 | 451.2 | -17.5 | 149.4 | 15.2 | 521.1 | 10.4 | 575.0 | -2.7 | 175.4 | 0.9 | 182.8 |
| Age1 | -1.4 | 150.8 | 0.2 | 104.7 | -0.7 | -0.5 | 0.2 | -65.2 | 0.1 | -0.3 | -0.0 | -3.9 |
| Age2 | 12.1 | -66.7 | 0.6 | -5.8 | 9.4 | -1.6 | -1.6 | -49.3 | -0.3 | 7.0 | -0.1 | 20.7 |
| Age3 | 1.3 | 0.0 | 0.7 | 0.3 | -1.2 | 4.5 | -0.3 | 5.4 | -0.2 | 10.6 | 0.0 | 18.3 |
| Age4 | | | | | 1.4 | 11.8 | 1.0 | -10.0 | 0.3 | 8.1 | -0.1 | 13.8 |
| Intercept65 | | | | | 0.7 | -14.1 | 0.4 | 10.8 | 0.1 | -18.4 | -0.1 | -31.2 |
| Male | -0.5 | -77.1 | -1.2 | -64.3 | 2.4 | -18.2 | 1.2 | -1.9 | 0.4 | -17.7 | 0.7 | -11.9 |
| Married | -1.4 | -5.6 | -7.9 | 118.7 | 9.7 | -24.2 | 2.3 | 7.2 | -0.3 | 14.2 | 1.8 | 4.2 |
| lnHHsize | -3.9 | -25.6 | -7.1 | -69.4 | 0.7 | -47.7 | -2.5 | -124.4 | -1.0 | -34.9 | 1.0 | -8.5 |
| Children | 18.3 | 51.9 | 30.6 | -1.9 | 4.6 | -3.4 | 11.2 | 21.9 | 4.8 | -0.1 | -2.9 | -5.7 |
| Aevel | -0.6 | 6.9 | 0.2 | -7.6 | -0.3 | 14.4 | 0.4 | 4.0 | 0.1 | 1.9 | -0.0 | 3.6 |
| Olevel | -2.7 | 1.9 | -1.7 | -15.9 | -0.3 | 3.2 | -1.5 | 8.7 | -1.4 | 3.1 | -1.2 | 4.6 |
| Othereducation | -2.1 | -0.4 | 0.4 | -0.4 | -1.0 | -1.3 | 0.6 | 9.5 | 0.7 | 1.5 | 0.6 | 1.3 |
| Student | | | | | 0.2 | 0.7 | 0.2 | 0.2 | -0.0 | -0.1 | -0.0 | -0.1 |
| Noeducation | -7.2 | -0.5 | -1.2 | 8.0 | -10.0 | 7.9 | 0.7 | 32.3 | -2.9 | 5.5 | -3.4 | 1.1 |
| Selfemployed | -1.2 | 0.7 | 1.1 | 12.5 | 0.7 | -4.0 | -0.7 | -0.2 | 0.5 | 8.6 | 0.7 | 8.4 |
| Unemployed | 6.0 | -11.4 | 5.7 | 7.9 | 4.0 | -3.1 | 9.6 | 4.3 | 2.2 | 3.2 | 0.1 | 2.2 |
| Notemployed | -4.2 | -41.0 | -5.8 | 18.4 | -13.0 | -0.9 | -3.1 | 14.6 | -2.2 | 12.1 | -0.1 | 13.4 |

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