Socio-economic Attributes and Characteristics of the Wealth Portfolios of Salaried Middle and Upper Income Employees in Kenya

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Abstract

Personal wealth as denoted by accumulated net assets is a key ingredient of a people's standards of living. This is because wealth facilitates consumption, especially in old age, cushions people against adversities such as illness and unemployment as well as enables further wealth creation through access to bank credit. The assets that comprise wealth include cash and bank balances, properties, shares in cooperatives and listed companies, life assurance policies, accrued pension benefits, corporate bonds, and treasury bills and bonds.

This article examines size and composition of the wealth portfolios of salaried middle and upper income employees in Kenya in order to find out personal attributes that are key determinants of the portfolios. Primary data was obtained from questionnaires that were administered on a stratified random sample of 1,067 salaried middle and upper income employees in Kenya in mid 2010, the time of survey. The preliminary tests employed the Kaiser Mayer-Olkin (KMO) and Bartlett's Test based on correlation and partial correlation as well as

the results of Bartlett's Test of sphericity to test for the presence of correlations among variables. For this paper, the results KMO measure of sampling adequacy of 0.758 was acceptable, since it was higher than the recommended minimum of 0.50. Additionally, the Bartlett's Test of sphericity recorded an acceptable p-value of 0.000, which was lower than the test value of 0.05 percent, thereby indicating that there is correlation between the variables.

To establish the determinants of the wealth portfolios of employees in Kenya, 21variables were used. These variables were analyzed using factor analysis procedure and in order to achieve a simple and meaningful structure, that is, have a nonzero loading of the explained variance for each individual factors, varimax rotation was done. As a result, six critical factors were established as the determinants of wealth portfolios of salaried middle and upper income employees, which include earning capacity, life cycle factors, investment objective, employee's cultural background, employees' risk taking behavior and savings. The findings largely conform to theory and corroborate evidence from prior studies.

Key words: *assets, attributes, characteristics, salaried middle and upper income employees, socio-economic, wealth portfolios*

Introduction

Among developed countries, frontier on wealth holding emerged recently due to widespread financial reforms, investment product innovations, availability of wealth data and advances in analytical techniques (Guiso, Haliassos and Jappelli 2002). This has led researchers on personal wealth to adopt micro-level approaches that employ modern principles of personal finance to examine, prescribe and describe investment processes and their asset holding outcomes. The focus of such studies has been how families and individuals obtain, budget, save and spend monetary resources over time, taking into account various financial risks and future life components.

Studies by Browning and Crossley, (2000), Munnnell, Webb and Delorme (2006) among others, report that these private resources, also referred to as personal wealth portfolios, are usually inadequate and vastly dissimilar among comparable households and individuals.

The publication by Adam Smith titled 'The Wealth of Nations', marking the start of classical economics (Smith, 1776) is often cited as the earliest substantive discourse on wealth. Informed by this publication, economics was re-orientated away from analyzing rulers' personal possessions in feudal systems and directed to examining asset class-based interests. Henceforth, the wealth of a nation was represented by yearly national income comprising rent to landlords, interest to capital and wages to labor. In these works, Adam Smith further opined that religion is a key determinant of wealth and economic development.

The next wave of interest in wealth occurred much later during the great depression of the 1930s, when high unemployment and low production signaled the failure of classical economists' premise that economies generally tend towards equilibrium and full employment (Keynes, 1936). According to Galeotti and Karakostas (2010), this ushered in neoclassical economics that was based on the assumptions of rational preferences, maximizing income-constrained utility, and efficient market hypothesis. After holding ground for half a century, these foundations were informed by new knowledge from analyses of survey data and experiments showing that peoples' behavior systematically deviates from the predictions of traditional finance and neoclassical economic theory, Kahneman and Tversky (1979). The findings inspired researchers to incorporate psychology into wealth models thereby giving birth to behavioral finance and behavioral economics.

A large proportion of the innovative approaches to the study of personal wealth portfolios were evidently originated in the U.S., thereafter spreading to other developed countries. According to Torche and Spilerman (2007), recent literature on personal wealth portfolios in these countries is centered

on three aspects. The first are descriptive studies of wealth holding; the second are investigations into the determinants of household wealth accumulation and parental motives in making wealth transfers while the third is the effect of household wealth on various outcome measures. Some key elements in these studies are the circumstances and the underlying theories that are applied in the study of personal wealth.

