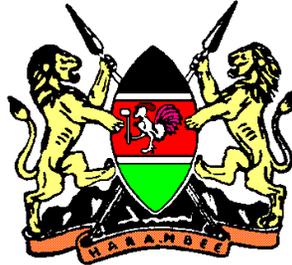


REPUBLIC OF KENYA



**THE NATIONAL TREASURY AND PLANNING
STATE DEPARTMENT FOR PLANNING**

REPORT

ON

**AN ANALYSIS OF STUDENTS ENROLLMENT IN
ECONOMICS BASED DEGREES OFFERED IN KENYAN
UNIVERSITIES**

AND

REVIEW OF SERVING ECONOMISTS IN GOVERNMENT

FEBRUARY, 2020

FOREWORD

Education sector under the social pillar of the Kenya Vision 2030, aspires to provide a globally competitive quality education, training and research for development through expansion of access to basic education, secondary education, university education and technical training. The sector is critical to the realization of the “Big Four” Agenda through provision of requisite skills, human resource and promotion of research and development. Towards this end, the Government of Kenya has continually increased funding for the sector from Ksh. 346.6 billion in 2016/17, Ksh. 392 billion in 2017/18, Ksh. 442 billion in 2018/19 financial year to Ksh. 473 billion in 2019/20. This has led to expansion in the number of universities and increased enrollments which have resulted in more graduates getting into the job market.

This report presents an analysis of student enrollment in Economics based degrees offered in Kenyan Universities and also a review of the Serving Economists. The study was carried out by the State Department for Planning. As the Administrator of the Scheme of Service for Economists/Statisticians; the State Department for Planning is responsible for recruitment, deployment, retention, training, career progression and general development of Economists/Statisticians in the Civil Service of Kenya. The main objective of the study was to determine Economics courses that are relevant in supporting the implementation of the National Development Agenda and in particular the Kenya Vision 2030 and its Medium Term Plans as well as the factors that determine the productivity of Economists serving in Government.

Economists in Government perform the critical role of economic planning which broadly entails: Formulation, review and implementation of economic planning policies, strategies and programmes; Appraising and setting of national project priorities; Conducting prefeasibility and feasibility studies on topical economic fields; Providing lead in social, economic and political analysis; Preparation and dissemination of national development policies and strategies; Tracking the implementation of Kenya's economic integration agenda; and Coordinating planning, monitoring, evaluation at both levels of Government.

The study was conducted by gathering information from the Commission for University Education (CUE) to facilitate the creation of a databank on Economics Courses offered at the Bachelors, Masters and PhD Levels in all Universities in Kenya and the number of students enrolled in those courses. The information on the enrollment of university students in Economics courses was provided for both Public and Private Universities for 2016. In addition, information on Serving Economists from the database for Economists/Statisticians as at September 2018 was analyzed to understand their distribution per cadre, gender disaggregation and their academic qualifications. Further to this, a structured questionnaire was administered to a select group of serving Economists.

Despite the critical role that Economists play, there has been no recruitment by the Government, a key employer of Economists since 2010. In addition, Serving Economists in the Government have had a slow upward career progression thus leading to the high staff turnover, unemployed or self-employed and very few practicing economics.

Recommendations of this report include: Strengthening the Economics profession by offering more scholarships opportunities to students willing to advance to Masters and PhD studies so as

to encourage the transition from undergraduate to graduate studies; All universities should have a compulsory attachment programme to ensure graduates are exposed and equipped for the job market; and Reduction in gender imbalance which has been occasioned by less female recruited into the scheme of service. In addition, the report recommends strengthening of the Central Planning and Project Monitoring Units (CP&PMUs) for effective coordination of national and sectoral economic development through adequate staffing, lobbying for or availing of training opportunities, timely provision of information and holding regular workshops, bringing together economists in the Headquarters and in MDAs; Strengthening the ESK/Professional body for Economists to regulate the profession as well as ensure Economists are well equipped to perform their roles and responsibilities in the economy and in line with their training and experience.

It is my sincere hope that the recommendations of this report will see the light of day. On behalf of the State Department for Planning, I pledge to provide guidance necessary to steer the implementation process of the recommendations to their desired conclusion.

MR. SAITOTI TOROME, CBS

PRINCIPAL SECRETARY

STATE DEPARTMENT FOR PLANNING

ACKNOWLEDGEMENTS

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To those not mentioned here but contributed in one way or the other to the production of this report, I salute you.

MRS. KATHERINE MUOKI
DIRECTOR OF ECONOMIC PLANNING
INFRASTRUCTURE, SCIENCE, TECHNOLOGY AND INNOVATIONS
DEPARTMENT

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ACRONYMS AND ABBREVIATIONS

BA	Bachelors of Arts
BED	Bachelors of Education
BSc	Bachelors of Science
CPA	Certified Public Accountant
CPPMUs	Central Planning and Project Monitoring Units
CUE	Commission for University Education
DDOs	District Development Officers
EIA	Environmental Impact Assessment
EPM	Economic Policy Management
FKE	Federation of Kenya Employers
ESK	Economists Society of Kenya
GoK	Government of Kenya
ICT	Information and Communication Technology
IT	Information Technology
KIPPRA	Kenya Institute for Public Policy Research and Analysis
MA	Masters of Arts
MDAs	Ministries, Departments and Agencies
MSc	Masters of Science
MSE	Medium and Small Sized Enterprises
NMP	National Manpower Survey
NITA	National Industrial Training Authority
PhD	Doctor of Philosophy
PPOs	Provincial Planning Officers
PPM	Project Planning and Management
PPPs	Public and Private Partnerships
PRA	Participatory Rural Appraisal
PSID	Panel Study of Income Dynamics
SLDP	Strategic Leadership Development Program
SMC	Senior Management Course
SPSS	Statistical Package for the Social Sciences

EXECUTIVE SUMMARY

The State Department for Planning as the Administrator of the Scheme of Service for Economists/Statisticians is responsible for recruitment, deployment, retention, training, career progression and general development of Economists/Statisticians in the civil service in Kenya. It is on the basis of this mandate that the State Department for Planning commissioned this study to analyze student enrollment in Economics based degrees offered in Kenyan Universities and review of Serving Economists in Government.

The study was conducted by gathering information from the Commission for University Education (CUE) to facilitate the creation of a databank on Economics Courses offered at the Bachelors, Masters and PhD Levels in all Universities in Kenya and the number of students enrolled in those courses. The information on the enrollment of university students in Economics courses was provided for both Public and Private Universities for 2016. In addition, information from Serving Economists at both National and County Governments from the database for Economists/Statisticians as at September 2018 was analyzed to understand their distribution per cadre, gender disaggregation and their academic qualifications. Further to this, a structured questionnaire on the courses done before and during employment was administered to a select group of serving Economists and the data analyzed.

The main objective of the study was to determine Economic Courses that are relevant in supporting the implementation of the National Development Agenda and in particular the Kenya Vision 2030 and its Medium Term Plans as well as the factors that determine the productivity of Economists serving in Government. To achieve this, the study specifically seeks to: Analyze enrollment of students studying pure economics courses and those studying Economics and others subjects for both Public and Private Universities in 2016; Determine the probability of a graduate with a Bachelors Degree in Economics advancing to a Masters Degree and consequently a Masters graduate enrolling for PhD in Economics; Analyze the distribution of serving Economists employed by the Kenyan Government by year of recruitment between 1985 and 2010; Establish the degree courses undertaken by Economists who were employed in 2010 and those who have worked for twenty five (25) years and above to determine the relevance to the performance of their duties in the course of service; Identify the specialized and relevant Economics courses that are important to support the implementation of the National Development Agenda; and provide policy recommendations to inform Government and private sector recruitment and local institutions on labor market requirements.

According to the data from CUE for 2016, twenty seven (27) Public Universities offer Economics-based courses at Bachelors level, twenty one (21) at Masters Level and fifteen (15) at Doctoral level. Only four (4) Private Universities in Kenya offer Economics-based degree courses and at Bachelors level. The number of male students' enrolled in Economics-based degrees exceeded that of female students' at all levels (Bachelors, Masters and PhD).

Most students who enrolled for Economics-based courses at Bachelors Degree level combine Economics and other subjects compared to those who enroll for pure Economics courses. However at Masters Level, the enrollment is almost equal while at the PhD level the number of students taking pure Economics courses surpasses that of those taking Economics and other subjects. Specialization in Economics tends to be high at higher degree level. Further, it was

noted that there is a low probability of a Bachelors Degree graduate in Economics enrolling for a Masters Degree in Economics programme. The same applies for a Masters graduate in Economics enrolling for a PhD in Economics programme.

The largest number of serving Economists were recruited in 2010 (the last recruitment by Government). The gender distribution of Serving Economists consists of about three times as many men as women with more men than women being represented in all the job groups. Among all the Serving Economists, 40 percent have a Bachelors Degree only while 59 percent have Masters Degree. Only one (1) percent have PhD in Economics. Majority (57 percent) of the Economists with Bachelors Degree have done pure Economics followed by those who did Economics and other subjects and the least (10 percent) being those who did other courses. Approximately 52 percent of the Economists who hold Masters Degree did pure Economics, 40 percent did specialized courses in Economics, and eight (8) percent did other subjects. The survival rate (those who have remained in service since employment) for female serving Economists was noted to be higher than that of male.

Analysis of the questionnaires found out that Monitoring and Evaluation, Modeling/Statistical Analysis, Project Management, Economic Policy Analysis, Strategic Leadership Development Program, Senior Management Course and Quantitative Analysis/Financial Analysis and Programing are key skills for any Economist to perform in the work place. Other essential skills include: Environmental Impact Assessment; Performance Management (RBM tools); and Strategic Planning and Public-Private Partnerships. The required skills are evenly spread by gender, although ICT-based courses, Environmental Impact Assessment and those on PPPs-related issues are recommended by those that have 25 years and above in service.

Among the challenges outlined, Economists felt that the important role they play is not recognized (27.5 per cent) and have no strong professional body (23.3 per cent) to regulate the profession as well as ensure roles and responsibilities are done properly and in line with training and experience. The weak link between GoK, Industry and Academia was also brought out coupled with limited job opportunities, stagnation, none specialization in most times, inadequate training opportunities, non-dynamic scheme of service, poor remuneration , non-prioritization of activities, lack of motivation, inadequate internship opportunities, limited analytical skills, lack/inadequate data for public policy formulation and analysis and non-compliance to plans.

The study findings indicated that the Government is the biggest employer of Economists in the Country and should therefore put in place various measures to bridge the gap between the number of graduate economists and the employed. The recommended measures from the study are: Employment; Introducing internships; strengthening the link between GoK, Industry and Academia; and fully implementing the Scheme of Service for Economists. It was also opined that the triple-helix link between the Government, industry and academia needed to be strengthened as a matter of urgency to ensure that churned graduates are industry-ready. With limited job opportunities, it was felt that the Government, working in conjunction with both industry and academia, should equip graduates with entrepreneurial skills and grants for self-employment. Others include: Capacity building on proposal writing and provision of grants for self-employment; Strengthening networks; Identification of opportunities within and outside the country for Economists; Promoting specialization in early stage of employment/education and Provision of scholarships among others.

The study further offers some recommendations which include: Strengthening the Economics profession by offering more scholarships opportunities to students willing to advance to Masters and PhD studies so as to encourage the transition from undergraduate to graduate studies; All universities should have a compulsory attachment programme to ensure graduates are exposed and equipped for the job market; and Reduction in gender imbalance which has been occasioned by less female recruited into the scheme of service. Therefore, there is need to adhere to the two thirds gender rule progressively in recruitment, promotions and trainings. Moreover, the need to undertake regular training of Economists in, among others: Project Management Cycle - Monitoring and Evaluation, Appraisal and Analysis, and Environmental Impact Assessment; Modeling and Forecasting – The use of Statistical software (advanced Ms Excel, Stata, Eviews, R, SPSS, among others); Economic Policy Formulation and Analysis, and Performance Management is highly recommended.

In addition, the study recommends strengthening of the Central Planning and Project Monitoring Units (CP&PMUs) for effective coordination of national and sectoral economic development through adequate staffing, lobbying for /or availing of training opportunities, timely provision of information and holding regular workshops, bringing together economists in the Headquarters and in MDAs; Strengthening the ESK/Professional body for Economists to regulate the profession as well as ensure Economists are well equipped to perform their roles and responsibilities in the economy and in line with their training and experience. Other recommendations include; Sensitization of Economists on emerging issues for their effective mainstreaming into policies, plans and budgets, at both levels of Government; Design and implementation of exchange programmes for Economists and Development, dissemination and implementation of a Mentorship and Coaching Strategy, targeting new graduates from both public and private universities.

CHAPTER ONE

INTRODUCTION

1.0 Background

The State Department for Planning is the Administrator of the Scheme of Service for Economists/Statisticians in the civil service in Kenya. It is therefore responsible for recruitment, deployment, retention, training, career progression and general development of the Economists/Statisticians. It was on this basis that the State Department commissioned a study on the analysis of students' enrollment in economics based degrees in Kenyan Universities and the distribution of Serving Economists in Government to determine economic courses that are relevant in supporting the implementation of the national development agenda.

The study was conducted by gathering information from the Commission for University Education (CUE) to facilitate the creation of a databank on Economics Courses offered at the Bachelors, Masters and PhD Levels in all Universities in Kenya and the number of students enrolled in those courses. In addition, information from serving Economists at both National and County Governments from the database for Economists/Statisticians as at September 2018 was analyzed to understand their distribution per cadre, gender disaggregation and their academic qualifications.

This was also driven by the fact that in today's world, knowledge is considered the engine that drives a country's economy. In Kenya, the wide gap between the expansion in the education sector and the demands of the labor market has become a great concern. According to the 2010/2011 National Manpower Survey Basic Report, education and training institutions produce thousands of graduates annually. These graduates end up in careers for which they were not trained. The continued expansion of universities coupled with increased budgetary allocation to the education sector by Government has translated to higher enrolment and therefore more graduates continue to enter the job market.

On the other hand, there is a discrepancy between the knowledge graduates possess and the skills the job market demands. A Skills Mismatch Survey, 2018 undertaken by Federation of Kenya Employers (FKE) noted that more graduates were employed as clerical officers (39 percent) or as office secretaries (30 percent) due to limited employment opportunities in their areas of specialization (see Figure 1-1).

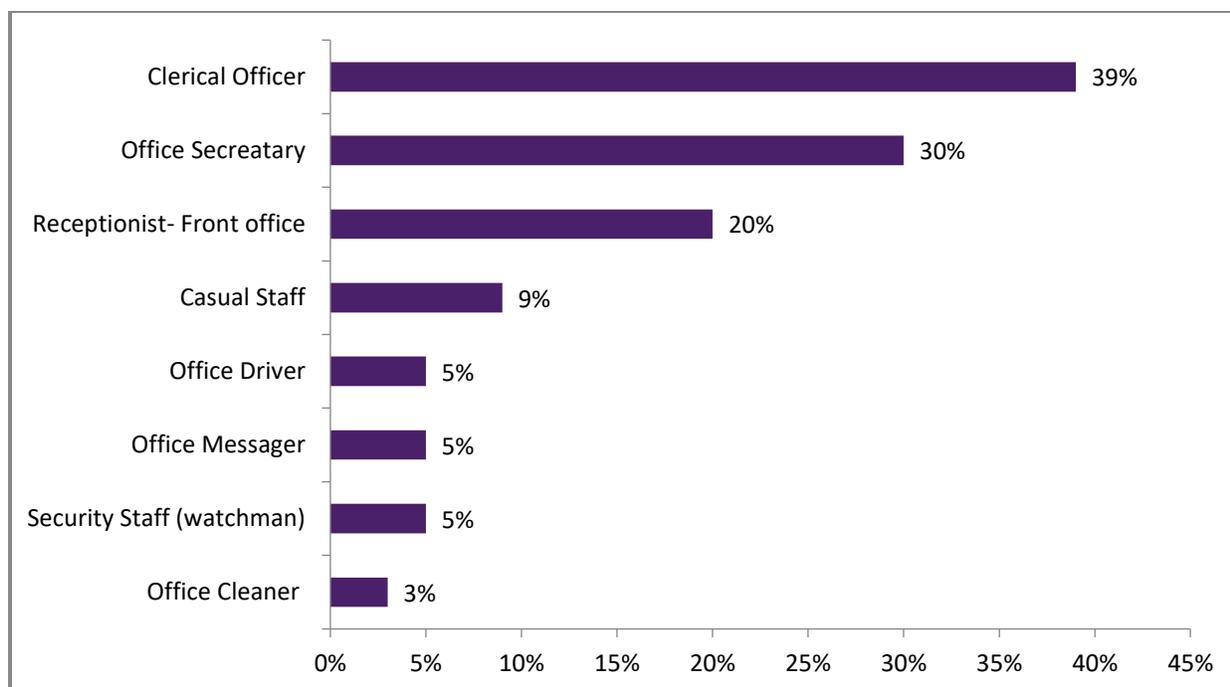


Figure 1-1: Graduates in Low- Skilled Positions

Source: Skills Mismatch Survey by FKE

The survey also carried out an analysis on the most applied jobs in the country. The results indicated that the accounting profession had the highest number of applications followed by sales and marketing and office clerks as shown in Figure 1-2. On the other hand, the Economists profession had no applications. This can be attributed to the fact that most economists in private organizations carry out general functions like marketing, finance, accounting and research. In addition, the Government which is a key employer of Economists has not recruited since 2010. Another reason for non-application in the Economist profession could be the bias in scope and sampling since the report targeted some private sector institutions, the Ministry of Education and the Ministry of Labor. The shifting of economics graduates to other professions also reveals the mismatch in the course taken at university level and the job market demands for Economists.

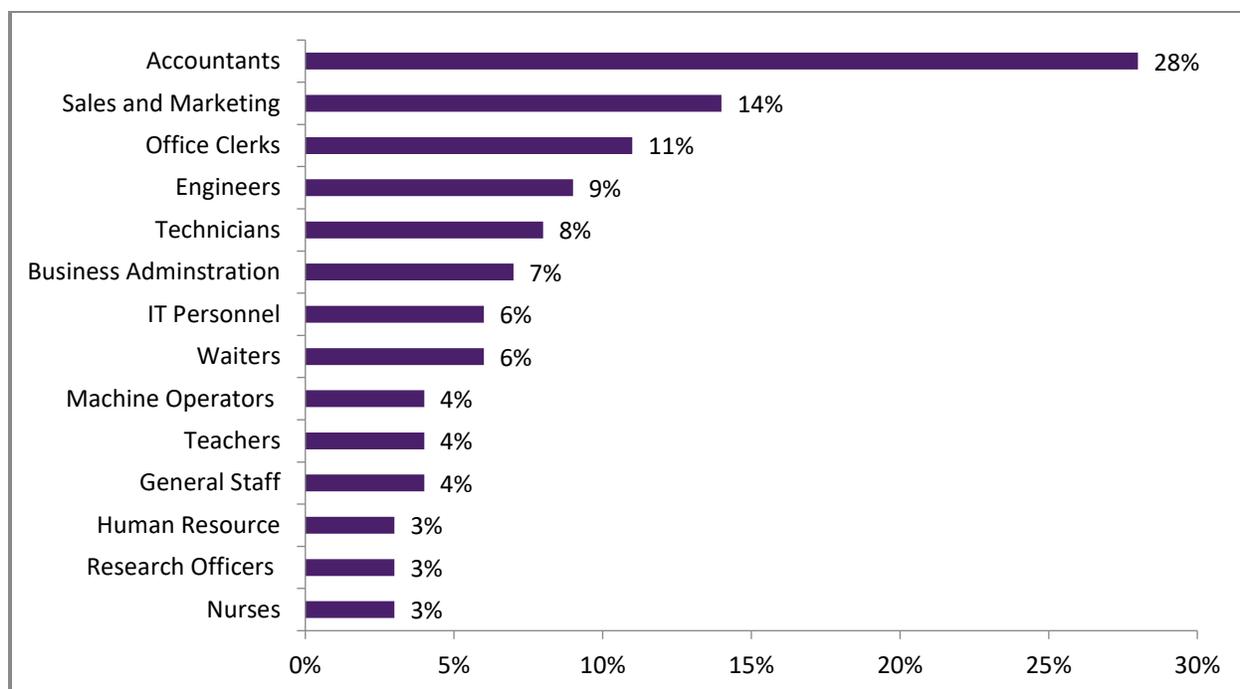


Figure 1-2: Most Applied Jobs
Source: Skills Mismatch Survey by FKE

1.1 Motivation of the study

Under the social pillar of the Kenya Vision 2030, the education sector aspires to provide a globally competitive quality education, training and research for development through expansion of access to basic education, secondary education, university education and technical training. The sector is critical to the realization of the “Big Four” Agenda through provision of requisite skills, human resource and promotion of research and development. Towards this end, the Government of Kenya has continually increased funding for the sector from Ksh. 346.6 billion in 2016/17, Ksh. 392 billion in 2017/18, Ksh. 442 billion in 2018/19 financial year to Ksh. 473 billion in 2019/20. This has led to expansion in the number of universities and increased enrollments which have resulted in more graduates getting into the job market. Despite the increased budgetary allocation to the sector and increased number of graduates, there are minimal measures to ensure the graduates coming out of universities get into relevant employment where they can effectively exploit their skills and contribute to nation building hence addressing the skills mismatch¹.

Economists in Government perform the critical role of economic planning which broadly entails: Formulation, review and implementation of economic planning policies, strategies and programmes; Appraising and setting of national project priorities; Conducting prefeasibility and feasibility studies on topical economic fields; Providing lead in social, economic and political analysis; Dissemination of national development policies and strategies and tracking the

¹A situation where there is a disparity between the skills acquired by students in the universities and the actual skills needed in the labour market.

implementation of Kenya's economic integration agenda and Coordinating planning, monitoring, evaluation at both levels of Government.

Despite the critical role that Economists play, there has been no recruitment by the Government, a key employer of Economists since 2010. In addition, Serving Economists in the Government have had a slow upward career progression thus leading to the high staff turnover. The private sector has been employing Economics graduates in other fields and thus they end up carrying out other duties not related to economics. This means that the majority of Economists that universities have produced over the years are either in jobs not related to their professions, unemployed or self-employed and very few practicing economics.

The State Department for Planning is responsible for recruitment, deployment, retention, training, career progression and general development of Economists/Statisticians in the civil service. It is on the basis of this mandate that the State Department for Planning commissioned this study to analyze student enrollment in economics based degrees offered in Kenyan universities and Serving Economists in Government.

The study was conducted by gathering information from the Commission for University Education (CUE) to facilitate the creation of a databank on Economics Courses offered at the Bachelors, Masters and PhD Levels in all Universities in Kenya and the number of students enrolled in those courses. The information on the enrollment of university students in Economics courses was provided for both Public and Private Universities for 2016. In addition, information from serving Economists at both National and County Governments from the database for Economists/Statisticians as at September 2018 was analyzed to understand their distribution per cadre, gender disaggregation and their academic qualifications. Further to this, a structured questionnaire was administered to a select group of serving Economists.

1.2 Objectives of the Study

The main objective of the study was to determine Economics courses that are relevant in supporting the implementation of the National Development Agenda.

The study specifically sought to:

- i. Analyze enrollment of students studying pure Economics courses and those studying Economics and others subjects for both Public and Private Universities in 2016;
- ii. Examine the probability of a graduate with a Bachelors Degree in Economics advancing to a Masters Degree and a Masters graduate enrolling for PhD in Economics;
- iii. Analyze the number of Serving Economists employed by the Kenyan Government by year of recruitment between 1985 and 2010;
- iv. Establish the degree courses undertaken by Economists who were employed in 2010 and those who had worked for twenty five (25) years and above to determine the relevance of the courses to the performance of their duties in the course of service;
- v. Identify the specialized and relevant Economics courses that are important to support the implementation of the National Development Agenda; and

- vi. Provide policy recommendation to inform Government and private sector recruitment and local institutions on labor market requirements.

1.3 Sources of Data

The sources of data for this study were both quantitative and qualitative data. Quantitative data on the enrollment of students undertaking Economics-based degrees in Public and Private Universities in Kenya was sourced from the Commission for University Education (CUE). CUE provided information on the enrollment of university students in Economics based courses at the Bachelors, Masters and PhD degree levels for both Public and Private Universities for 2016. Additional data was obtained from the database of Serving Economists which is maintained by the State Department for Planning.

The study gathered more information by use of a structured questionnaire in which Serving Economists were interviewed. This exercise collected basic information on the respondents and also collected qualitative information on perception of respondents on the relevance of the courses undertaken before and during employment and recommendations to improve their performance in the job market.

1.4 Methodology

In view of the multi-dimensional and layered nature of the exercise, a combination of qualitative and quantitative research methodologies was employed. To address the stated objectives, the study adopted a descriptive survey research design.

Data Collection

The study involved desk review of various reports and information from different databases. This entailed a review of the documents and data used for comparative purposes besides, establishing lists and trends. There were internet searches for any other relevant information.

The study also collected primary data from Economists that have served over 25 years and those employed in 2010. Structured self-administered questionnaire was shared with respondents where both qualitative and quantitative data were collected.

Sampling Design

Purposive sampling design was used for collecting data targeting Economists who had served for over 25 years and those employed in the year 2010.

Data Analysis

Qualitative data accruing from this survey were transcribed in Ms Word then analyzed through triangulation, content analysis and corroboration. Quantitative data was analyzed using SPSS and excel to draw charts/graphs.

1.5 Organization of the Report

This report is organized in four chapters. Chapter one presents the background and objectives of the study, sources of data and the methodology. Chapter two presents analysis of students enrollment in Economics based degree courses from the CUE database and also the results of conditional probability analysis of student enrollment in economics. Chapter three gives analysis of Serving Economists/Statisticians in Government employed between 1985 and 2011 and their survival rate. Further, the chapter presents an analysis of questionnaires administered to Economists employed in 2010 and those who have served for 25 years and more is included. Finally, chapter four provides the conclusions and recommendations.

CHAPTER TWO

ANALYSIS OF STUDENTS ENROLLMENT IN ECONOMICS BASED DEGREE COURSES

This chapter presents an analysis of the study findings from the CUE database. The database contains information on economics student enrollment disaggregated by gender in thirty (30) Public and four (4) Private Universities as at 2016. These are the universities that offer Economics related courses. The chapter also includes conditional probability analysis of student enrollment in economics based degrees.

2.1 Total Student Enrollment in Economics Based Degree Courses

In 2016, most of the students who enrolled for Economics based degree courses in both Public and Private Universities were Bachelors' degree students represented by 93 percent. Students enrolled for Masters and PhD degrees constituted 6 percent and 1 percent respectively, as shown in Figure 2-1. This shows that the transition from Bachelors to Masters Level is quite low. This could be attributed to the fact that due to skills mismatch once Bachelors graduates get jobs outside the economics field very few pursue Economics at Masters Level and even PhD level.

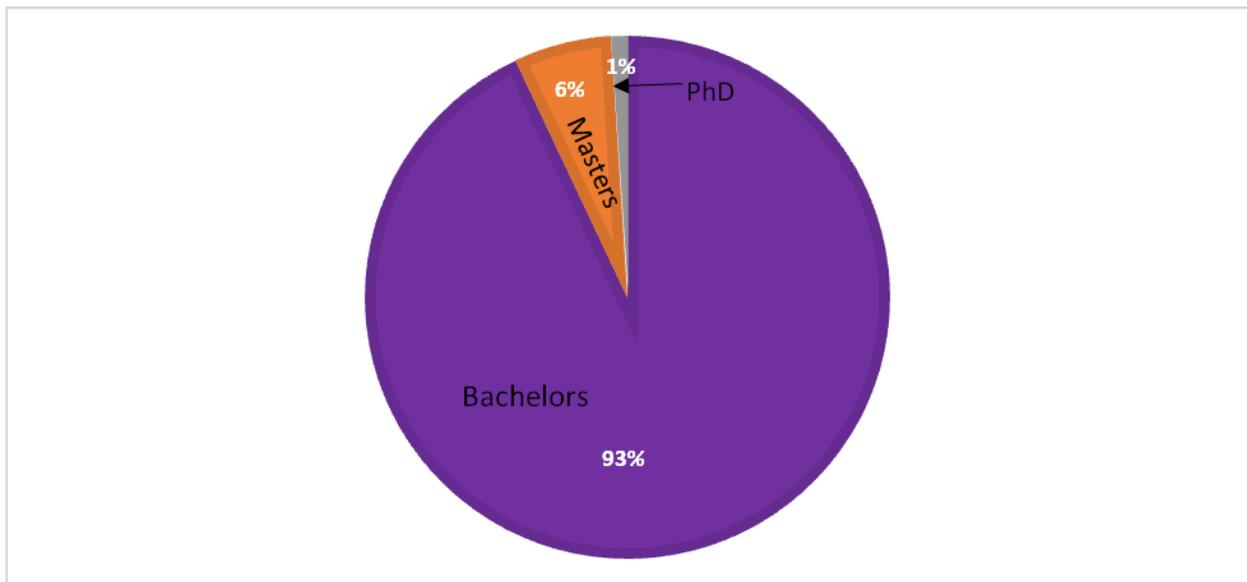


Figure 2-1: Total Student Enrollment in Economics Based Degree Courses

Source: Commission for University Education, 2016

2.2 Gender Analysis of Students Enrolled in Economics Based Degree Courses

From the CUE database it is evident that proportion of male student enrollment was higher across the three levels of university education in 2016. At Bachelors' level the proportion of male enrollment was higher at 58 per cent while proportion of female enrollment was at 42 per cent. The proportion of male enrolment for Masters Course was higher than at the Bachelors' level standing at 62 per cent whereas the proportion of female enrollment for Masters Course dropped to 38 per cent. Similarly, proportion of male enrollment in PhD course was higher than the proportion of female enrollment at 56 per cent and 44 per cent respectively as shown in Figure 2-2. However, it is important to note that the trend in proportion of both sexes in the three levels is almost constant.

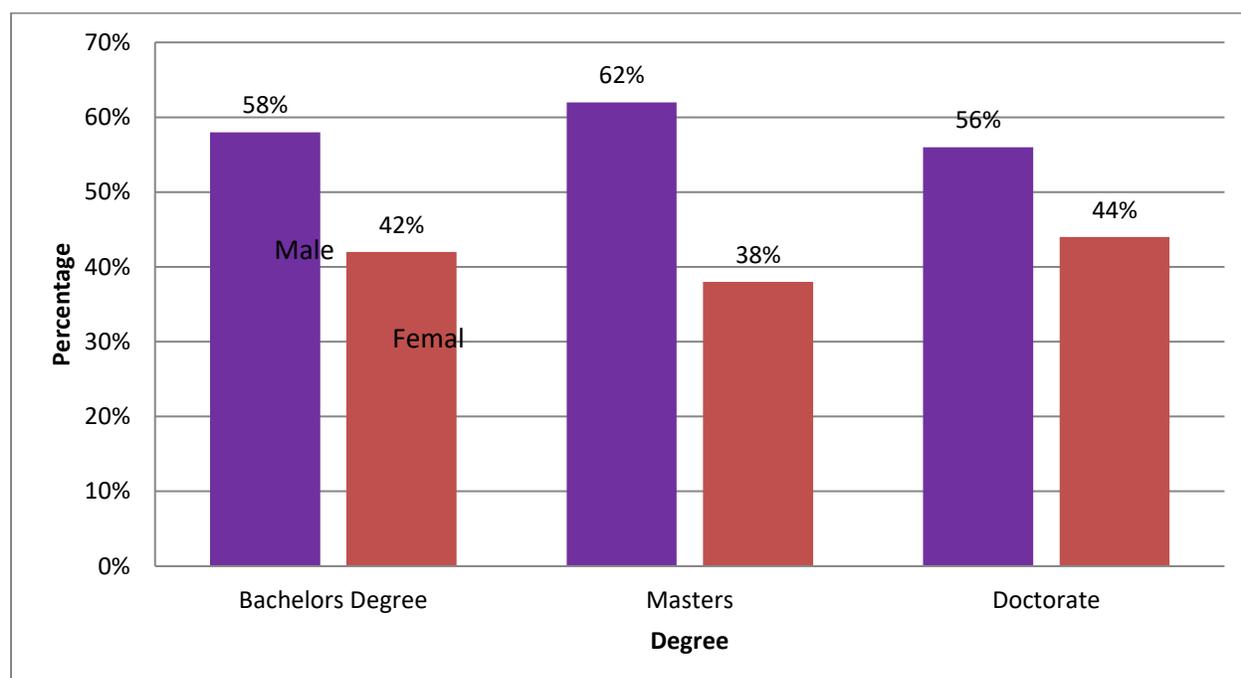


Figure 2-2: Gender Analysis of Students Enrolled in Economics Based Degree Courses
Source: Commission for University Education, 2016

2.3 Bachelors Degree in Economics Based Courses Enrolment

The total number of students enrolled in Public Universities for Bachelors Degree courses in Economics in 2016 was 19,241. Among these, 6,439 were enrolled for pure economics while 12,802 enrolled for Economics and other subjects (Economics +). 33 percent of total enrollment was in pure Economics, while 67 per cent of the total enrollment was for Economics and other subjects. Therefore, majority of the Economics students in Public Universities enrolled for Economics and other subjects compared to pure Economics. Pure Economics was taken to refer to Bachelors of Arts in Economics, Bachelors of Science in Economics and Bachelors of Economics. (Annex 2).

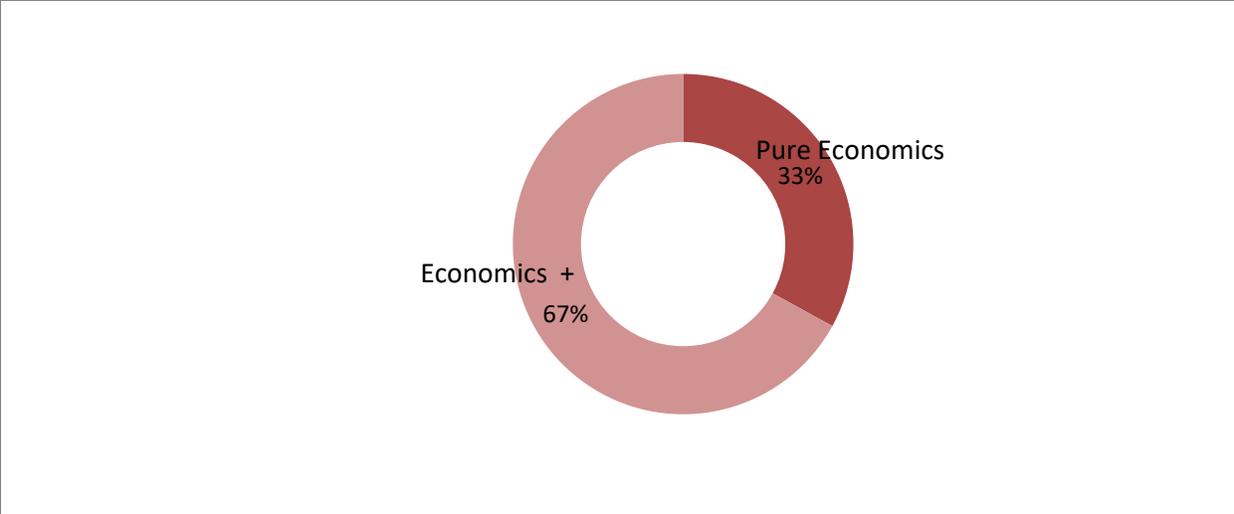


Figure 2-3: Bachelors Degree in Economics Based Courses Enrolment in Public Universities

Source: Commission for University Education, 2016

2.4 Masters Degree in Economics Based Courses Enrollment in Public Universities

The enrollment for Masters Degree in Public Universities was 1432, out of which 659 (46per cent) enrolled for pure Economics while 773 (54 per cent) enrolled for Economics and other subjects which include specialized courses in Economics and courses related to Economics as indicated in Figure 2-4. Some of the specialized courses include Masters in Agricultural Economics, Masters in Economics (Econometrics), Masters in Economics (Economic Policy Analysis) and Masters in Science (Health Economics and Policy).

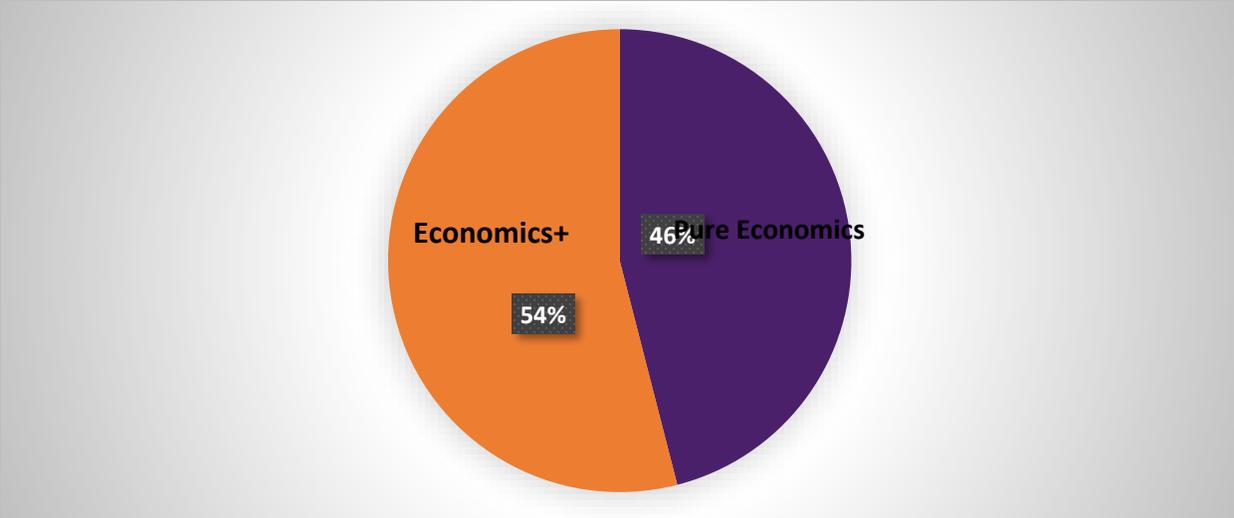


Figure 2-4: Masters Degree in Economics based courses enrolment in Public Universities

Source: Commission for University Education, 2016

2.5 PhD in Economics Based Courses Enrolment in Public Universities

In 2016, 194 students enrolled for PhD studies in Economics, out of which 151 (78 per cent) enrolled in pure economics while 43 (22 per cent) enrolled for Economics related subjects.