In Kenya, employees form an economically significant group. For instance, GoK (1998) shows that employees supported about one third of all the country's households; public sector employees supporting 14.2 percent and formal private sector supporting 17.4 percent. Comprising about 5 percent of the country's population in 2008, their employment income accounted for about one-third of Kenya's Gross Domestic Product (GDP). Also, other publications (Central Bank of Kenya (CBK) 2009) show that salaries and wages paid by the exchequer comprised about one third of recurrent expenditure in 2008/09. A useful insight is given by the report of 1998/99 Integrated Labour Force Survey (ILFS) where GoK (2003a) classified employed persons in Kenya into two. The first category are those in paid employment while the second group are those in self employment who are either at work for profit or family gain in cash or in kind, and those with an enterprise but not at work.

The analogy described above enabled this research to select middle and upper income employees as the targets for this study; a sizeable group with reasonable income to save and invest. Furthermore, the 1993/94 nation-wide survey indicated that middle/upper income households comprised about 20 percent of the urban population whilst the 2005/06 study showed that they comprise 27.9 percent of the Nairobi urban households. On these premises, the subjects of this research were about one quarter of the population of salaried employees and therefore were expected to yield important lessons to inform research, practice and policy.

Analyses of the issue pertaining to this research entailed inquiring into what personal socio-economic attributes and characteristics potentially

explain the monetary size of the wealth portfolios of salaried middle and upper income employees in Kenya. Regarding salaried middle and upper income employees in Kenya, the objective of this research was establish which personal attributes and characteristics explain the wealth portfolios of these employees. This research examined primary data that was gathered from responses by a sample of employees in Kenya. The sample elements comprised randomly selected public and private sector salaried middle and upper income earners. The field work for this research was carried out between March and September 2010.

Materials and Methods

A quantitative methodology was employed to collect primary data from the sampled respondents. Primary data for this study was derived from the demographics and the self-declared wealth of the sampling units, the individual employees in the target population. A complete register of salaried middle and upper income employees was, however, not available from which the sampling units could be drawn. To overcome the problem, a proportionate stratified random sample of employees based on Statistical Abstract 2009 was selected, which was the most recent Kenya Government report that has relevant data for the purpose of this research. The choice of the primary sampling units which was by industry types as listed in the Statistical Abstract was informed by the intuition that industry type is likely to influence employee wealth holding a lot more than physical location, which is the commonly used basis for area probability sampling in published national wealth studies in other countries.

The target population in this research comprised all the salaried middle and upper income employees in Kenya at the time of data collection in mid 2010. According to Statistical Abstract 2009, employees include those engaged in the production of public services in central government, local government, state corporations and semi autonomous governmental agencies.

The estimate of the range of earnings for the target group was obtained by adopting the lower limit of monthly income of KShs 23,670 in Kenya Integrated Household Budget Survey (KIHBS) 2005/06 for middle income households as reported in GoK (2008c) and multiplying it by the annual average increase in earnings of all employees in Kenya. The Economic Surveys (GoK, 2008a; GoK, 2009b) show that the annual average wage increases were 10.8 percent and 8.4 percent for the two years. Applying these factors yielded a lower limit of employment earnings of Shs28,000 per month. The wage employees in Kenya in 2008 totaled 1.9 million (GoK, 2009a) whereby those in the lower income group comprised 89.2 percent while the middle and upper income group was 10.8 percent and accounted for an estimated 49.6 percent of the total employment earnings of employees. The highest paid group according to the Statistical Abstract had monthly earnings of KShs 30,000 and above, which comprised of 69,548 employees, about 3.6 percent of the total. For this reason, it was not feasible to compute from the national statistics separate totals for middle and upper income employees. Subsequently, responses on income levels were used to classify them into either middle income or upper income employees.

The private sector sample of employees was drawn from those earning a minimum gross employment income of KShs 28,000 per month. In the public sector, the classification of salaried middle and upper income employees was derived from the Republic of Kenya (2006) report which analyzed all the employees from job group "A" to "V" in numbers and average monthly basic salary. The upper cut-off for lower income employees was determined to be at job group F, where the average monthly basic pay was KShs 17,502. The next cadre was job group G with an average monthly basic pay of KShs 24,105. Based on these workings, middle and upper income public sector employees were determined to comprise officers in job groups G and above. Indeed, the resulting

classification was supported by existing functional categories in the public sector where support staff is designated as job groups G to J; technical staff is job groups K to N; senior managers is job groups P to R and policy makers is job groups S to V. The earning limits indicated above were then applied on the employment figures in Statistical Abstract 2009 to generate the estimated numbers of employees by income classification