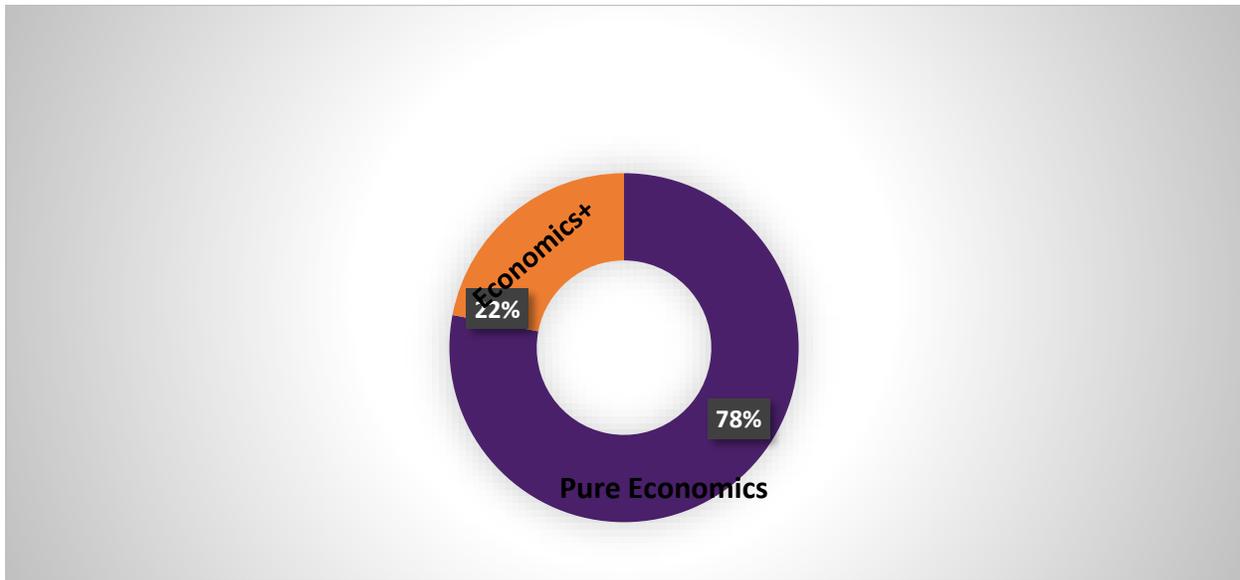


Figure 2-5: PhD in Economics Based Courses Enrolment in Public Universities

Source: Commission for University Education, 2016

From the analysis, it has been noted that more students tend to specialize in pure Economics in their Masters and PhD levels as compared to Bachelors degree level where most of the students enroll for Economics and other subjects.

2.6 Gender Analysis of Economics Based Courses Enrolment in Public Universities

In 2016, the total number of students enrolled for Bachelors, Masters and PhD degree in Economics based courses in Public Universities were 21,363. A total of 11349 male students and 7892 female students enrolled for Bachelors Degree, a total of 890 male students and 542 female students enrolled for Masters Degree while a total of 109 male students and 85 female students enrolled for PhD studies in Economics based courses as indicated in Figure 2-6. The analysis revealed that the number of male students exceeded the number of female students at all levels.

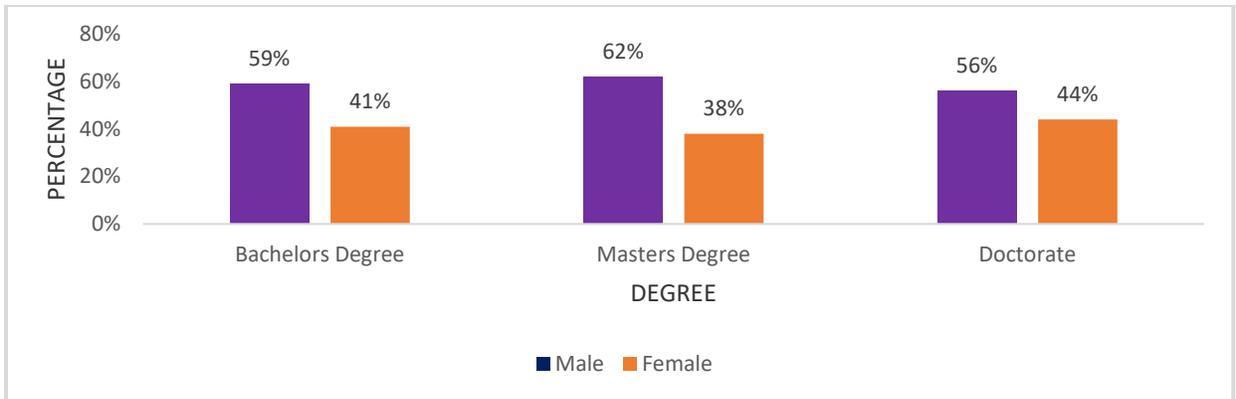


Figure 2-6: Gender Analysis of Economics Based Courses Enrolment in Public Universities
Source: Commission for University Education, 2016

2.7 Bachelors Degree in Economics Based Courses Enrolment in Private Universities

Most students (78 percent) who enrolled in Private Universities for Economics courses did pure Economics while only 22 percent enrolled for Economics and other subjects as indicated in Figure 2-7. The Private Universities do not offer courses in Economics at Masters and PhD levels according to the data from the Commission of University Education of 2016. This status was corroborated by an internet search of other Private Universities in Kenya.

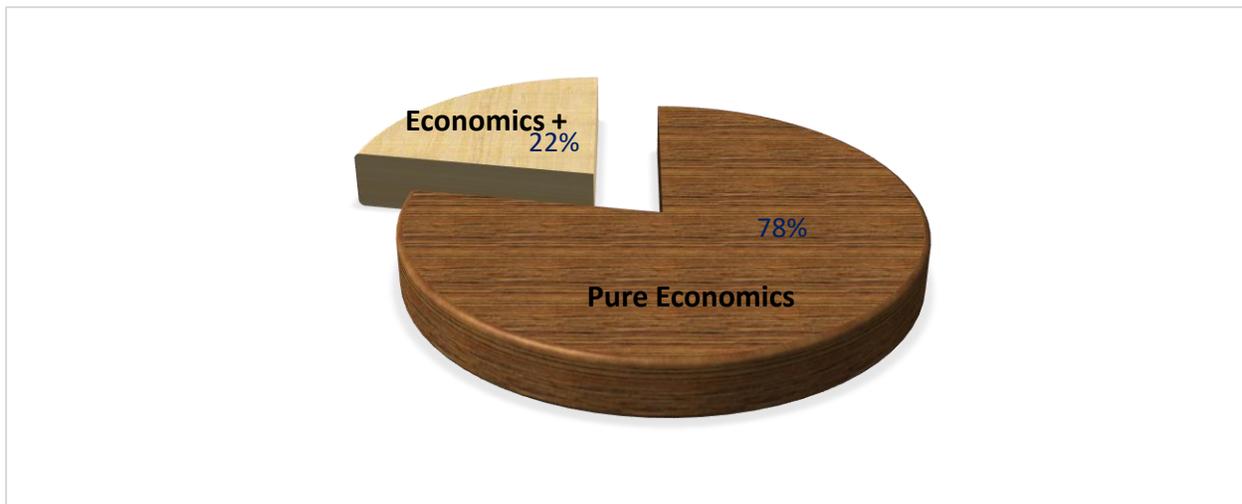


Figure 2-7: Bachelors Degree in Economics Based Courses Enrolment in Private Universities

Source: Commission for University Education, 2016

2.8 Gender Analysis of Bachelors Degree in Economics Based Courses Enrolment in Private Universities

In 2016, the total number of students who enrolled for Bachelors Degree in Economics based courses in Private Universities was 788 out of which 491 (62 per cent) were male and 297 (38 per cent) were female (Figure 2-8) .

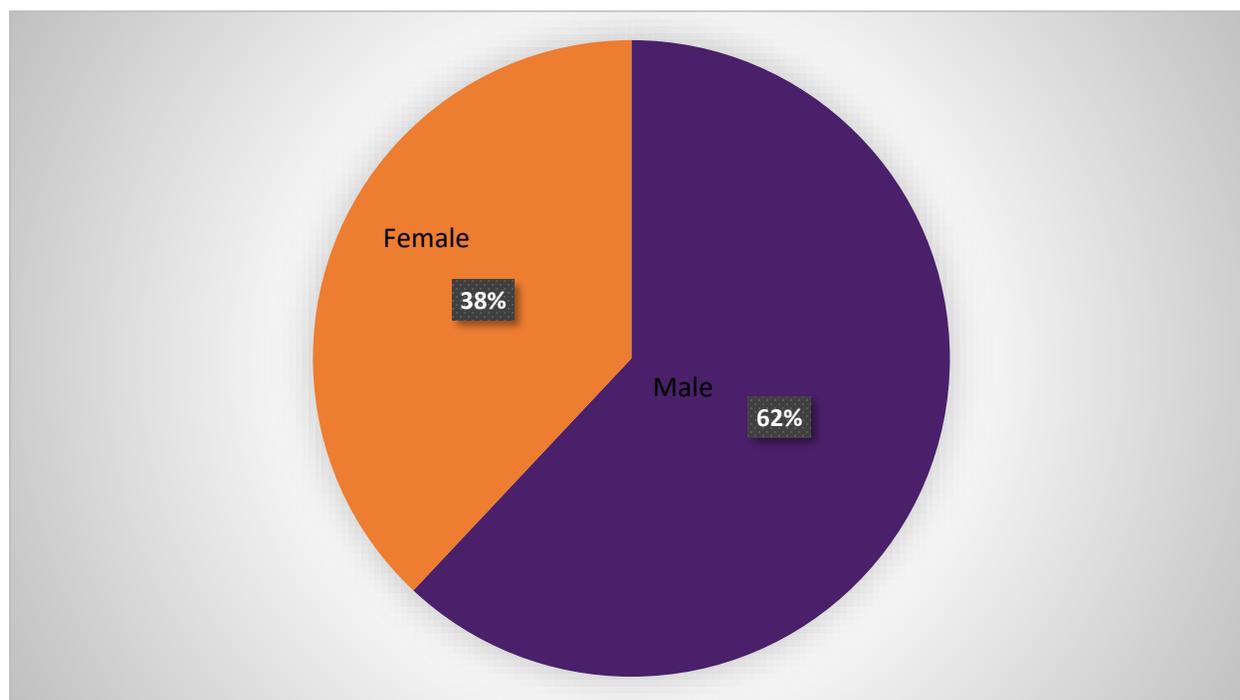


Figure 2-8: Gender Analysis of Bachelors Degree in Economics Based Courses Enrolment in Private Universities

Source: Commission for University Education, 2016

2.9 Probability Analysis

This section shows the probability analysis based on the data provided by CUE on Economics students' enrollment in 2016. The analysis has been done using the concept of the probability tree. A higher degree of likelihood of occurrence of an event is shown by a probability that approaches 1. The more you drift away from 1 towards 0 indicates that the likelihood of occurrence of an event is decreasing and at 0, there will be no occurrence of an event at all. However, for the purposes of this analysis it was assumed that the trend of enrollment for Masters and PhD in Economics is the same across all years.

From the Table 2-1, based on the CUE database, 58.5 per cent of the university enrollments at the three levels in 2016 were males while 41.5 per cent were females. For males, there is a 93 per cent chance that one student picked at random among males would be a Bachelors Degree holder and 6.2 per cent and 0.8 per cent chance that the student will be a Masters and Doctorate degree holder respectively. For females, there is a 94 per cent chance that a student picked at random

among females will be a Bachelors Degree holder and 5.4 per cent and 0.8 per cent chance that the student will be a Masters and Doctorate Degree holder respectively.

Table 2-1: Students Enrollment in Economics Based Degrees in Kenyan Universities in 2016

Level	Males (58.5 %)	Females (41.5 %)
Bachelors	11840 (0.93)	8685 (0.94)
Masters	890 (0.062)	542 (0.054)
Doctorate	109 (0.008)	85 (0.008)
Grand Total	12839	9312

Source: Author's computation

Now suppose you have a Bachelors degree, Masters degree or PhD, what are the chances that you are male or female?

Table 2-2: Conditional Probabilities of Enrolment in a Courses Given by Gender

Level	Males (58.5 %)	Females (41.5 %)
Bachelors	$P(\text{Male has a bachelors}) = (0.585 \times 0.93) = 0.544$	$P(\text{Female has a bachelors}) = (0.94 \times 0.415) = 0.390$
Masters	$P(\text{Male has a Masters}) = (0.062 \times 0.585) = 0.036$	$P(\text{Female has a bachelors}) = (0.054 \times 0.415) = 0.022$
Doctorate	$P(\text{Male has a PhD}) = (0.008 \times 0.585) = 0.005$	$P(\text{Female has a PhD}) = (0.008 \times 0.415) = 0.003$

Source: Author's computation

Ideally if you are in the top row, then you have enrolled for a Bachelors degree and if you have enrolled for Masters degree you are in the second row. Similarly, if you have enrolled for a PhD then you are in the third row.

What is the probability that a Bachelors Degree holder is a male? For a male, the chance of having a Bachelors Degree is 0.544. However, the probability of enrolling for any Bachelors Degree is the chance of enrolling by male students plus the probability of enrollment by female students. That is **$0.544 + 0.390 = 0.934$**

This implies that the probability of getting a male student enrolled for a Bachelors degree is given by:

$P(M/B) = 0.544 / 0.934 = 0.582$

This implies that the probability of finding a male student enrolled in a Bachelors degree program is about 58.2 per cent as opposed to 58.5 per cent as indicated in table 2-2. This is almost exact implying that a randomly drawn Bachelors' degree student from the enrollment database has 58.2 per cent chance of being male.

What is the probability that a Bachelors Degree holder is a female?

$$P(F/B)=0.390/0.934=0.418$$

Employing Bayes rule to determine the conditional probabilities

$$P(M/B) = \frac{P(B/M) * P(M)}{P(B/M) * P(M) + P(B/F) * P(F)}$$

$$P(M/B) = [0.93*0.585]/\{[0.93*0.585]+[0.94*0.415]\}$$
$$= 0.544/0.9341= 0.582$$

P(Male/Bachelors) [P(M/B)]: This is the probability of picking a male student given that he holds a Bachelors Degree. The likelihood of finding a male student with a Bachelors degree was found to be 0.582.

P(B/M): This is the probability of having a Bachelors Degree given that you are a male. This is the true probability of a male student enrolled in a bachelors program which is 0.93.

P(M): This is the probability that a randomly selected Bachelors Degree student from the enrollment database is a male (0.585)

P(F): This is the probability that a randomly selected Bachelors Degree student from the enrollment database is a female (0.415)

P(B/F): This is the probability that a randomly selected student from the enrollment data base has a Bachelors Degree given that she is a female student (0.94)

Conditional probabilities of course selection and transition to higher courses

Based on the CUE database, the total number of enrolments based on whether a student is specializing pure or other Economics related courses is presented in Table 2-3. The results show that at Bachelors level, most students enroll for Economics plus other subjects. Same is the case for Masters Level showing that most students prefer combining Economics with other courses and not purely Economics.

Table 2-3: Distribution of Student Enrollment by Gender and area of Specialization in the Various Levels of University Education

Academic Level	Area of Specialization	Male	Female	Total
Bachelors	Pure Economics	3890	2722	6612
	Economics+	7950	5963	13913
	Total	11840	8685	20525
Masters	Pure Economics	416	243	659
	Economics+	474	299	773
	Total	890	542	1432
Doctorate	Pure Economics	75	76	151
	Economics+	34	9	43
	Total	109	85	194
Grand Total		12839	9312	22151

Source: Author's computation

The analysis was further extended to gain deeper understanding on the various probabilities of a student enrolling for pure economics or economics plus degrees at the three levels of university education. The results are shown in Table 2-4.

Table 2-4: Distribution of Enrollment by Area of Specialization at Bachelors, Masters and PhD levels

Level	Pure Economics (0.335)	Economics + (0.665)
Bachelors	6612 (0.891)	13913 (0.945)
Masters	659 (0.089)	773 (0.052)
Doctorate	151(0.020)	43 (0.003)
Total	7422	14729

Source: Author's computation

The results in Table 2-4 shows that from the CUE database, 33.5 per cent of the enrolled students as at 2016 were taking pure Economics whereas 66.5 per cent were taking other Economics related courses at the three levels of university education. For those taking pure Economics, 89 per cent, 8.9 per cent and 2 per cent of the enrollments in were in Bachelors, Masters and Doctorate levels respectively. When we look at those taking other Economics related degrees, we find that 94.5 per cent, 5.2 per cent and 0.3 per cent enrolled in Bachelors, Masters and Doctorate levels respectively.

Suppose you have a Bachelors degree, Masters degree or PhD, what are the probabilities that you are enrolled for a pure Economics or other Economics related degree? Table 2-5 shows the conditional probabilities of enrollment in the three levels given that you are taking pure Economics or other Economics related programmes.

Table 2-5: Conditional Probabilities of Enrollment given that you are Taking Pure Economics or Other Economics Related Degrees

	Pure Economics (0.335)	Economics + (0.665)
Bachelors	P (Pure Econ in bachelors) =(0.891x0.335) =0.298	P (Econ+ in Bachelors) =(0.945x0.665) =0.628
Masters	P (Pure Econ in Masters) = (0.089x0.335) =0.03	P (Econ+ in Masters) = (0.052x0.665) =0.035
Doctorate	P (Pure Econ in PhD) =(0.020x0.335) =0.008	P (Econ + in PhD) = (0.003x0.665)=0.002

Source: Author's computation

The results in the table implies that the probability of getting a Bachelors Degree student enrolled in pure Economics is 0.289 while the probability of getting a Bachelors Degree student enrolled in Economics plus is 0.628.

The probability of getting a student enrolled for a Bachelors Degree is therefore given by **P(B)= 0.289+0.628=0.926**. Similarly, the probability of getting a Masters Degree student enrolled in pure Economics is 0.03 while the probability of getting a Masters Degree student enrolled in Economics plus degree is 0.035. Therefore, the probability of getting a student enrolled for a Masters Degree program is given by:

$$P(M)=0.03+0.035=0.065.$$

The main question of concern is therefore determining the probability that a randomly selected student from the CUE database will enroll for pure Economics Masters Program given that he or she took a Bachelors Degree in pure Economics.

Employing Bayes Rule we have

$$P(PEM/PEB) = \frac{P(PEB/PEM) * P(PEM)}{P(PEB/PEM) * P(PEM) + P(PEB/EPM) * P(EPM)}$$

Where:

- i. **P(PEM):** Probability that a randomly selected student from the database will be enrolled in pure Economics for a Masters program=**0.03**
- ii. **P(PEB):** Probability that a randomly selected student from the database will be enrolled in pure Economics for a Bachelors program =**0.298**
- iii. **P(EPM):** Probability that a randomly selected student from the database will be enrolled in Economics plus for a Masters program=**0.035**
- iv. **P(PEB/PEM):** Probability that a student enrolled for a Bachelors degree in pure Economics given that he or she is currently enrolled for a Masters degree in pure Economics =1

- v. **$P(PEB/EPM)$** : Probability that a student enrolled for a Bachelors degree in pure Economics given that he or she has enrolled for Masters degree in Economics plus= 1-
 $P(PEM)=1-0.03=0.97$.
- vi. **$P(PEM/PEB)$** : Probability that a student will enroll for a Masters degree given that they were enrolled for a Bachelors degree in pure Economics

$$P(PEM/PEB) = \frac{1 \times 0.03}{(0.97 \times 0.03) + (0.298 \times 0.035)}$$

$$P(PEM/PEB) = \frac{0.03}{(0.0291) + (0.0104)}$$

$$P(PEM/PEB) = \frac{0.03}{0.0395}$$

$$= 0.759$$

This implies that the probability of a student enrolling for a Masters degree in pure Economics given that he or she took a Bachelors degree in pure Economics is about 76 per cent. These findings reflect what actually happens in the country. This is because undertaking masters in pure Economics requires a good background in pure Economics. It is also one of the key requirements for admission into pure Economics Masters Degree program. The results also imply that 24 per cent of pure Economics graduate are likely to pursue a Masters in Economics plus degrees.

CHAPTER THREE

ANALYSIS OF THE DISTRIBUTION OF SERVING ECONOMISTS/STATISTICIANS IN GOVERNMENT EMPLOYED BETWEEN 1985 AND 2011

This chapter provides information on distribution of serving Economists/Statisticians at the National and County Governments who were employed between 1985 and 2011 under the Scheme of Service for Economists/Statisticians. The chapter makes an analysis of Serving Economists/Statisticians by gender and job groups. It is important to note that the Government conducted the last recruitment for Economists/Statisticians in the year 2010. However, there were officers who were recruited in 2010 but reported for deployment in 2011.

The chapter also presents Survival Analysis of Economists/Statisticians in service by gender. It also includes an analysis of highest academic and professional qualifications of Serving Economists/Statisticians. This is based on the latest submitted information as contained in the State Department for Planning database for Economists/Statisticians as at September, 2018.

Further, the results of the analysis of questionnaires administered to Economists employed in 2010 and those who have served for 25 years are presented in the chapter.

3.1 Serving Economists/Statisticians in the National and County Government by year of Recruitment

The highest number of serving Economists/Statisticians were recruited in 2010 at 201 (15 officers depicted in 2011 were recruited in 2010 but reported in 2011). The other years which had a high number of Serving Economists/Statisticians were recruited are 2008 at 92 (including officers who reported in 2009), followed by those recruited in 2005 at 63 and 2006 at 59 officers.

Data for 1998, 1999, 2004 and 2007 represents Economists/Statisticians who re-designated from other Schemes of Service. Economists/Statisticians who re-designated to the Scheme of Service for Economists/Statisticians were from the Schemes of Services for Procurement, Youth, Land Adjudication and Trade Officers. The analysis also indicates that there were no recruitments for Economists/Statisticians from the year 2000 to 2004 reflecting a period of implementation of employment freeze and staff rationalization in the public sector. There has also been no new recruitment for Economists/Statisticians from the year 2010 to the present (2018) caused by the Government freeze on new employment for non-essential services. Figure 3-1 analyzes the number of Economists/Statisticians currently serving by their year of recruitment as per the data base for Economists of September, 2018.

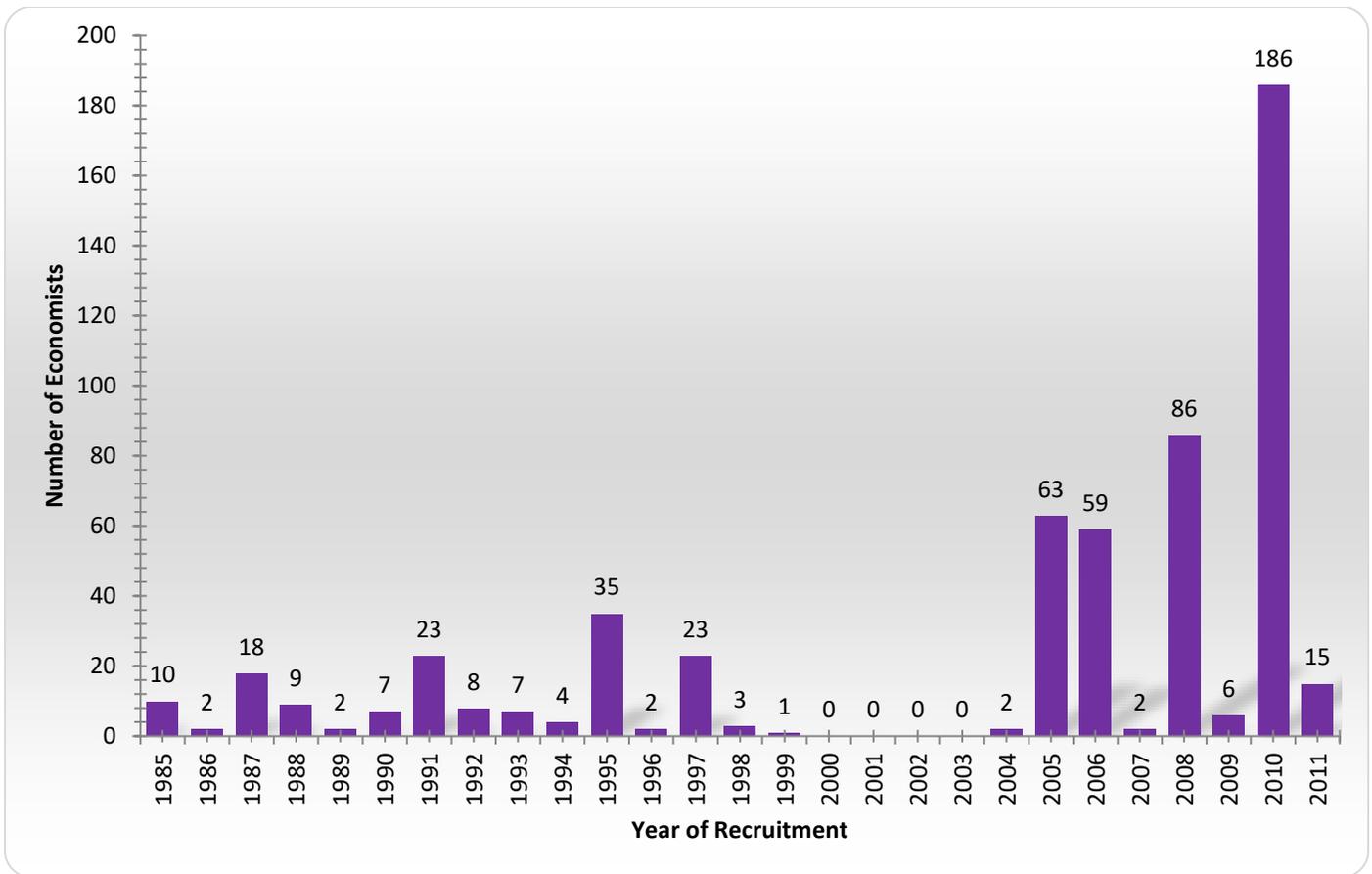


Figure 3-1: Serving Economists in the National and County Government as per the year of Recruitment

Source: State Department for Planning Database, September 2018

3.2 Gender Analysis of Serving Economists/Statisticians as at September 2018

Out of the 573 Economists/Statisticians, 76 per cent (436) are male and only 24 per cent (137) are female which is slightly below the two thirds gender rule as espoused by the Constitution of Kenya, 2010. Figure 3-2 shows the gender distribution of Economists/Statisticians serving under the Scheme of Service for Economists/Statisticians.

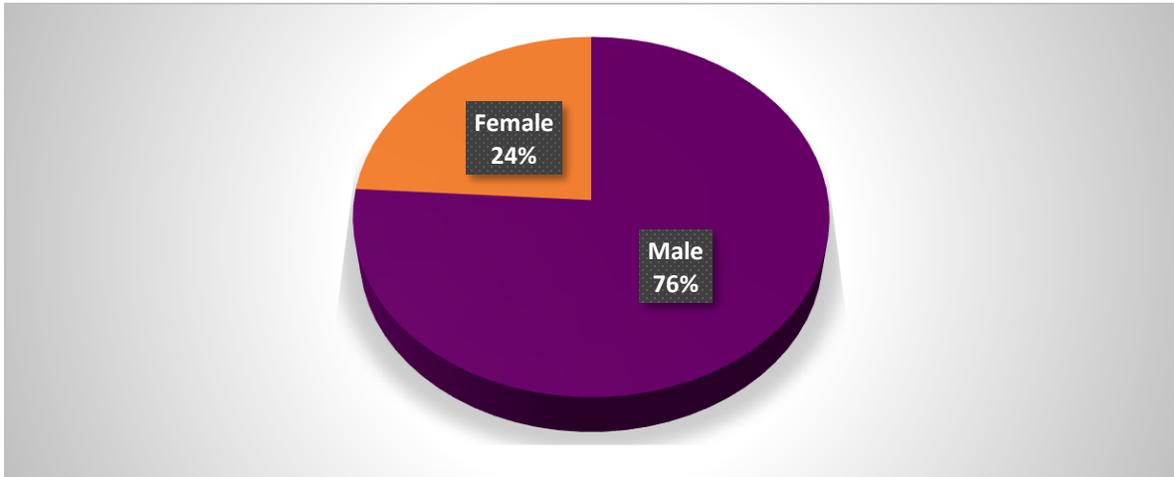


Figure 3-2: Gender Analysis of Serving Economists/Statisticians

Source: State Department for Planning Database, September 2018

3.3 Serving Economists/Statisticians in the National Government by year of Recruitment

The analysis indicates that most of the Economists/Statisticians serving at the National Government were recruited in the year 2010. A few who were recruited in 2010 reported in 2011. In years 2008, 2005 and 2006, there are 62, 59 and 43 Serving Economists/Statisticians respectively. In the other years, there are less than 40 Serving Economists/Statisticians. Figure 3-3 shows the analysis of Economists/Statisticians serving at the National Government.

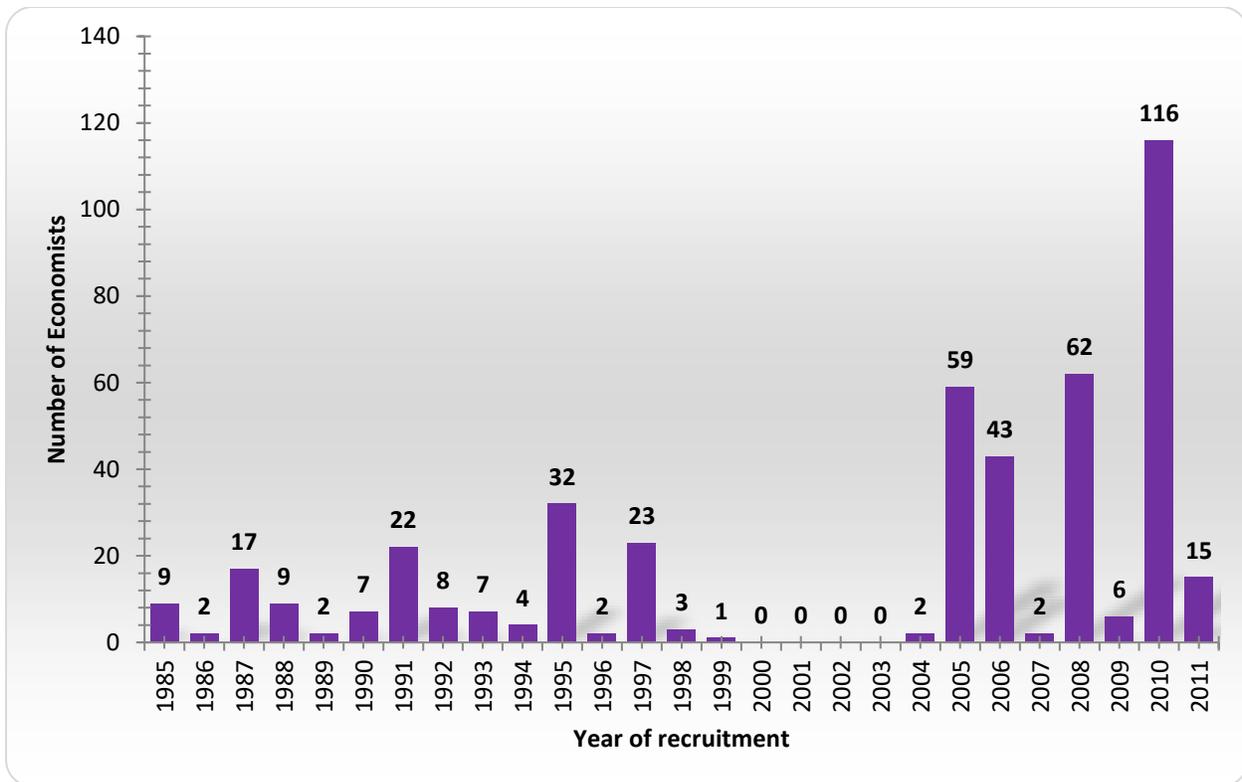


Figure 3-3: Serving Economists in the National Government as per the year of recruitment
Source: State Department for Planning Database, September 2018

3.4 Gender Analysis of Serving Economists in the National Government from 1985-2011

Over the years, there were more male Serving Economists/Statisticians recruited compared to female. Generally, out of the 453 Serving Economists in the National Government, 74 percent (336) are male while 26 percent (117) are female, which is slightly below two thirds gender rule as espoused in the Constitution of Kenya, 2010. The Economists indicated in figure 3-4 as employed in 2011 were recruited in 2010 but reported in 2011.

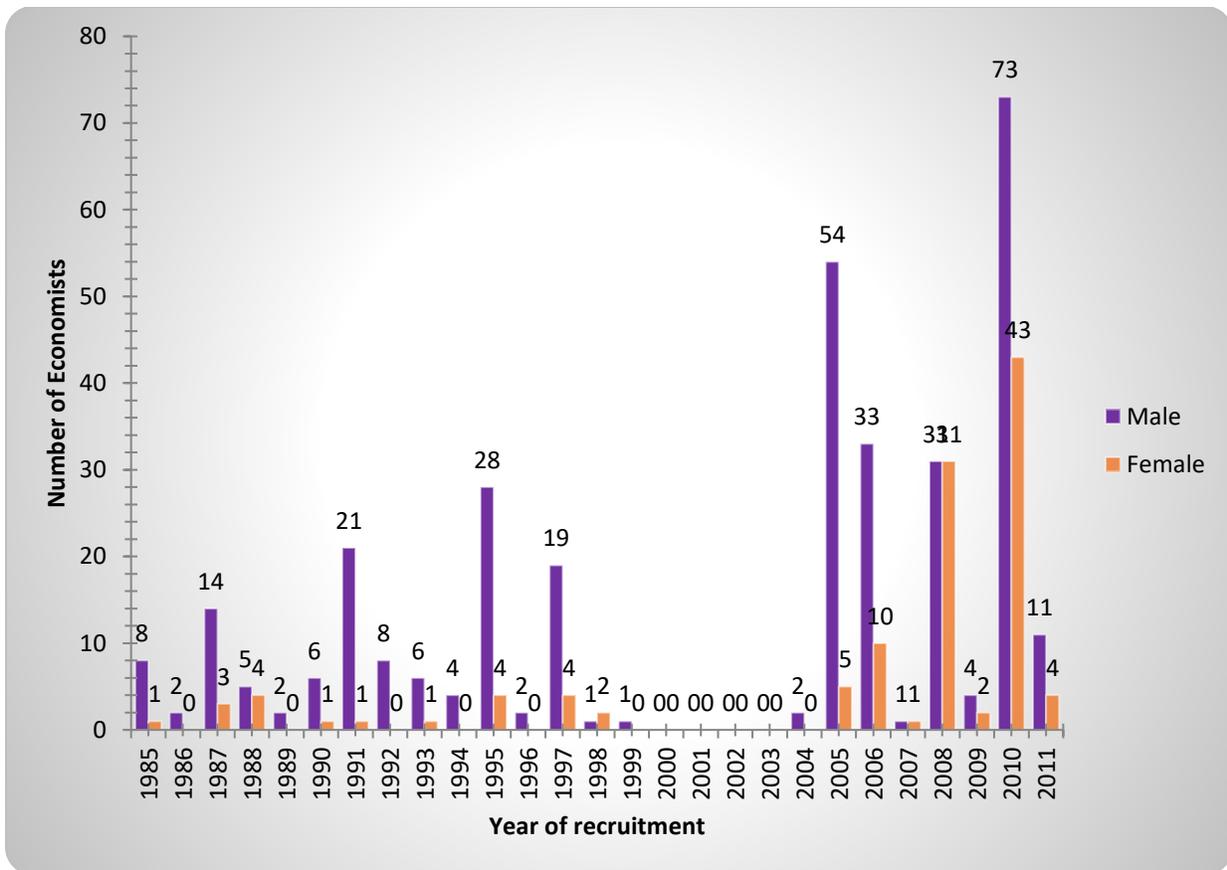


Figure 3-4: Gender Analysis of Economists recruited from 1985-2010

Source: State Department for Planning Database, September 2018

3.5 Serving Economists/Statisticians in the County Government by year of recruitment

The Economists/Statisticians indicated to be serving in the County Governments were initially employed by the National Government as Provincial Planning Officers (PPOs) and District Development Officers (DDOs) and deployed to the then provinces and districts. With the implementation of devolution in 2013, following the promulgation of the New Constitution in 2010, all Economists/Statisticians who were working in the former Provinces and Districts were seconded to the County Governments where they were working. After the lapse of the secondment period, the officers were absorbed to the respective County Governments with an exception of a few who were redeployed to the National Government. This analysis does not include Economists/Statisticians recruited directly by the County Governments through their respective County Public Service Boards.