An alpha level of 5 percent was used in line with similar researches on wealth (Kennickell, 2000; Mitchell and Moore 1997; Arrondel and Mason, 2002). Since the population variance with respect to the dependent variable was unknown and also because wealth was measured by a continuous variable, the sample size estimate followed the recommendations by Cochran (1977), Bartlett, Kortlik and Higgins (2001) and Sekaran (2003) and a sample of 1,067 represented the target population. This sample size was considered adequate for the current study on account of the systematic and scientific manner in which it was computed. The calculated sample of 1,067 employees was selected from nine industry categories based on the proportions of the estimated number of middle and upper income employees that were computed from Statistical Abstract 2009. The estimated number of employees in the income bracket of interest, the relative proportions and therefore proportionate sample sizes are summarized in Table 1 below.

Sector establishments were used to identify a sub-sample of institutions from which to select the respondents. For the eight industry groups in the private sector, the national institutions membership lists of the Federation of Kenya Employers and Kenya Bankers Association was used to generate the top 20 establishments by number of employees in each industry. Using national membership lists guaranteed that the sample was distributed out in the whole country. From these lists, three establishments were selected by simple random sampling in each industry to yield the list of sampled establishments. A proportionate sample of employees was then assigned

to each selected establishment based on the number of employees to add up to the required industry sample size. The sampling choice of larger establishments was preferred because these are likely to have a sizeable number of salaried middle and upper income employees and possess an institutional culture that would be representative of the practice in that industry.

Table 1: *Distribution of Wage Employment by Industry in Kenya - 2008*

Industry	*Estimated Middle and Upper Income Employees*	*As Percent of Total*	*Computed Proportional Sample Size*
Agriculture and forestry	13,878	6.6	71
Mining and quarrying	510	0.2	2
Manufacturing	33,175	15.9	170
Electricity and water	2,747	1.3	14
Construction	7,096	3.4	36
Trade, restaurants and hotels	36,984	17.7	189
Transport and communications	23,111	11.1	118
Finance, insurance, real estate and business services	22,367	10.7	114
Community, social and personal services/public sector	69,056	33.1	353
Total	208,924	100.0	1,067

Statistical Abstract, GoK (2009a)

The ninth industry category that is designated as community, social and personal/public sector services in the Statistical Abstract mainly comprises government services and is also referred to as the public sector. According to Economic Survey 2009, the categories of institutions and their relative

share of employee earnings were central government 23 percent, Teachers Service Commission 34 percent, parastatals 21 percent, local government 9 percent, and majority control by public sector 13 percent. Since the employees in these institutions are all public servants who are subject to similar personnel policies, the sample for this study was drawn from one representative body, the central government.

For reasons of potential inaccessibility of sampling units, the following ministries were left out Office of the President, Office of the Prime Minister, Office of the Vice President and Ministry of Home Affairs, Ministry of State for Defense and Ministry of State for Provincial Administration and Internal Security. On this basis, information provided by the Ministry of Public Service as at July 2009 was used to itemize the government ministries that could be sampled. It was assumed that the sampling bias arising from the exclusion of some ministries would not invalidate the study findings for the reasons that the conditions and terms of service in government are uniform. This approach was also supported by the guidelines issued by the European Social Survey (2004) which permit the exclusion of inaccessible people in military and prison barracks. From the list of ministries, a random sample of three was selected to yield a sub-sample of ministries for the stratified sample. So, 24 sampled establishments in the private sector and the three randomly selected government ministries were used in this research.

This research used primary data comprising personal attributes and wealth portfolios that was obtained from sampled employees using questionnaires. The questionnaire consisted of quantitative questions mainly where categorical answers were sought. Additionally, qualitative questions were asked in line with Yoo (1994) who used open-ended questions to obtain responses on what other considerations individuals make in their choice of investments. Combinations of nominal, ordinal, interval and ratio scales were used to enrich the data in line with Kennickell, (2000). Part a

of the questionnaire sought information about respondents' personal attributes a nominal scale was used to measure the variables of gender, marital status, job type, culture and religion while an ordinal scale was applied to measure job seniority and level of education. An interval scale was employed for age while a ratio scale was used for family size and length of service.