The Scheme of Service for Economists/Statisticians of April 2016 recommends deployment of Economists/Statisticians to all 47 counties to oversee and coordinate planning, monitoring, evaluation and reporting of the National Government functions at the County level. To date, this

recommendation has not been implemented leaving a big gap in enhancing linkages of planning functions between the two levels of government.

The analysis in Figure 3-5 indicates that the Serving Economists/Statisticians recruited in 2010 and were serving at the county level were more than those recruited in other years.

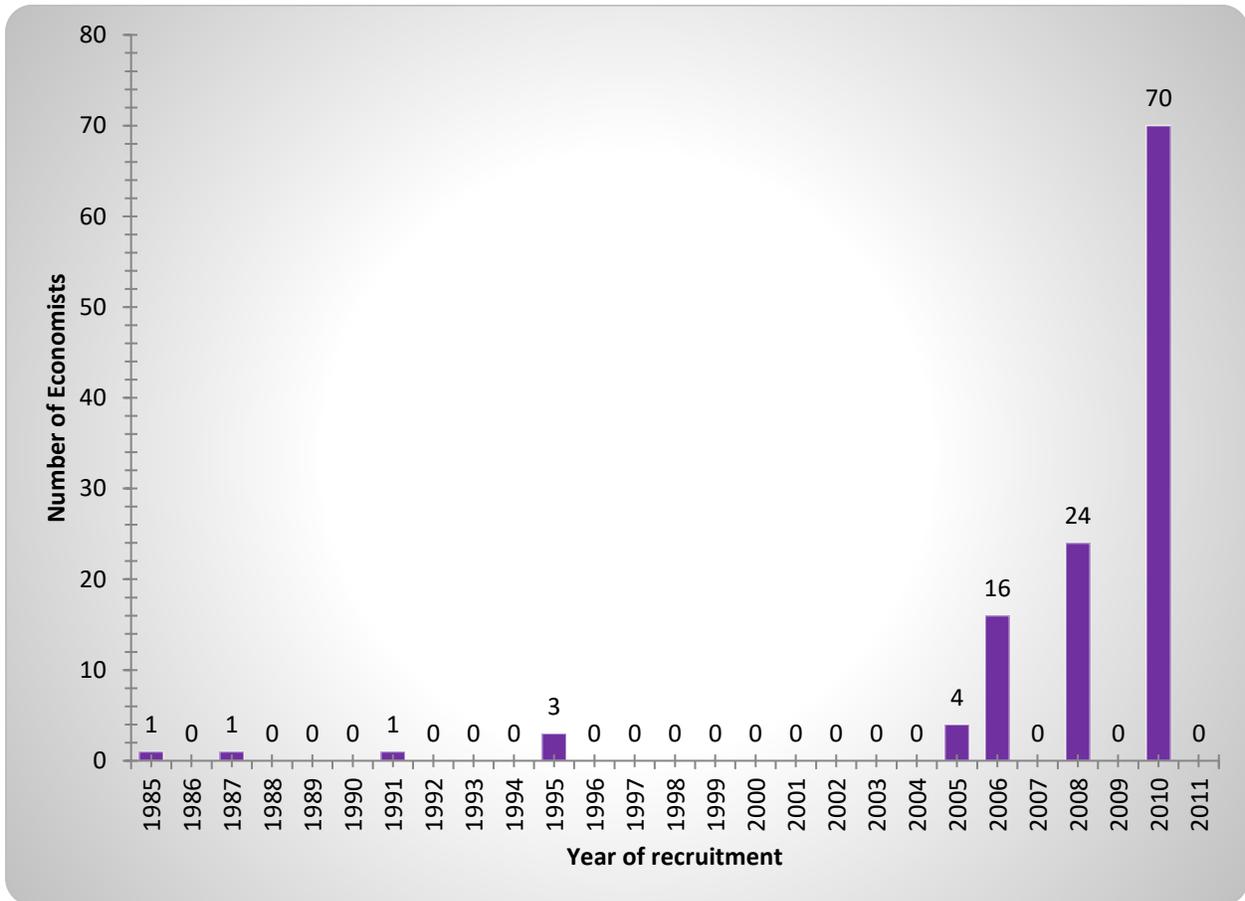


Figure 3- 5: Economists in the County Government as per the Year of Recruitment

Source: State Department for Planning Database, September 2018

3.6 Analysis of Serving Economists/Statisticians based on Gender and Job Group

Figure 3-6 shows that the numbers of male Economists/Statisticians are more than their female counterparts across all the job groups. Majority of both male and female Economists/Statisticians are in job group L.

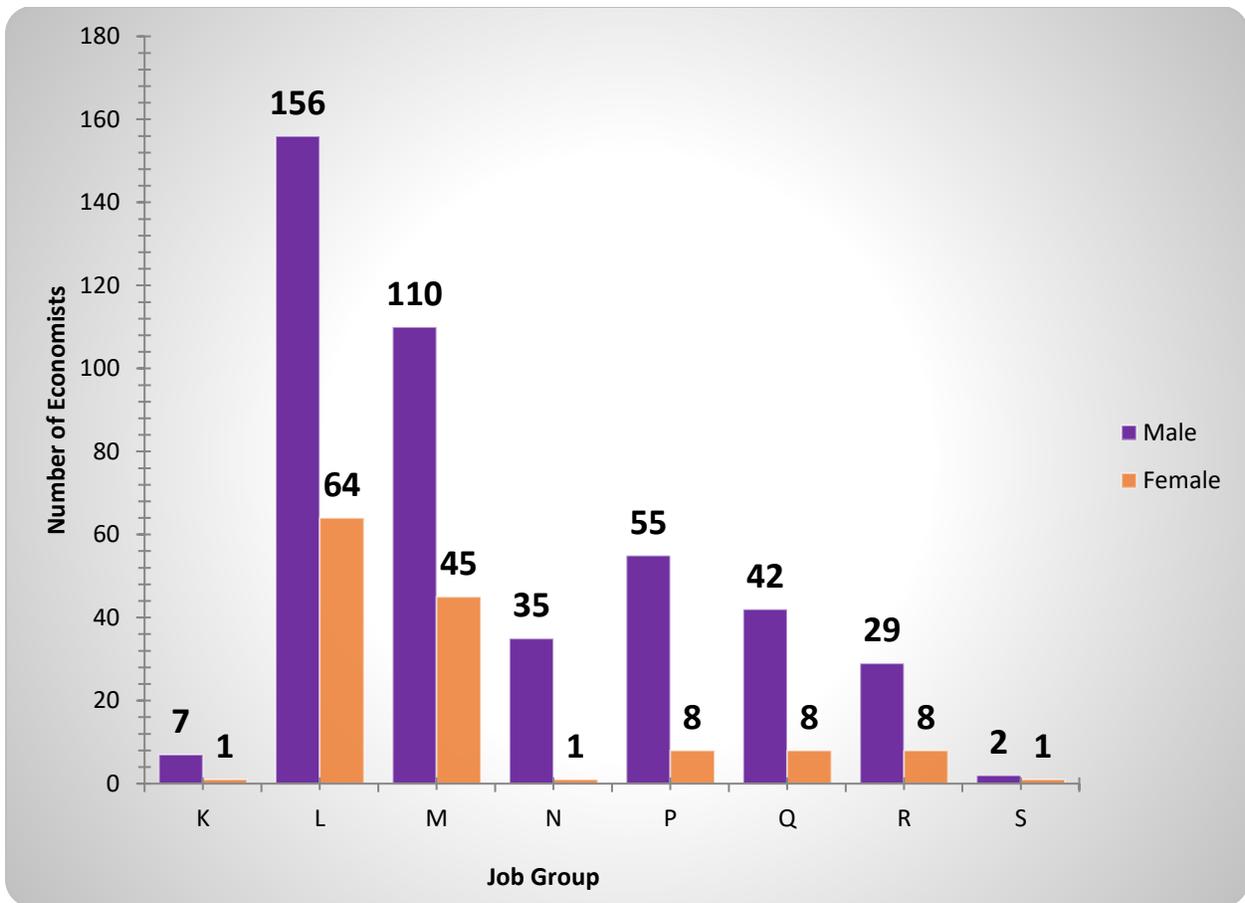


Figure 3-6: Analysis of Serving Economists/Statisticians based on Gender and Job Group
Source: State Department for Planning Database, September 2018

Authorized Staff Establishment for State Department for Planning as at March 2019

Table 3-1 presents the results of the analysis of the State Department for Planning Authorized Establishment per Job Group. The results shows that, at Job Group K/L there is a deficit of 8 Economists against the authorized establishment of 47 Economists, at Job Group M there is a surplus of one Economist while in Job Group N to S, there is a shortage of Economists against the Authorized Establishment implying that the State Department is not performing optimally to meet its requirements. This deficit has had adverse effects on staffing levels at the Department coupled with high levels of stagnation within these Job Groups.

Table 3-1: Authorized Staff Establishment for State Department for Planning

Job Group	Authorized Establishment	In-Post	Variance (-)
T	1	1	0
S	6	3	(3)
R	14	13	(1)
Q	17	9	(8)
P	97 ²	11	(86)
N	36	2	(34)
M	38	39	1
K/L	47	39	(8)
Total	256	118	(138)

Source: Author's computation

3.7 Survival Analysis of Economists/Statisticians based on gender

The analysis of Serving Economists/Statisticians based on the database for Economists as at November, 2010 and September, 2018 for Economists recruited in 2005, 2006, 2008 and 2010 disaggregated by gender is shown in Table 3-2. A simple analysis of officers' in-post for the two periods and the attrition rate is also shown in the table.

Table 3-2: Survival Analysis of Economists/Statisticians Based on Gender

Year of Recruitment	2005			2006			2008			2010		
	Male	Female	Total									
In-post 2010	67	8	75	50	12	62	57	38	95	169	60	229
In-post 2018	58	5	63	45	13	58	47	38	85	131	55	186
Attrition (per cent)	13	37	16	10	0	6	17	0	11	22	8	19

Source: Author's computation

The average attrition rate was highest for Economists recruited in 2010 at 19 per cent followed by those recruited in 2005 at 16 per cent. The attrition rate for 2006 and 2008 were moderate at 6 per cent and 11 per cent respectively. The average attrition rate for the four recruitment periods was 15 per cent indicating a challenge in retaining optimum number of staff in the Scheme of Service. The main reasons for attrition are re-designation to other Schemes of Service especially the Scheme of Service for Finance Officers, transfer of service especially to Constitutional Commissions and Independent Offices, resignations, death, termination among others.

3.7.1 Survival Analysis of Serving Male Economists

The analysis of survival rate of serving male Economists is provided in Figure 3-7. The attrition rate for male Economists is comparatively high and call for a detailed analysis of this

² This includes 47 posts at the County level

phenomenon. The highest attrition rate was observed to be among those recruited in 2010 at 22 percent, followed by those recruited in 2008 at 18 percent, 13 percent for those recruited in 2005 and the least being 10 percent for those recruited in 2006.

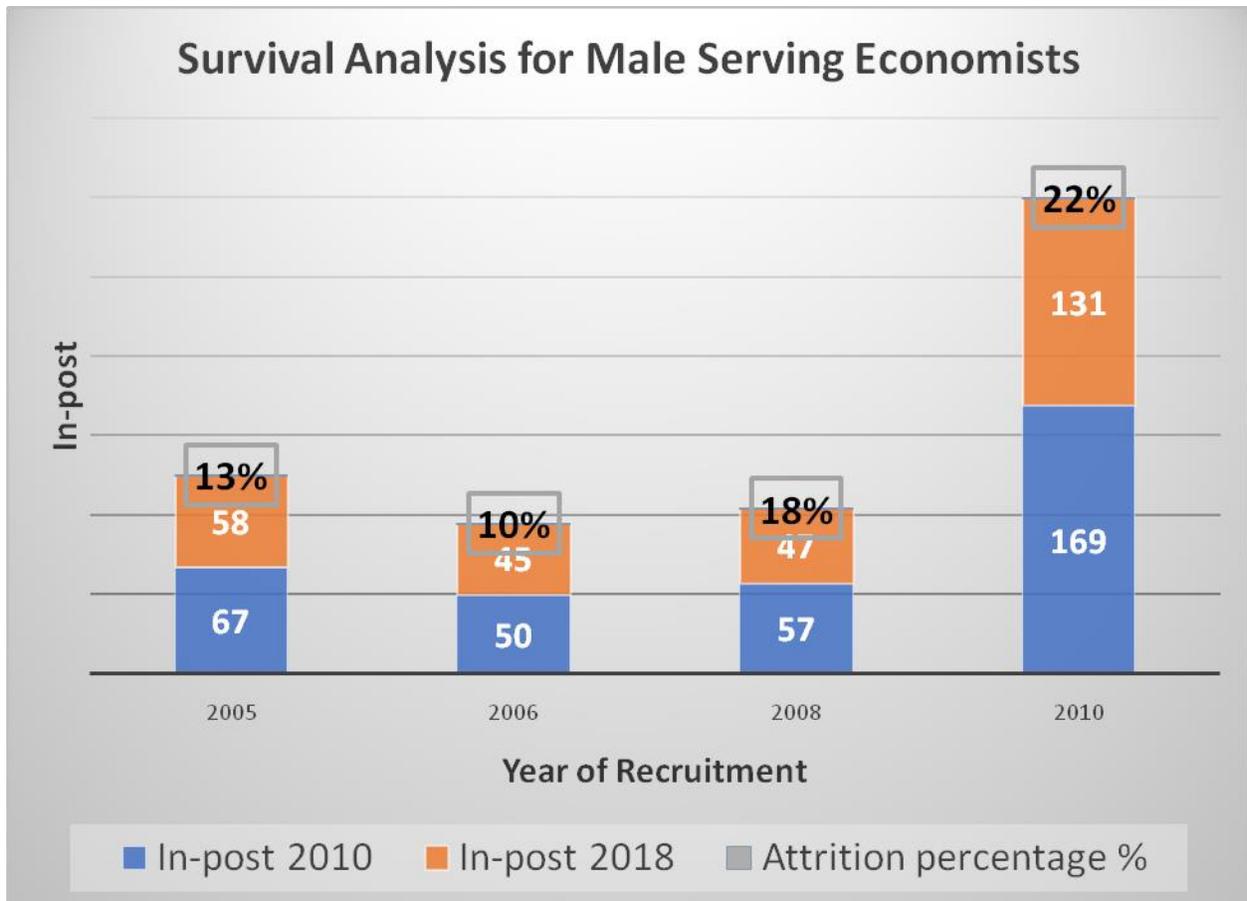


Figure 3-7: Survival Analysis of Serving Male Economists
Source: State Department for Planning Database, September 2018

3.7.2 Survival Analysis of Female Serving Economists

Figure 3-8 provides an analysis of serving female Economists/Statisticians. The attrition rate for females serving as Economists/Statisticians is lower except for the officers recruited in 2005 who had an attrition rate of 37 per cent.

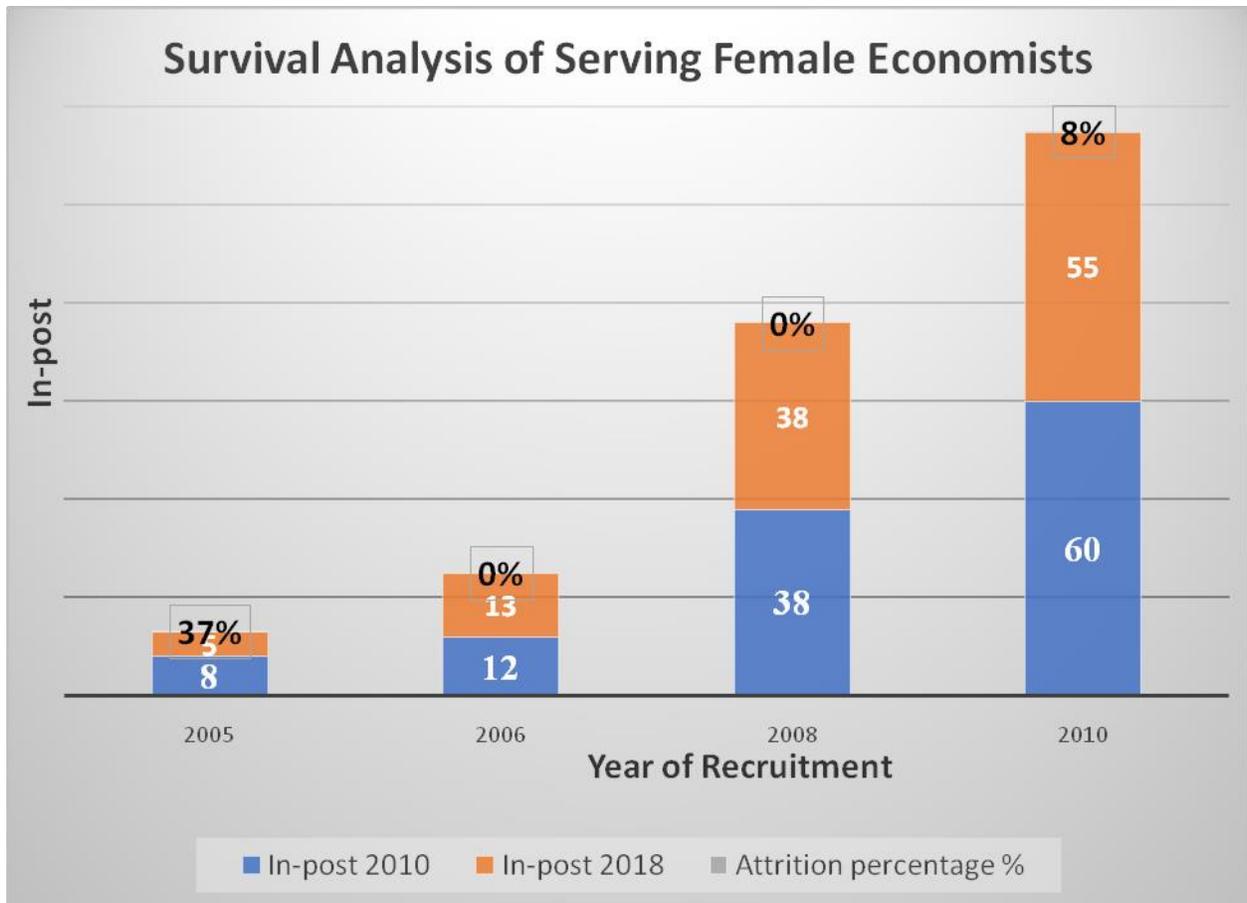


Figure 3-8: Survival Analysis of Serving Female Economists

Source: State Department for Planning Database, September 2018

3.8 Academic Qualifications of Serving Economists

This section presents the highest level of academic qualifications for Serving Economists/Statisticians. This includes Bachelors, Masters and PhD degrees.