Factor analysis was applied to examine whether all the hypothesized determinants of wealth can be reduced to a manageable number by identifying those variables which belong together and have overlapping measurements. This multivariate technique helped to identify underlying and unobservable constructs in the 21 variables that can be used to develop a simplified model for the study of the size and determinants of personal wealth portfolios.

For a factor analysis, consider a set of mean zero, interval scale variables, X_1, X_2,.., X_p, each observed on n subjects. The common factor model states that, for variable j, j = 1, 2, .., p

$$X_j = \Phi_{j1}F_1 + \Phi_{j2}F_2 + \ldots\ldots\ldots + \Phi_{jc}F_c + U_j$$

where {Fm}, m = 1, 2, ……., c, with $c \leq p$, are common factors, which are orthogonal

Φ's are unknown factor loadings,

Uj is a unique factor of X_j, are mutually uncorrelated with each other and are also uncorrelated with common factors.

Note that the F variables are common to (shared by) each X_j variable, whereas U_j is associated only with X_j and not with any of the other X variables.

Together with correlation analysis, factor analysis was done to establish the relationships among the study variables. In particular, factor analysis procedure was used to measure and establish socio-economic attributes and characteristics of the wealth portfolios of salaried middle and upper

income employees in Kenya. This method was necessary to reduce a set of several difficult to interpret correlated variables to few conceptually meaningful relatively independent factors, which could be easily interpreted. This technique was applied to summarize 21 latent variables representing socio-economic attributes and characteristics of the wealth portfolios of salaried middle and upper income employees in Kenya. To make interpretation easier, a linear transformation on the factor solution, varimax rotation was done, which gave fewer components (factors) that are uncorrelated with one another.

Results and Discussion

In order to determine the existence of interrelationships among the variables and further explore the nature of these relationships, factor analysis technique was carried out using the Statistical Package for Social Science (SPSS) on the 21 variables that were selected for analysis. This statistical technique was applied to reduce the variables to a manageable number by identifying those variables which belong together and have overlapping measurements. Through this process, underlying and not observable constructs were identified. The descriptive statistics for the variables under consideration are shown in Table 2 below.

Table 2: *Descriptive Statistics*

Variable	*Mean*	*Standard Deviation*	*Sample Size*
Industry	6.44	2.67	786
Job seniority	2.55	1.28	786
Length of employment service in range	2.13	1.15	786
Education level	4.10	1.30	786
Age group	3.47	1.65	786
Gender	1.39	.49	786
Marital status	3.98	1.53	786
Size of nucleus family	3.00	1.69	786
Dependants on top of the nucleus family	2.09	1.75	786
Place of birth	5.53	2.70	786
Place of childhood years (up to 15 years)	4.95	2.86	786
Religious affiliation	1.59	.84	786
Desire to maximize earnings	5.85	1.21	786
Risk preference: amount one is ready to invest	3.11	1.35	786
Attitude to risk - willingness to take risks	6.76	2.72	786
Extent of reliance on loans	3.19	1.25	786
Risky assets as a percentage of gross wealth	19.15	24.28	786
Current employment income (KShs)	53,089	32,943	786
Savings rate -in percentage	22.08	13.05	786
Income category (middle or upper income)	1.07	.26	786
Inherited net wealth (KShs)	189,726	533,814	786

As can be seen from the above table, 786 valid cases satisfied the requirement that the cases examined must exceed five times the number of variables. Since the variables in this analysis were 21, the minimum cases for this operation were 105. The appropriateness of the factor analysis for factor extraction was examined through the correlation matrix and test of sampling adequacy as shown in Annex 1 and Table 3. The correlation matrix in Annex 1 indicates that the requirements for factor analysis were satisfied because about one eighth of the correlations were above 0.30 as

highlighted in Annex 1 - these results show that there are common shared factors.

Table 3: *KMO and Bartlett's Test*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.758
Bartlett's Test of Sphericity	Approx. Chi-Square	5347.768
	Degrees of Freedom	210
	P-Value	0.000

Table 3 above shows the results of KMO statistic that were used to predict if the data is likely to factor properly. This was based on correlation and partial correlation as well as the results of Bartlett's Test of Sphericity to test for the presence of correlations among variables. The KMO measure of sampling adequacy at 0.758 was acceptable, since it was higher than the recommended minimum of 0.50. Additionally, the Bartlett's Test of Sphericity recorded an acceptable p-value of 0.000, which was lower than the test value of 0.05 percent, thereby indicating that there is correlation between the variables.