3.8.1 Distribution of serving Economists with Bachelors, Masters and PhD Degrees

As at September 2018, the highest number of Serving Economists had Masters (59 per cent) followed by those with Bachelors only (40 per cent). Only a few of the serving officers had PhD representing 1 percent of the total as indicated in figure 3-9.

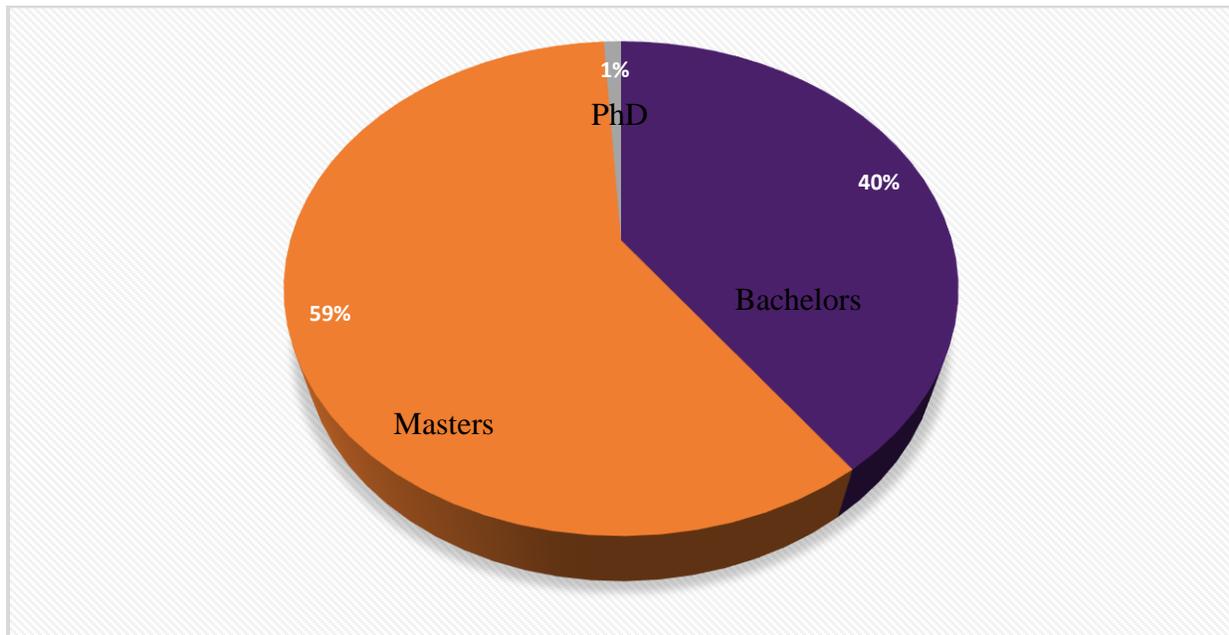


Figure 3-9: Serving Economists with Bachelors, Masters and PhD Degrees

Source: State Department for Planning Database, September 2018

3.8.2 Distribution of serving Economists with Bachelor Degree Only

As shown in figure 3-10, majority of the serving Economists with Bachelors' degree in pure Economics stood at 57 per cent followed by those with other degrees (33 per cent) which include Bachelors of Science in Statistics, Bachelors of Science in Applied Statistics and Bachelors of Science in Mathematics. Those with Economics combined with other subjects stood at 10 per cent; mainly Bachelors of Arts (Economics and Mathematics) and Bachelors of Education (Economics and Mathematics).

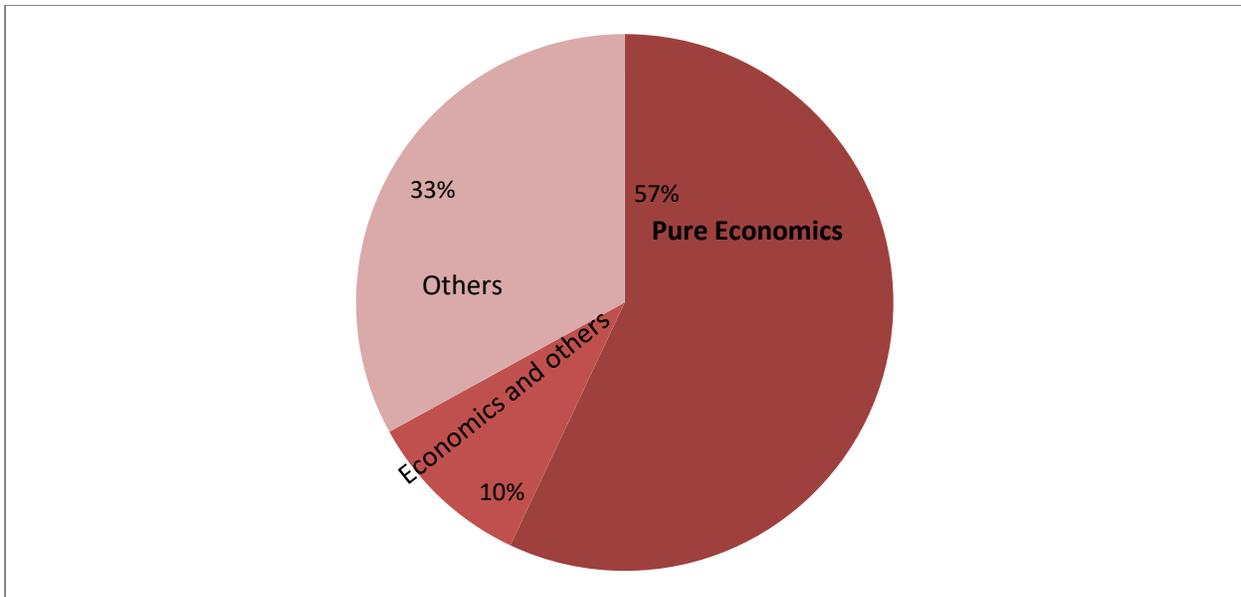


Figure 3-10: Distribution of serving Economists with Bachelors Degree

Source: State Department for Planning Database, September 2018

3.8.3 Distribution of Serving Economists with Masters Degrees

Approximately half (52 percent) of the Serving Economists who hold Masters Degree did pure Economics, followed by those who did specialized courses in Economics (40 percent) and the least (8 percent) did other subjects as shown in figure 3-11.

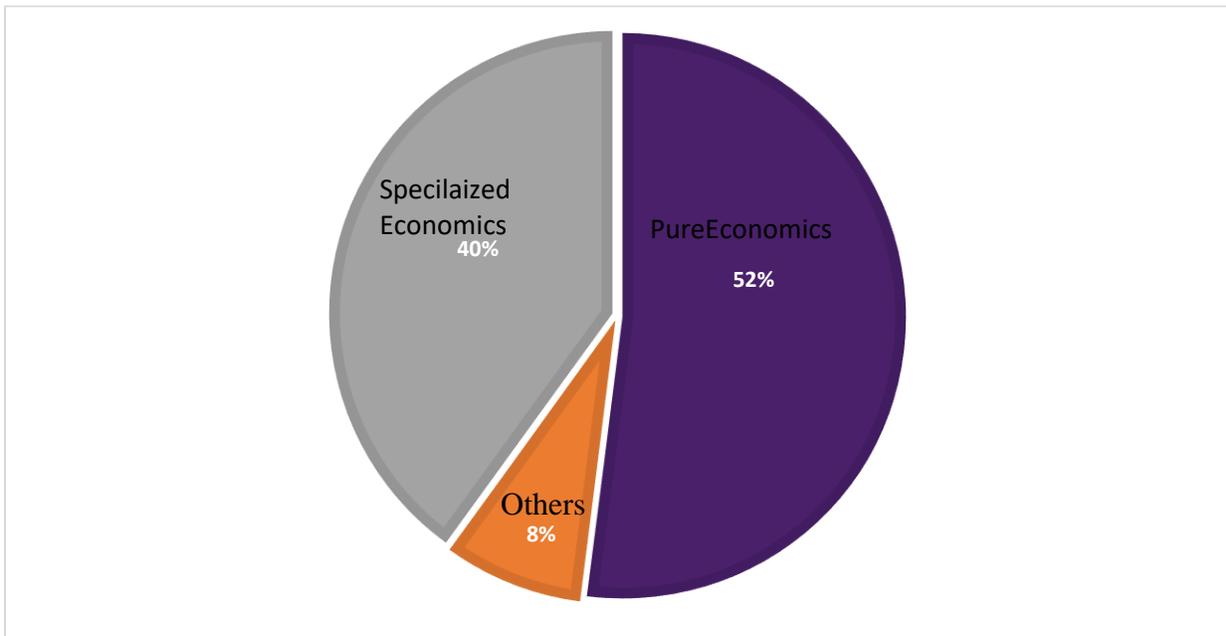


Figure 3-11: Serving Economists with Masters Degree

Source: State Department for Planning Database, September 2018

3.8.4 Distribution of serving Economists with PhD

There are only four (4) Serving Economists who have PhD in Economics, one female and three male.

3.9 Analysis of questionnaires from Serving Economists

A total of 140 questionnaires were administered to Economists employed in 2010 and those who had served for 25 years and more. In total, 74 questionnaires were filled adequately and considered for analysis, representing 51.4 per cent response rate. Out of the 74 questionnaires, 21 were female (28 per cent) while 53 (72 per cent) were male. Majority of respondents were designated as Economist I at 58 per cent (43), followed by Chief Economist at 24 per cent (18) and Deputy Chief Economist at 8 per cent (6). Three (3) Directors of Economic Planning, three (3) Principal Economists and one (1) Senior Economist I responded. Among the respondents, 58 per cent (43) have worked for a period of less than 10 years while 42 per cent (31) have been in the service for 25 years and more (*see Figure 3-12*).

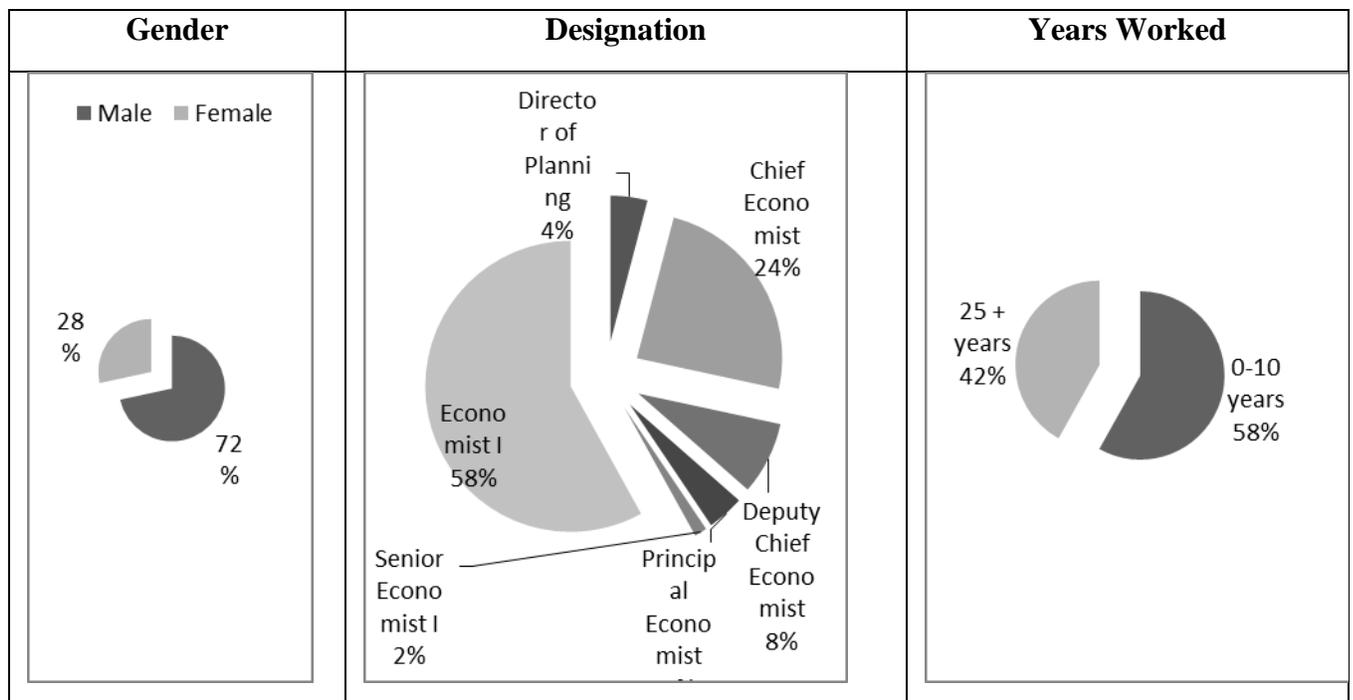


Figure 3-0.12: Sample profile

Source: Author's computation

3.9.1 Skills before Employment

The study sought to ascertain the degree and other skills that one had before employment. The result indicated that majority of the respondents had a Bachelors of Art degree in Economics at 66.2 per cent (49) while 14.9 per cent (11) had Masters of Art degree in Economics. A substantial 18.9 per cent (14) of the respondents had a Bachelor degree in Statistics, Statistics and Mathematics, Statistics and Computer or Mathematics and Computer, while about 5.4 per cent (4) had done Masters of Science in Statistics. Others had a combination of Economics and other subjects. For instance, 4.1 per cent had done Bachelors of Education in Economics and Mathematics, while 1.4 per cent had a Bachelors of Art degree in Economics and Sociology, Bachelors of Arts degree in Agricultural Economics and Bachelors of Philosophy in Economics, respectively. This outcome was the same across both gender and years worked. This is in compliance with the Scheme of Service for Economists which gives prominence to BA (Economics) at entry level.

On Average, majority of the respondents reported to a large extent that the degree courses they had undertaken before employment were relevant to their work. Additionally, 66.7 per cent had other skills before joining the service with ICT-based leading the park at 46.7 per cent followed by financial-related (31.3 per cent) and data analysis/modeling 28.9 (per cent). Other skills included monitoring and evaluation, negotiation and report writing.

Table 3-3: Skills before employment

	%
BA (Economics)	66.2
BSc (Statistics and Mathematics/Computer)	18.9
MA (Economics)	14.9
MSc (Statistics)	5.4
BED (Statistics/Mathematics)	4.1
BA (Economics and Sociology)	1.4
BA (Agricultural Economics))	1.4
BA (Economics and Mathematics)	1.4
B Phil (Economics)	1.4
Computers	46.7
CPA/Financial Skills	31.1
Modeling	28.9
Negotiation Skills	6.7
Teaching	4.4
Monitoring and Evaluation	2.2
Report Writing	6.7

Source: Author Computation

3.9.2 Specialized Skills

Since joining the Scheme of Service, officers have undertaken various specialized courses meant to improve their productivity. These include: Monitoring and Evaluation (42.4 per cent), Economic Public Policy (39 per cent), Project Management (23.7per cent), Financial Modeling and Programming (16.9 per cent), Governance (15.3 per cent), Performance Management (11.9 per cent) and Computers (10.2 per cent). Others include key skills on Environmental Impact Assessment, Investment Appraisal and Analysis, Poverty Analysis and Modeling. It should be noted that most of these courses have been determined by the officer's line of deployment, although monitoring and evaluation and economic public policy are cross-cutting and are essential in the Economics field. This was found to be the case across both genders. However, based on the years worked, environmental impact analysis was found to have been undertaken by mostly those that have served for 25 years and above while supplies management, and financial modeling and programming were found to be common with those that have served for 10 years or less. This could be explained by the continued sensitizations and information supply on government procurement opportunities and investment appraisal and analysis, owing to growth in building and construction industry.

Table 3-4: Specialized Courses undertaken during Employment

	%
Monitoring and Evaluation	42.4
Economic Public Policy	39
Project Management	23.7
Financial Modeling and Programming	16.9
Governance	15.3
Performance Management	11.9
Computer Skills	10.2
EIA	8.5
Investment Appraisal and Analysis	6.8
Poverty Analysis	5.1
Modeling	3.4
Trade negotiations	3.4
Disaster Risk Reduction and Management	1.7
Supplies Management	1.7
MA (Economics)	52.4
MA (Economic Policy Management)	31.7
M Phil (International Development)	6.3
B Phil (Economics)	4.8
MSc (Development Planning)	3.2
MSc (Health Economics)	1.6
MSc (Statistics)	1.6
PHD (Economics)	1.6
BA (Economics)	1.6
MBA (Business Administration)	1.6

Source: Author's computation

Since employment, officers have continued to further their studies, with majority (52.4 per cent) having undertaken Masters of Art degree in Economics or Masters of Art degree in Economic Policy Management (31.7 per cent). This could be explained by the Scheme of Service for Economists requirement for a Masters degree in Economics as a prerequisite for promotion to Principal Economist (PE) designation and also continued availing of training opportunities for Economists service-wide. As recognized in the scheme, several Economists have also undertaken other courses with a bias to Economics (such as health and agricultural economics) and statistics. Gender-wise, females mostly prefer Masters of Art degree in Economics while males are mostly for Masters of Art degree in Economic Policy Management and also in other Economics disciplines. The pool in specialization has been increasing with time, with those that have served for 25 years and above having had undertaken mostly Masters of Art in Economics. This could be a pointer to the additional entry level grades/courses outlined in the Scheme. It could also be

explained by a wide range of specialized courses being offered by universities now, compared to 25 years ago when the choice was limited.

3.9.3 Specialized Courses for Improvement of Performance

Most of the respondents felt that Monitoring and Evaluation (31.3 per cent), Modeling/Statistical Analysis (31.3 per cent), Project Management (28.4 per cent), Economic Policy Analysis (26.9 per cent), Strategic Management (SLDP and SMC, 22.4 per cent) and Quantitative Analysis/Financial Analysis and Programming (20.9 per cent) are key skills for any Economist to perform in the work place. Other essentials include: Environmental Impact Assessment, Performance Management (RBM tools), Strategic Planning and Public-Private Partnerships. The skills required are evenly spread by gender despite the fact that, ICT-based courses, environmental impact assessment and those on PPP-related issues are recommended by those that have 25 years and above in service.

Table 3-5: Specialized Courses Recommended for Improvement of Performance

	%
Monitoring and Evaluation	31.3
Modeling	31.3
Project Management	28.4
Policy Analysis	26.9
Strategic Management (SMC and SLDP)	22.4
Quantitative Analysis/Financial Programming	20.9
EIA	10.4
Public Sector Management	7.5
ICT Based Courses	6.0
Performance Management	4.5
Strategic Planning	3.0
PPPs	3.0
Report Writing	1.5
PHD Courses	1.5
Emerging Issues (Extractive Industries)	1.5

Source: Author Computation

Towards this end, over the years, Economists have been undertaking short courses, including Senior Management Course (SMC, 44.8 per cent), Monitoring and Evaluation (40.3 per cent), Strategic Management (37.3 per cent), Financial Programming and Policy (25.4 per cent), Project Management (20.9 per cent), Policy Analysis (19.4 per cent), Performance Management (17.9 per cent) and Modeling (10.4 per cent). Other than Monitoring and Evaluation, most of those that have served for 25 years and above have an edge on the number of short courses undertaken. However, even though Strategic Leadership Development Programme (SLDP) is expected to be undertaken as one advances in service, a substantial number of those with less than 10 years in service have already undertaken the course.