In order to obtain a simple and meaningful data structure that has a non-zero loading of the explained variable for each individual factor, a varimax rotation was carried out. The extracted factors and the variables with loadings equal to or greater than 0.50 were isolated as shown in Tables 4 and the scree plot in Figure 1. This operation identified six factors and their respective variables.

Table 4: *Rotated Component Matrix*

	Factors					
Variables	*1*	*2*	*3*	*4*	*5*	*6*
Current employment income	0.875					
Income category (middle or upper income)	0.787					
Education level	0.720					
Job seniority	0.563					
Size of nucleus family		0.833				
Marital status		0.767				
Age group		0.708				
Length of employment service - range		0.639				
Whether choice of investment is driven by desire to maximize earnings			0.731			
Extent of reliance on loans			0.707			
Place of birth				0.913		
Place of childhood years (up to 15 years)				0.885		
Attitude to risk - willingness to take risks in general					0.807	
Risk preference - amount one is ready to invest					0.792	
Industry						0.584
Gender						0.574
Savings rate in percent						-0.528

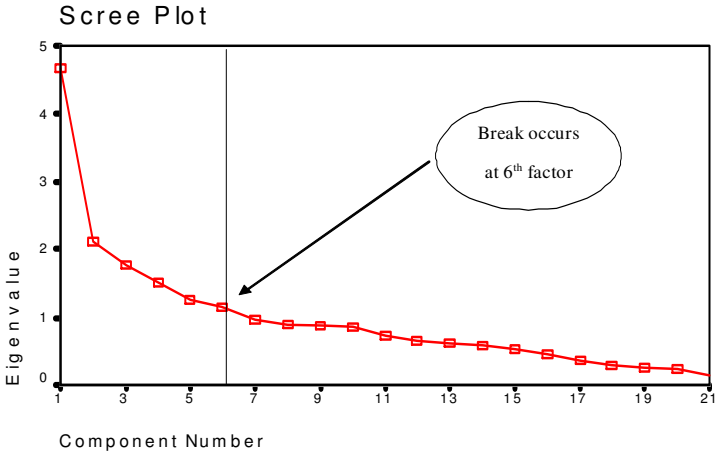

Fig. 1: *Scree Plot*

The scree plot in Figure 1 provides a diagrammatic view of the initial eigen values associated with all the factors. The curve shows that at factor six a distinct break occurs separating the steep slope of the large factors and the gradually trailing off of the rest of the factors. From the total variance table and the scree plot it was noted that an extraction of six factors which cumulatively accounted for 59.42 percent of the variance would be sufficient. The rotated component matrix in Table 4 below shows this extraction and the variables that comprise each factor. The extractions in the rotated table matrix detailed out the selected six factors by the grouping variables that were commonly associated.

Factor 1 - Earning Capacity. This factor explained the largest proportion of the variation of 14.7 percent and comprised the following: current employment income, income category (middle of upper income), education level and job seniority. These four variables can be uniquely identified by the fact that they define an employee's earning capacity, which in turn

informs savings and ability to invest for wealth creation. The emergence of earning capacity as an important factor reaffirms the appropriateness of the research design adopted in this research where the target population, salaried middle and upper income employees, was identified principally on the basis of levels of employment income and hence earning capacity. This observation is fundamental because it implies that studies on personal wealth portfolios should factor in the level and type of the person's earning capacity as an essential input in the research design. From a conceptual level, it can also be inferred that the Life Cycle Hypothesis (LCH) of studying personal wealth portfolios is supported in this instance because earning capacity underpins LCH – this factor defines what an employee can do.

Factor 2 - Life-Cycle Factors. The second largest amount of the variance in the sample of 13.02 percent was explained by the grouping comprising of size of nucleus family, marital status, age and length of employment service. The underlying characteristic about these four variables is that they reflect an employee's stage in life and therefore can be commonly referred to as life-cycle factors. This can also be interpreted to provide support for the conceptual design of this study where age is the main input variable in the LCH approach for studies on personal wealth portfolios - this factor defines what an employee needs to do.

Factor 3 - Investment Objective. The third factor accounted for 8.8 percent of the variance and consisted of two related variables whether the choice of investment is driven by desire to maximise earnings and the extent to which employees rely on loans. These variables can be easily understood with respect to the investment objective and choice of financing - this factor embodies the investment process.

Factor 4 - Employee's Cultural Background. The fourth factor accounted for 8.5 percent of the variations. The variables for this factor related to an employee's background as operationalized by place of birth and childhood environment. These sets of variables were designed to

denote the aspect the cultural element of ethnicity. Consequently, these results suggest that the sociological related inputs in this research can be grouped under this factor. The results have important implications and offer useful logic by implying an inter-play between nature and nurture in molding the beliefs that influence employees in the investment process.

Factor 5 - Employees' Risk Taking Behavior. The fifth factor was employees' risk taking behavior which in this analysis was measured by two related variables of attitude to risk and risk preference and accounted for 8.4 of the sample variance. Whereas the former is a general term and relates to a person's willingness to take risks of whatever nature, the latter is specific and measures a person's preparedness to make a risky investment given a choice of less risky alternatives. Significantly, risk taking behavior is central to modern portfolio theory - this factor 5 deals with the finer aspects of deciding where to invest and how much to invest.

Factor 6 - Savings. The sixth component, savings, accounted for only 6 percent of the variance in the sample. Savings was depicted by the industry the respondent is employed in, gender and the percentage of earnings that the respondent saves.

Conclusion

The major quantitative determinant variables from this research were net wealth size and employment income. Other significant but minor determinants were age, size of nucleus family, inherited wealth, length of employment service and number of dependants. Categorical variables that were found to have a relationship with wealth composition were income classification, job seniority, level of education, one's background, industry type, marital status, risk preference, and wealth maximization intension. Personal attributes that were found to have no relationship with wealth composition were gender, savings rate and religious affiliation.

The findings that personal attributes of salaried middle and upper income employees in Kenya are important determinants of the sizes and

composition of their wealth portfolios has implications to theory, practice and policy. Firstly, this research establishes that one of the key building blocks of Modern Portfolio Theory (MPT), risk-taking behavior, is characterized more appropriately in wealth studies by relative risk aversion. The other noteworthy representation of risk-taking behavior is the subjectively assessed form, known as risk preference, which is measured by the extent to which an individual is prepared to take additional risks while investing in the hope of getting higher returns.

Secondly, analysis of the determinants of the size and composition of the wealth portfolios of salaried employees provides further evidence on the applicability of the three conceptual frameworks that are commonly used in personal wealth studies namely LCH, MPT and Sociological Approach (SA). In this respect the study establishes that the determinants of the wealth portfolios feature the key variables for the above three frameworks of wealth portfolio studies. This implies that these three frameworks that are frequently used to study personal wealth are supported by the findings in this research. Also savings rate, which is commonly treated as an intervening variable in wealth studies, is found to be a significant determinant of wealth size. It is recommended that studies of personal wealth portfolios adopt an integrated approach with several conceptual frameworks that include savings rate as an independent variable.

Thirdly, the determinants of the size and composition of the wealth portfolios of sampled employees tend to overlap. This suggests that the two constructs of wealth are closely related and confirms the existence of a looping relationship between the size and composition of wealth and that the proportion of risky assets held by salaried employees is a key factor in understanding the size of their wealth portfolios. The implication to theory is that studies which are premised on net wealth as the object of interest should incorporate wealth composition as a key independent variable.

Fourthly, it is noted that the quantitative determinants of wealth portfolios that include employment income, age, risk-perception, inherited wealth, size of nucleus family, number of dependants and length of employment

service generally have a higher correlation with absolute net wealth than wealth composition, with the exception is the size of nucleus family. With respect to theory, these findings suggest that the results can be applied with more ease to model and study the size of employees' wealth rather than its composition.

The foregoing, the determinants of the personal wealth portfolios of salaried employees have two other implications. The first one is that such research can be carried out using scientific methods in a developing country such as Kenya, just as is done in developed countries. Secondly, the identification of the wealth determinants presents an opportunity for practitioners and policy makers to use this information to enhance the wealth portfolios of salaried employees. Employees can improve their net wealth by targeting the wealth determinants that are within their control such as striving for higher employment income, savings more for investment and investing in risky assets. The government can assist through targeted policy to influence desired outcomes on the size and composition of the wealth portfolios of this important cadre of citizenry. Such interventions include facilitations for further education and skills development of employees to enhance their earning capacity, provision of incentives for higher worker savings and development of capital and property markets.

References

Arrondel L. and Masson A. (2002) Stockholding in France. In Guiso L. Haliassos M. and Japelli T. (Eds.) (2003). Stockholding in Europe (pp 75-109). Paris Pergrave McMillan.