Table 3-6: Short courses undertaken during employment

	%
SMC	44.8
Monitoring and Evaluation	40.3
Strategic Management (SLDP)	37.3
Financial Programming and Policy	25.4
Project Management	20.9
Policy Analysis	19.4
Performance Management	17.9
Modeling	10.4
Poverty Analysis	4.5
EIA	4.5
PPPs	3.0
Computer Skills	3.0
Regional Integration	3.0
Gender Analysis and Mainstreaming	1.5
Global Leaders Fellowship programme	1.5
CPA	1.5

Source: Author Computation

3.9.4 Essentials for Reducing the Gap between Number of Graduate Economists and those in Employment

According to the respondents, the Government should put in place various measures to bridge the gap between the number of graduate Economists and the employed. These are: Employment (56.9 per cent); Introduce internships (26.4 per cent); Strengthen the link between GoK, Industry and Academia (23.6 per cent) and Implement the scheme of service for economists (18.1 per cent). Others include: Introduction and implementation of mentorship programmes; Strengthening ESK/Professional Body for Economists; Capacity building on proposal writing and provision of grants for self-employment; Strengthening networks; Identification of opportunities within and outside the country for Economists; Promoting specialization in early stage of employment/education and Provision of scholarships, among others.

It was felt that the Government is the biggest employer of graduates in Economics and related course and hence, should create employment opportunities in the various Ministries, Departments and Agencies (MDAs) to absorb Economists in addition to introducing paid internships for on-job training. Respondents opined that the triple-helix link between the Government, Industry and Academia needed to be strengthened as a matter of urgency to ensure that graduates are industry-ready. With limited job opportunities, it was felt that the Government, working in conjunction with both industry and academia, should equip graduates with entrepreneurial skills and grants for self-employment. Those that have served for more than 25

years felt that the current Economists Professional Body, the Economists Society of Kenya (ESK), should be strengthened just like other professional bodies.

Table 3-7: Interventions for Reducing gap between Number of Graduate Economists and the Employed

	%
Employment	56.9
Introduce internships	26.4
Strengthen the link between GoK, Industry and Academia	23.6
Implement the Scheme of Service for Economists	18.1
Introduce mentorship programmes	9.7
Strengthen ESK/Professional Body for Economists	8.3
Capacity building of proposal writing/self-employment	6.9
Networking	5.6
Identification of opportunities within and outside the country	2.8
Provision of resources/grants	2.8
Promote specialization in early stage of employment/education	2.8
Provision of scholarships	1.4

Source: Author's computation

3.9.5 Challenges Economists face in the Job Market

Among the challenges outlined, Economists felt that the important role they play is not recognized (27.5 per cent) and have no strong professional body (23.3 per cent) to regulate the profession as well as ensure roles and responsibilities are done properly and in line with training and experience. The weak link between GoK, Industry and Academia was also brought out coupled with limited job opportunities, stagnation (mostly in the public service), none specialization in most times, inadequate training opportunities (mostly outside the public service), non-dynamic scheme of service, poor remuneration (not commensurate with training and experience), non-prioritization of activities (all activities, including administrative, are deemed urgent burdening them), lack of motivation (both intrinsic and extrinsic), inadequate internship opportunities, limited analytical skills, lack/inadequate data for public policy formulation and analysis (in almost all sectors) and non-compliance to plans.

Table 3-8: Challenges

	%
Lack of recognition of the important role of economists	27.5
Weak/no professional body	23.2
Weak link between GoK, Industry and Academia	23.2
Limited job opportunities	20.3
Stagnation	20.3
No specialization most of the times	17.4
Inadequate training opportunities	8.7
Non dynamic scheme of service	7.2
Poor remuneration	7.2
No prioritization of activities	5.8
Lack of motivation	4.3
Inadequate internship opportunities	4.3
Limited analytical skills	2.9
Lack/inadequate data for public policy	2.9
No compliance to plans	1.4

Source: Author's computation

3.9.6 Recommendations for increasing the Productivity of Economists

Among the recommendations, regular training/sensitization, fair and timely promotions to boost career growth, implementation of the Scheme of Service, review of terms of service for economists, assignment of relevant roles to economists, sensitization of staff on emerging issues, improve work environment through provision of working tools, implement incentives and sanctions initiatives, strengthen ESK/Professional body for economists, implement exchange programmes for economists, ensure more funding for research and development, strengthen CPP&MUs, implementation of mentorship and coaching interventions and promotion of specialization early during training.

Table 3-9: Recommendations

	%
Regular Training/sensitizations	74.0
Fair and timely promotions/career growth	34.2
Implementation of the Scheme of Service	21.9
Review terms of service for Economists	15.1
Assignment of relevant roles to Economists	9.6
Sensitization of emerging issues	9.6
Improve work environment/provision of working tools	8.2
Implement incentives and sanctions initiatives	8.2
Strengthen ESK/Professional body for Economists	6.8
Implement exchange programmes for Economists	2.7
Ensure more funding for research and development	2.7
Strengthen CPP&MUs	1.4
Implementation of mentorship and coaching interventions	1.4
Promote specialization	1.4

Source: Author's computation

CHAPTER FOUR

CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusions

According to the data provided by CUE for 2016, twenty seven (27) out of thirty (30) Public Universities offer Economics based courses at Bachelors level. Twenty one (21) and fifteen (15) of these public universities offer courses at Masters Level and Doctoral level respectively. Only four (4) Private Universities in Kenya offer Economics based Bachelor Degree Courses. None of the Private Universities offer Economics based courses at both Masters and PhD levels.

From the study, a total of 24,169 students enrolled for Economics based degree courses in both Public and Private Universities out of which Bachelors' degree students were represented by 93 percent followed by Masters students represented by 6 percent and the least being PhD students constituting 1 percent. This shows that the transition from Bachelors to Masters Level is quite low.

The study found out that the number of male students enrolled in Economics based degrees exceeds that of female students at all levels (Bachelors, Masters and PhD). Furthermore, most students who enroll for Economics based courses at Bachelors degree level combine Economics and other subjects compared to those doing pure Economics courses. However, at Masters Level, the enrollment is almost equal while at the PhD the number of students taking pure Economics courses surpasses that of those who are taking Economics and other subjects. Specialization in Economics is at a higher degree level.

Moreover, there is a high probability of a student enrolling for a Masters degree in pure economics given that he or she took a Bachelors degree in pure economics. The same applies for a Masters graduate in Economics enrolling for a PhD in Economics programme. The Gender analysis shows that, there were more male students' enrollment than female for Bachelors, Masters and PhD degrees in Economics based courses in both Public and Private Universities.

The analysis of the database of Economists found out that among the serving Economists/Statisticians, seventy six (76) percent of them are male compared to twenty four (24) percent female. This is slightly below the two thirds gender rule as espoused in the Constitution of Kenya, 2010.

The attrition rate for the male Economists is comparatively high compared to the female's which calls for more understanding of this phenomenon. The main reasons for attrition are re-designation to other Schemes of Service especially the Scheme of Service for Finance Officers, transfer of service especially to Constitutional Commissions and Independent Offices, resignations, death and termination among others.

Analysis of the questionnaires administered to Serving Economists of 25 years plus and those recruited in 2010 found out that majority of the respondents had a Bachelors of Arts degree in Economics at 66.2 per cent (49) while 14.9 per cent (11) had Masters of Arts degree in Economics. A substantial 18.9 per cent (14) of the respondents had a Bachelors degree in either

Statistics, Statistics and Mathematics, Statistics and Computer or Mathematics and Computer, while about 5.4 per cent (4) had done Masters of Science in Statistics. Others had a combination of Economics and other subjects. For instance, 4.1 per cent had done Bachelors of Education in Economics and Mathematics, while 1.4 per cent had a Bachelors of Arts degree in Economics and Sociology, Bachelors of Arts degree in Agricultural Economics and Bachelors of Philosophy in Economics. This outcome was the same across both gender and years worked. This is in compliance with the Scheme of Service for Economists which gives prominence to BA (Economics) at entry level.

On Average, majority of the respondents were to a large extent satisfied with the degree undertaken. Additionally, 66.7 per cent had other skills before joining the service with ICT-based leading the pack at 46.7 per cent followed by financial-related skills (31.3per cent) and data analysis/modeling (28.9per cent). Other skills included monitoring and evaluation, negotiation and report writing.

Since employment, officers have continued to further their studies, with majority (52.4per cent) having undertaken Master of Arts degree in Economics or Master of Arts degree in Economic Policy Management (31.7per cent). This could be explained by the Scheme of Service for Economists requirement for a Masters degree in Economics as a prerequisite for promotion to Principal Economist (PE) designation and also continued availing of training opportunities for Economists in the Civil Service. As recognized in the Scheme, several Economists have also undertaken other courses with a bias to economics (such as Health and Agricultural Economics) and Statistics. Gender-wise, females prefer mostly Master of Arts degree in Economics while males are mostly in Master of Arts degree in Economic Policy Management and also in other economic disciplines. The pool in specialization has been increasing with time, with those that have served for 25 years and above having undertaken mostly Master of Arts in Economics. This could be a pointer to the additional entry level grades/courses outlined in the scheme.

Additionally, the analysis of data collected through the questionnaires established that Monitoring and Evaluation, Modeling/Statistical Analysis, Project Management, Economic Policy Analysis, Strategic Leadership Development Program, Senior Management Course and Quantitative Analysis/Financial Analysis and Programing are key skills for any Economist to perform in the work place. Other essentials include: Environmental Impact Assessment, Performance Management (RBM tools), Strategic Planning and Public-Private Partnerships. The skills requirement are evenly spread by gender, although ICT-based courses, Environmental Impact Assessment and those on PPP-related issues are recommended by those that have 25 years and above in service.

Among the challenges outlined, Economists felt that the important role they play is not recognized (27.5 per cent) and have no strong professional body (23.3 per cent) to regulate the profession as well as ensure roles and responsibilities are done properly and in line with training and experience. The weak link between GoK, Industry and Academia was also brought out coupled with limited job opportunities, stagnation (mostly in the public service), none specialization in most times, inadequate training opportunities (mostly outside the public service), non-dynamic scheme of service, poor remuneration (not commensurate with training and experience), non-prioritization of activities (all activities, including administrative, are

deemed urgent burdening them), lack of motivation (both intrinsic and extrinsic), inadequate internship opportunities, limited analytical skills, lack/inadequate data for public policy formulation and analysis (in almost all sectors) and non-compliance to plans.

Further, the study findings were that the government being the biggest employer of Economists in the Country should put in place various measures to bridge the gap between the number of graduate economists and those employed. These are: Employment (56.9 per cent); Introduce internships (26.4per cent); Strengthen the link between GoK, Industry and Academia (23.6 per cent) and Implement the Scheme of Service for Economists (18.1 per cent). Others include: Introduction and implementation of mentorship programmes; Strengthening ESK/Professional Body for Economists; Capacity building on proposal writing and provision of grants for self-employment; Strengthening networks; Identification of opportunities within and outside the country for Economists; Promoting specialization in early stage of employment and education and Provision of scholarships, among others.

It was also opined that the triple-helix link between the government, industry and academia needed to be strengthened as a matter of urgency to ensure that churned graduates are industry-ready. With limited job opportunities, it was felt that the government, working in conjunction with both industry and academia, should equip graduates with entrepreneurial skills and grants for self-employment. Those that had served for 25 years and more felt that the current Economists Profession Body, the Economists Society of Kenya (ESK), should be strengthened just like other professional bodies.

4.2 Recommendations

The study offers the following recommendations:

1. The Government should strengthen the Economics Profession by offering more scholarships opportunities to students willing to advance to Masters and PhD studies so as to encourage the transition from undergraduate to graduate studies. Specialized courses in Economics at Masters level should be encouraged;
2. All universities should have a compulsory attachment programme to ensure graduates are exposed and equipped for the job market;
3. Strengthening of the Economics professional body that will advocate for the relevant economic courses to be offered by universities to ensure that the graduates are easily absorbed into the job market as well as regulate the profession as well as ensure Economists contribute effectively to the achievement of the National Development agenda and in line with training and experience The State Department for Planning should spearhead the process and bring on board all the stakeholders involved such as KIPPRA, university departments of economics, all government employees in the Scheme of Service for Economists, private sector, diaspora experts in Economics among others;
4. The National Government should ensure that the Internship Policy is implemented. The State Department for Planning as the Administrator of the Scheme of Service for Economists can write to the MDAs requesting them to prioritize giving the internship and attachment opportunities to Economics students and also keep track of the available opportunities for Economists in the other MDAs;

5. Fully implement the revised Scheme of Service for Economists/Statisticians of April, 2016. In addition ensure that the entire authorized establishment for Economists/ Statisticians is filled;
6. Improve Terms of Service for Economists/Statisticians through timely promotions, relevant trainings, remunerations and consideration of other motivational factors;
7. Operationalize National Government Planning Units at County level as per the revised Scheme of Service for Economists/Statisticians of April 2016;
8. Gender imbalance has been occasioned by less female recruited into the scheme of service. There is need to adhere to the two thirds gender rule progressively in recruitment, promotions and trainings;
9. Continue providing training opportunities at Masters and PhD levels for serving Economists/Statisticians. These courses should be prioritized during training projections. Serving officers should also be encouraged to undertake training privately for self-development;
10. Undertake a gap analysis to establish capacity needs across all MDAs, and prepare and implement institution-based succession plans;
11. Undertake regular training of Economists in, among others: Project Management Cycle - Monitoring and Evaluation, Appraisal and Analysis, Environmental Impact Assessment; Modeling and Forecasting – the use of Statistical software (advanced Ms Excel, Stata, Eviews, R, SPSS, among others); Economic Policy Formulation and Analysis and Performance Management, among others;
12. Request the National Treasury for a review of research and development allocation, from the current 1 per cent of the total development expenditure, and follow-up to ensure compliance and proper targeting;
13. Strengthen the CPP&MUs for effective coordination of national and sectoral economic development through adequate staffing, lobbying for /or availing of training opportunities, timely provision of information holding regular workshops and bringing together economists in the Headquarters and in MDAs;
14. Review and implement the Scheme of Service for Economists/Statisticians in an inclusive manner to ensure that it takes into consideration level of training and experience. Fair and timely promotions/career growth, and assignment of relevant roles to economists are key ingredients for improved productivity;
15. Sensitization of Economists on emerging issues for their effective mainstreaming into policies, plans and budgets, at both levels of Government;
16. Provision of adequate working tools;
17. Implement Results Based Management (RBM) initiatives to ensure conciseness and consistency in delivery;
18. Design and implement exchange programmes for Economists;
19. Develop, disseminate and implement mentorship and coaching strategy, targeting new graduates from both public and private universities;
20. Carry out a Tracer Study in collaboration and consultation with relevant Agencies to establish where in the job market Economists are absorbed. This is especially bearing in mind that there has been no recruitment of Economists by Government since 2010;
21. Carry out an analysis to determine why only four (4) Private Universities in Kenya offer Bachelors Degree Courses in Economics and none offer Economics at Masters and PHD levels; and

22. Consider posting Economists who have done specialized courses to the areas of specialization. For instance, an Economist who has specialized in Health Economics should be promoted to head the CPP&MU in the Ministry of Health.

ANNEXURES

Annex 1: University Economics Students Enrolment 2016

ROW LABELS	MALE	FEMALE	TOTAL
PRIVATE UNIVERSITIES			
CATHOLIC UNIVERSITY OF EAST AFRICA	0	0	0
Bachelors of Arts in Economics	0	0	0
DAYSTAR UNIVERSITY	80	54	134
Bachelors of Arts in Economics	80	54	134
KABARAK UNIVERSITY	106	87	193
Bachelors of Science (Economics& Mathematics)	90	70	160
Bachelors of Science (Economics)	0	0	0
Bachelors of Science in Economics and Finance	2	1	3
Bachelors of Science in Economics and Statistics	14	16	30
Bachelors of Arts (Economics)	3	2	5
MOUNT KENYA UNIVERSITY	302	154	456
Bachelors of Economics	25	9	34
Bachelors of Economics and Finance	144	72	216
Bachelors of Economics and Statistics	133	73	206
TOTAL	488	295	783
PUBLIC UNIVERSITIES			
CHUKA UNIVERSITY	855	353	1208
Bachelors of Agricultural Economics	222	87	309
Masters of Economics	9	8	17
Bachelors of Economics and Sociology	218	137	355
Bachelors of Economics and Statistics	406	121	527
DEDAN KIMATHI UNIVERSITY OF TECHNOLOGY	11	2	13
Master of Science in Economics	11	2	13
EGERTON UNIVERSITY	1310	572	1882
Bachelors of Arts (Economics& History)	156	73	229
Bachelors of Arts (Economics& Sociology)	213	92	305
Bachelors of Science (Economics& Statistics)	484	239	723
Bachelors of Science in Agricultural Economics	367	152	519
Masters of Arts Economics	15	3	18
Masters of Science in Agricultural & Applied Economics	48	5	53
Masters of Science in Agricultural Economics	23	7	30
PhD Economics	1	1	2
PhD in Agricultural Economics	3	0	3
GARISSA UNIVERSITY	23	4	27
Bachelors of Arts in Economics	23	4	27

JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY	26	5	31
Masters of Education in Planning and Economics of Education	16	5	21
PhD in Education(Planning and Economics of Education)	10	0	10
JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY	492	279	771
Bachelors of Science in Agribusiness Economics and Food Industry Management	104	69	173
Bachelors of Science in Agricultural Economics and Rural Development	107	62	169
Bachelors of Science in Economics	124	110	234
Masters in Agricultural Applied Economics	98	27	125
Masters in Agricultural Resource Economics	4	1	5
Masters in Economics	53	9	62
PhD in Agricultural Resource Economics	2	1	3
KAIMOSI FRIENDS UNIVERSITY COLLEGE	70	41	111
Bachelors of Economics	33	17	50
Bachelors of Science (Agricultural Economics and Resource Management)	13	14	27
Bachelors of Science (Mathematics and Economics, with IT)	24	10	34
KARATINA UNIVERSITY	211	156	367
Bachelors of Arts (Economics)	108	77	185
Bachelors of Science (Agriculture Economics& Resource Management)	103	79	182
Masters of Economics	0	0	0
KENYATTA UNIVERSITY	2176	3433	5609
Bachelors of Economics	293	531	824
Bachelors of Economics and Finance	1089	1676	2765
Bachelors of Economics and Statistics	466	938	1404
Bachelors of Education (Home Economics)	224	71	295
Doctor of Philosophy (Economics)	15	50	65
Masters of Economics	31	54	85
Masters of Economics (Econometrics)	26	43	69
Masters of Economics (Policy and Management)	29	67	96
Masters of Science (Agricultural Economics)	3	3	6
KIBABII UNIVERSITY	69	45	114
Bachelors of Science (Agricultural and Economics and Resource Management)	57	39	96
Doctor of Philosophy (Economics and Management of Education)	2	1	3
Masters of Education Economics and Management Education	10	5	15
Masters of Arts (Economics)	0	0	0
KISII UNIVERSITY	429	211	640
Bachelors of Arts (Economics& Sociology)	102	71	173