Bartlett J. E Kotrlik J. W. and Higgins C. C. (2001) Organizational Research: Determining Appropriate Sample Size in Survey Research. Information Technology, Learning, and Performance Journal 19(1) pp 43-49.

Browning M. and Crossley T. F. (2000) The Lifecycle Model of Consumption and Saving. Journal of Economic Perspectives, SEDAP Research Paper No. 28 September 2000.

Central Bank of Kenya (2008a) Monthly Economic Review September 2008. Central Bank of Kenya.

Central Bank of Kenya (2008b) Weekly Bulletin December 11, 2008. Central Bank of Kenya.

————(2009) Annual Statistical Bulletin June, 2009. Central Bank of Kenya.

————(2010) Monthly Economic Review February, 2010. Central Bank of Kenya.

Galeotti F. and Karakostas A. (2010) The Promise of Behavioural Economics. Retrieved January 18, 2011.http://www.uea.ac.uk/eco/essays/volume1/Fabio+the+promise+of

Cochran W. G. (1977) Sampling Techniques (3rd ed.). New York: John Willey and Sons.

European Social Survey (2004) The European Social Survey: A Research Instrument for Social Sciences in Europe.

Guiso L. Haliassos M. and Jappelli T. (2002) Eds. Household Portfolios. Cambridge: MIT Press.

Government of Kenya (1996) Welfare Monitoring Survey II 1994: Basic Report. Central Bureau of Statistics Nairobi: Kenya Government Printer.

———————— (1985) Kenya Economic Survey 1985. Central Bureau of Statistics Nairobi: Kenya Government Printer.

———————— (1996) Welfare Monitoring Survey II 1994: Basic Report. Central Bureau of Statistics Nairobi: Kenya Government Printer.

————————--(1998) First Report on Poverty in Kenya Volume II: Poverty and Social Indicators. Ministry of Planning and National Development Nairobi: Kenya Government Printer.

————————(2000) Second Report on Poverty in Kenya Volume I: Incidence and Depth of Poverty. Ministry of Finance and Planning Nairobi: Kenya Government Printer.

————————- (2002) Basic Report, Urban Household Budget Survey 1993/94. Central Bureau of Statistics Nairobi: Kenya Government Printer.

————————(2003a) Report of 1998/99 Labour Force Survey. Ministry of Finance and Planning Nairobi: Kenya Government Printer.

-————————(2007a) Kenya Integrated Household Budget Survey 2005/06: Volume 1 Basic Report January 2007. Central Bureau of Statistics Nairobi: Kenya Government Printer.

————————(2007b) Basic Report on Well-Being in Kenya Based on Kenya Integrated Household Budget Survey 2005/06 April 2007. Kenya National Bureau of Statistics Nairobi: Kenya Government Printer.

————————(2007c) Kenya Economic Survey 2007. Kenya National Bureau of Statistics Nairobi: Kenya Government Printer.

———————— (2008a) Kenya Economic Survey 2008. Kenya National Bureau of Statistics Nairobi: Kenya Government Printer.

———————— (2008b) Kenya Vision 2030. Kenya Government Printer.

———————— (2008c) The 2008 Consumer Price Index. Kenya National Bureau of Statistics Nairobi: Kenya Government Printer July 2008.

————————(2009a) Kenya Statistical Abstract 2009. Kenya National Bureau of Statistics Nairobi: Kenya Government Printer.

———— (2009b) Kenya Economic Survey 2009. Kenya National Bureau of Statistics Nairobi: Kenya Government Printer.

Kahneman D. and Tversky A. (1979) Proposed Theory: An Analysis of Decision Under Risk. Econometrica 47 pp 263-291.

Kennickell A. B.(2000) Wealth Measurement in the Survey of Consumer Finances: Methodology and Directions for Future Research Washington D.C.: Board of Governors of the Federal Reserve System Paper Prepared for the May 2000 Annual Meeting of the American Statistical Association for Public Opinion Research. Portland Oregon.

Mitchell O. and Moore J. F. (1997) Retirement Wealth Accumulation and Decummulation: New Developments and Outstanding Opportunities. The Wharton School University of Pennsylvania Working Paper pp 79-112.

Munnnell A. H. Webb A. and Delorme L. (2006) A New National Retirement Risk Index. An Issue in Brief Center for Retirement Research at Boston College June 2006 Issue Number 48.

Republic of Kenya (2006) Pay Policy for Public Sservice. Nairobi Kenya. Office of the President, Directorate of Personnel Management.

Keynes J. M. (1936) The General Theory of Employment, Interest and Money 1964 Reprint Newyork: Harcourt Bruce.

Sekaran, U. (2003). Research methods for business, A skill building approach. (4th ed.). New York: John Wiley and Sons Inc.

Smith A. (1776) An Inquiry Into the Nature and Causes of the Wealth of Nations. The University of Chicago Press.

Torche F. and Spilerman S. (2007) Household Wealth in Latin America. Paper Presented at the UNU-Wider Meeting "Personal Assets from a Global Perspective". Helsinki, Finland, 4-6 May 2006.

Yoo P. S. (1994) Age Dependent Portfolio Selection. St. Louis: Federal Reserve Bank of St. Louis Working Paper 1994-003A. Retrieved August 29, 2005 from http://research.stlouisfed.org/wp/1994/94-003.pdf

Annex 1: *Correlation Matrix*

		V01	V02	V03	V04	V05	V06	V07	V08	V09	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20
Industry	V01	1																			
Job seniority	V02	-0.10	1.00																		
Length of employment service-range	V03	-0.17	**0.33**	1.00																	
Education level	V04	0.06	**0.55**	0.17	1.00																
Age group	V05	-0.14	**0.53**	**0.63**	**0.41**	1.00															
Gender	V06	0.03	-0.07	-0.11	-0.03	-0.15	1.00														
Marital status	V07	0.00	0.27	0.25	0.19	**0.42**	0.02	1.00													
Size of nucleus family	V08	-0.08	**0.39**	**0.45**	0.25	**0.61**	-0.16	**0.62**	1.00												
Dependants on top of the nucleus family	V09	-0.07	0.10	0.23	0.09	0.18	-0.06	0.16	0.28	1.00											
Place of birth	V10	0.04	-0.17	0.00	-0.14	-0.04	-0.05	-0.06	-0.02	0.15	1.00										
Place of childhood years (upto 15 years)	V11	0.04	-0.22	-0.01	-0.16	-0.08	-0.05	-0.05	-0.06	0.11	**0.75**	1.00									
Religious affiliation	V12	-0.10	0.14	0.10	0.03	0.08	-0.04	-0.01	0.05	0.04	-0.06	-0.11	1.00								
Whether choice of investment is driven by desire to maximise earnings	V13	-0.12	0.24	0.02	0.16	0.14	0.03	-0.04	0.15	-0.04	-0.13	-0.20	0.16	1.00							
Risk preference:Amount one is ready to invest	V14	0.06	**0.32**	-0.04	0.19	0.15	-0.03	0.14	0.20	-0.04	-0.14	-0.19	0.00	0.19	1.00						
Attitude to risk: Willingness to take risks in general	V15	0.15	0.16	-0.09	0.12	0.03	-0.08	0.11	0.15	-0.01	-0.12	-0.14	-0.05	0.14	**0.48**	1.00					
Extent of reliance on loans	V16	-0.14	**0.31**	0.21	0.16	0.25	-0.02	0.12	0.24	0.10	-0.10	-0.16	0.18	**0.39**	0.14	0.01	1.00				
Risky assets as a percent of gross wealth	V17	-0.09	**0.30**	0.23	**0.34**	0.26	0.05	0.09	0.26	0.14	-0.13	-0.14	0.08	0.24	0.08	0.06	0.25	1.00			
Current employment income	V18	-0.18	**0.54**	**0.38**	**0.58**	**0.50**	-0.04	0.19	0.27	0.13	-0.16	-0.18	0.08	0.15	0.10	-0.02	0.19	**0.31**	1.00		
Savings rate in percent	V19	-0.23	0.22	0.13	0.22	0.17	-0.06	0.02	0.08	0.00	-0.04	-0.08	0.03	-0.01	0.12	0.04	-0.07	0.04	**0.35**	1.00	
Income category (middle or upper income)	V20	-0.14	**0.36**	0.28	**0.40**	**0.35**	-0.06	0.10	0.17	0.10	-0.15	-0.17	0.03	0.08	0.01	-0.02	0.11	0.16	**0.81**	0.26	1.00
Inherited net absolute wealth	V21	-0.06	0.23	0.15	0.21	0.22	0.00	0.02	0.13	0.00	-0.14	-0.16	0.12	0.17	0.11	0.03	0.10	0.24	0.30	0.17	0.25