Bachelors of Economics and Statistics	216	83	299
Bachelors of Science in Agricultural Economics	104	53	157
Bachelors of Science in Agricultural Economics (School based)	2	3	5
PhD in Agricultural Economics	1	1	2
Masters of Science in Agricultural Economics	4	0	4
LAIKIPIA UNIVERSITY	662	461	1123
Bachelors of Arts (Economics& Sociology)	175	145	320
Bachelors of Arts (History &Economics)	75	59	134
Bachelors of Science (Economics& Statistics)	234	141	375
Bachelors of Science in Agricultural Economics	178	116	294
MAASAI MARA UNIVERSITY	634	384	1018
Bachelors of Science in Agricultural Economics and Resource Management	195	138	333
Bachelors of Science in Economics	345	185	530
Bachelors of Science in Economics And Statistics	69	34	103
Bachelors of Science in Financial Economics	25	27	52
MACHAKOS UNIVERSITY	394	214	608
Bachelors of Economics	95	49	144
Bachelors of Economics and Finance	166	103	269
Bachelors of Economics and Statistics	133	62	195
Masters of Economics (Econometrics)	0	0	0
Masters of Economics (Finance)	0	0	0
Masters of Economics (Policy and Management)	0	0	0
MASENO UNIVERSITY	700	306	1006
Bachelors of Arts (Economics, With IT)	213	106	319
Bachelors of Arts in Economics	23	12	35
Bachelors of Economics (Agricultural Economics, with IT)	0	0	0
Bachelors of Economics (Economics & Finance, with IT)	0	0	0
Bachelors of Economics (Economics & Mathematics, with IT)	0	0	0
Bachelors of Economics (Economics & Statistics, with IT)	0	0	0
Bachelors of Science (Mathematics and Economics, with IT)	208	77	285
Bachelors of Science in Agricultural Economics, with IT	167	85	252
Doctor of Philosophy in Agricultural Economics	6	1	7
Doctor of Philosophy in Economics	13	4	17
Doctor of Philosophy in Planning &Economics of Education	1	2	3
Masters of Arts in Economics	46	12	58
Masters of Economics (Economics Policy Analysis & Management)	0	0	0
Masters of Economics& Applied Economics	0	0	0
Masters of Economics (Agricultural Economics)	0	0	0
Masters of Education in Planning &Economics of Education	14	6	20
Masters of Science in Agricultural Economics	9	1	10

MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY	1175	750	1925
Agricultural Economics and Resource Management	124	55	179
Bachelors of Science (Economics)	996	666	1662
Bachelors of Science (Mathematics and Economics with Information Technology)	38	16	54
Bachelors of Science (Economics and Statistics)	0	0	0
Doctor of Philosophy - Economics of Education	2	1	3
Masters of Education Economics of Education	1	1	2
Masters of Science (Economics)	14	11	25
MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY	71	36	107
Bachelors of Science (Economics)	71	36	107
MOI UNIVERSITY	438	238	676
Bachelors of Science (Agricultural Economics& Resource Management)	426	230	656
Doctor of Philosophy in Agricultural Economics	0	0	0
Doctor of Philosophy in Economics	12	8	20
Masters of Arts (Economics)	0	0	0
Master of Arts in International Economics and Trade	0	0	0
Master of Education In Economics of Education	0	0	0
Master of Science in Agricultural Economics and Resource Management	0	0	0
MULTIMEDIA UNIVERSITY OF KENYA	0	0	0
Masters of Science in Economics	0	0	0
MURANG'A UNIVERSITY OF SCIENCE AND TECHNOLOGY	78	35	113
Bachelors of Arts in Economics	0	0	0
Bachelors of Science in Mathematics and Economics	78	35	113
Doctor of Philosophy in Agricultural Economics	0	0	0
Masters in Education (Administration, Planning and Economics)	0	0	0
Masters of Science in Agricultural Economics	0	0	0
RONGO UNIVERSITY	202	121	323
Bachelors of Arts in Economics	147	79	226
Bachelors of Science in Agricultural Economics and Resource Management	49	42	91
Doctor of Philosophy in Planning &Economics of Education	1	0	1
Masters of Arts in Economics	5	0	5
SOUTH EASTERN KENYA UNIVERSITY	340	167	507
Bachelors of Economics	142	68	210
Bachelors of Economics and Statistics	198	99	297
Doctor of Philosophy in Agricultural Economics (Research)	0	0	0
Masters of Science in Agricultural Economics	0	0	0
TAITA TAVETA UNIVERSITY	0	0	0

Bachelors of Economics	0	0	0
TECHNICAL UNIVERSITY OF KENYA	117	53	170
Bachelors of Economics	116	53	169
PhD in Agricultural Economics	1	0	1
TOM MBOYA UNIVERSITY COLLEGE	19	2	21
Bachelors of Arts (Economics, with IT)	16	1	17
Bachelors of Science (Agricultural Economics, with IT)	1	0	1
Bachelors of Science (Mathematics Economics, with IT)	2	1	3
UNIVERSITY OF ELDORET	277	176	453
Bachelors of Arts (Economics)	191	108	299
Bachelors of Science (Agricultural Economics)	81	66	147
Doctor of Philosophy in (Environmental Economics)	1	0	1
Masters of Education in Economics Education	1	0	1
Masters in Agricultural Economics	3	2	5
PhD Environmental Economics	0	0	0
UNIVERSITY OF EMBU	86	68	154
Bachelors of Economics	83	67	150
Masters of Science in Agricultural Economics	3	1	4
UNIVERSITY OF KABIANGA	106	73	179
Bachelors of Arts (Economics)	55	22	77
Bachelors of Science in Agricultural Economics and Resource Management	22	21	43
Masters in Agricultural Economics and Resource Management	29	30	59
UNIVERSITY OF NAIROBI	1377	830	2207
Bachelors of Economics	937	573	1510
Bachelors of Science(Dry Land Economics and Agri-system Management)	17	3	20
Masters of Science in Agricultural and Applied Economics	26	22	48
Masters of Science in Agricultural Economics	2	1	3
Masters of Science in Vet. Epidemiology and Economics	5	4	9
Masters of Arts in Economics	232	144	376
Masters of Education Economics of Education	7	1	8
Masters of Science in Health Economics and Policy	113	67	180
PhD in Agricultural Economics	4	0	4
PhD in Physiology in Land Economics	0	0	0
PhD in Veterinary Epidemiology and Economics	0	2	2
PhD in Economics	34	13	47
TOTAL	12348	9015	21363
GRAND TOTAL	14130	10039	24169

Annex 2: Bachelors degree in Economics based courses in Public Universities in 2016

Pure Economics	<ol style="list-style-type: none">1. Bachelors of Arts (Economics)2. Bachelors of Science (Economics)3. Bachelors of Economics
Economics and other subjects	<ol style="list-style-type: none">1. Bachelors of Science (Economics and Finance),2. Bachelors of Science (Economics and Statistics),3. Bachelors of Economics and Statistics4. Bachelors of Economics and Finance5. Bachelors of Arts (Economics and History)6. Bachelors of Arts (Economics and Sociology)7. Bachelors of Science (Economics and Mathematics)8. Bachelors of Science (Mathematics and Economics with IT)9. Bachelors of Science (Agricultural Economics and Resource Management)10. Bachelors of Arts (Economics with IT) Bachelor of Economics (Agricultural Economics with IT)11. Bachelors of Economics (Economics and Finance with IT)12. Bachelors of Economics (Economics and Mathematics with IT)13. Bachelors of Economics (Economics and Statistics with IT)14. Bachelors of Science (Economics and Mathematics with IT).

Annex 3: Questionnaire

REPUBLIC OF KENYA



THE NATIONAL TREASURY AND PLANNING
STATE DEPARTMENT FOR PLANNING

A short questionnaire administered to Economists who were employed in 2010 and those who have served for more than 25 years.

1. Name of the respondent
.....
2. Gender of the respondent; Male Female
3. Designation
4. Job Group.....
5. How many years have you worked as an Economist?
 - 0-10 25+
6. Which degree courses had you undertaken before employment?
.....
.....
7. To what extent is the degree course that you studied relevant at your work as an Economist in Government? (Please tick as appropriate)
To no extent Little extent Some extent
Large extent Very large extent
8. Did you have other skills before employment? Yes No

If yes, please list them and their relevance.
 - i)
 - ii)
 - iii)
 - iv)
9. Please state below the specialized courses you have undertaken during employment
 - i)
 - ii)
 - iii)
10. Please list below the degree courses you have undertaken during employment
 - i)
 - ii)

11. What specialized courses do you recommend for improvement of your performance at your workplace?
- i)
 - ii)
 - iii)
12. List the key short courses that you have undertaken during employment and their relevance. (Using the scale; not relevant, somewhat relevant, very relevant)
-
-
-
13. What do you think should be done to reduce the gap between the number of graduate Economists and those in employment?
-
-
-
14. Kindly list below the challenges that Economists face in the job market
-
-
-
-
15. How can the productivity of Economists at work be increased?
-
-
-
-

Annex4: Serving Economists with Masters Degree.

Pure Economics	<ol style="list-style-type: none">1. Masters of Science (Economics)2. Masters of Arts (Economics)3. Masters of Philosophy (Economics)
Specialized courses in Economics	<ol style="list-style-type: none">1. Masters of Arts (Econometrics)2. Masters of Arts (Rural Economics)3. Masters of Science (Mineral Economics)4. Masters of Arts (International Economics)5. Masters of Arts (Development Economics)6. Masters of Economics (Planning and Management)7. Masters of Arts (Economic Policy Management)
Other subjects	<ol style="list-style-type: none">1. Masters of Science (Computer)2. Masters of Arts (International Commerce)3. Masters of Arts (Population Studies)4. Masters of Science (Applied Statistics)5. Masters of Arts (Public Policy)6. Masters of Arts (International Trade)7. Masters of Arts (International Trade & Finance)8. Masters of Science (Social Statistics)9. Masters of Science (Statistics)10. Masters of Science (Population Studies)11. Masters of Arts (Peace Studies)

Annex 5: Serving Economists employed by the Government (County and National) by gender from 1985-2011

YEAR	GENDER		TOTAL
	MALE	FEMALE	
1985	10	1	11
1986	1	0	1
1987	16	3	19
1988	5	4	9
1989	2	0	2
1990	6	2	8
1991	21	0	21
1992	7	0	7
1993	6	1	7
1994	3	0	3
1995	31	4	35
1996	2	0	2
1997	20	3	23
1998	2	2	4
1999	1	0	1
2000	1	0	1
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	2	0	2
2005	57	6	63
2006	55	13	68
2007	1	1	2
2008	47	38	85
2009	5	2	7
2010	74	55	129
2011	9	4	13
TOTAL	431	139	570

Annex 6: Serving Economists employed by the National Government by gender from 1985-2011

YEAR	GENDER		TOTAL
	MALE	FEMALE	
1985	9	1	10
1986	1	0	1
1987	15	3	18
1988	5	4	9
1989	2	0	2
1990	6	2	8
1991	20	0	20
1992	7	0	7
1993	6	1	7
1994	3	0	3
1995	28	4	32
1996	2	0	2
1997	20	3	23
1998	2	2	4
1999	1	0	1
2000	1	0	1
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	2	0	2
2005	54	5	59
2006	33	11	44
2007	1	1	2
2008	29	34	63
2009	4	2	6
2010	74	42	116
2011	9	4	13
TOTAL	334	118	453

Annex 7: Economists employed by the County Government by gender from 1985-2010

YEAR	GENDER		TOTAL
	MALE	FEMALE	
1985	1	0	1
1986	0	0	0
1987	1	0	1
1988	0	0	0
1989	0	0	0
1990	0	0	0
1991	1	0	1
1992	0	0	0
1993	0	0	0
1994	0	0	0
1995	3	0	3
1996	0	0	0
1997	0	0	0
1998	0	0	0
1999	0	0	0
2000	0	0	0
2001	0	0	0
2002	0	0	0
2003	0	0	0
2004	0	0	0
2005	3	1	4
2006	12	2	14
2007	0	0	0
2008	18	4	22
2009	1	0	1
2010	57	13	70
TOTAL	97	20	117

Appendix

Appendix 1: Analysis of the questionnaire for serving Economists

Job Group	N	per cent
S	3	4.1
R	18	24.3
Q	6	8.1
P	3	4.1
N	1	1.4
L	43	58.1
Total	74	100.0

Degree Course Undertaken Before Employment	Gender of the respondent			
	Male		Female	
	N	per cent	N	per cent
BA (Economics)	35	71.4	14	28.6
MA (Economics)	7	63.6	4	36.4
BSc (Statistics and Mathematics/Computer)	11	78.6	3	21.4
MSc (Statistics)	3	75.0	1	25.0
B Phil (Economics)	1	100.0	0	0
BED (Statistics/Mathematics)	0	0	3	100.0
BA (Economics and Mathematics)	1	100.0	0	0
BA (Agricultural Economics))	1	100.0	0	0
BA (Economics and Sociology)	0	.0	1	100.0
Total	53	71.6	21	28.4

Which degree course had you undertaken before employment	Years Worked as Economist			
	0-10 years		25 + years	
	N	per cent	N	per cent
BA (Economics)	27	55.1	22	44.9
MA (Economics)	5	45.5	6	54.5
BSc (Statistics and Mathematics/Computer)	9	64.3	5	35.7
MSc (Statistics)	2	50.0	2	50.0
B Phil (Economics)			1	100.0
BED (Statistics/Mathematics)	2	66.7	1	33.3
BA (Economics and Mathematics)	1	100.0		

Which degree course had you undertaken before employment	Years Worked as Economist			
	0-10 years		25 + years	
	N	per cent	N	per cent
BA (Agricultural Economics))	1	100.0		
BA (Economics and Sociology)	1	100.0		
Total	43	58.1	31	41.9

Which degree course had you undertaken before employment	Degree studied relevant to your work									
	No extent		Little extend		Some Extent		Large Extent		Very Large Extent	
	N	per cent	N	per cent	N	per cent	N	per cent	N	per cent
BA (Economics)	1	2.0			2	4.1	23	46.9	23	46.9
MA (Economics)					1	9.1	6	54.5	4	36.4
BSc (Statistics and Mathematics/Computer)							6	42.9	8	57.1
MSc (Statistics)	1	25.0					2	50.0	1	25.0
B Phil (Economics)							1	100.0		
BED (Statistics/Mathematics)					1	33.3	1	33.3	1	33.3
BA (Economics and Mathematics)							1	100.0		
BA (Agricultural Economics))							1	100.0		
BA (Economics and Sociology)									1	100.0
Total	1	1.4			3	4.1	35	47.3	35	47.3

Specialized Courses Undertaken During Employment	Gender			
	Male		Female	
	N	per cent	N	per cent
EIA	3	60.0	2	40.0
Governance	6	66.7	3	33.3
Poverty Analysis	1	33.3	2	66.7
Economic Public Policy	17	73.9	6	26.1
Financial Modelling and Programing	8	80.0	2	20.0
Strategic Management				
Monitoring and Evaluation	16	64.0	9	36.0
Supplies Management			1	100.0
CPA	1	100.0		

Specialized Courses Undertaken During Employment	Gender			
	Male		Female	
	N	per cent	N	per cent
Computer Skills	4	66.7	2	33.3
Project Management	9	64.3	5	35.7
Performance Management	6	85.7	1	14.3
Trade negotiations	2	100.0		
Investment Appraisal and Analysis	3	75.0	1	25.0
Modelling	2	100.0		
Disaster Risk Reduction and Management	1	100.0		

Specialized Courses Undertaken During Employment	Years Worked as Economist			
	0-10 years		25 + years	
	N	per cent	N	per cent
EIA	1	20.0	4	80.0
Governance	5	55.6	4	44.4
Poverty Analysis	1	33.3	2	66.7
Economic Public Policy	12	52.2	11	47.8
Financial Modelling and Programing	5	50.0	5	50.0
Strategic Management				
Monitoring and Evaluation	16	64.0	9	36.0
Supplies Management	1	100.0		
CPA	1	100.0		
Computer Skills	2	33.3	4	66.7
Project Management	4	28.6	10	71.4
Performance Management	5	71.4	2	28.6
Trade negotiations	1	50.0	1	50.0
Investment Appraisal and Analysis	4	100.0		
Modelling			2	100.0
Disaster Risk Reduction and Management	1	100.0		

Degree Courses Undertaken During Employment	Years Worked as Economist			
	0-10 years		25 + years	
	N	per cent	N	per cent
MA (Policy Analysis and Management)	12	60.0	8	40.0
MA (Economics)	19	57.6	14	42.4
MBA (Business Administration)	1	100.0		
BA (Economics)			1	100.0
B Phil (Economics)			3	100.0

Degree Courses Undertaken During Employment	Years Worked as Economist			
	0-10 years		25 + years	
	N	per cent	N	per cent
m Phil (International Development)			4	100.0
MSc (Development Planning)	1	50.0	1	50.0
PHD (Economics)	1	100.0		
MSc (Statistics)			1	100.0
MSc (Health Economics)	1	100.0		

Degree Courses Undertaken During Employment	Gender of the respondent			
	Male		Female	
	N	per cent	N	per cent
MA (Policy Analysis and Management)	17	85.0	3	15.0
MA (Economics)	20	60.6	13	39.4
MBA (Business Administration)	1	100.0		
BA (Economics)	1	100.0		
B Phil (Economics)	3	100.0		
m Phil (International Development)	4	100.0		
MSc (Development Planning)	2	100.0		
PHD (Economics)	1	100.0		
MSc (Statistics)	1	100.0		
MSc (Health Economics)			1	100.0

Specialized Courses Recommended for Improvement of Performance	Gender of the respondent			
	Male		Female	
	N	per cent	N	per cent
Modeling	12	57.1	9	42.9
Quantitative Analysis/Financial Programing	12	85.7	2	14.3
Policy Analysis	12	66.7	6	33.3
Emerging Issues (Extractive Industries)			1	100.0
EIA	5	71.4	2	28.6
Public Sector Management	5	100.0		
SLDP	10	66.7	5	33.3
Monitoring and Evaluation	15	71.4	6	28.6
ICT Based Courses	3	75.0	1	25.0
PHD Courses	1	100.0		
Project Management	15	78.9	4	21.1
PPPs	1	50.0	1	50.0

Specialized Courses Recommended for Improvement of Performance	Gender of the respondent			
	Male		Female	
	N	per cent	N	per cent
Report Writing	1	100.0		
Performance Management	3	100.0		
Strategic Planning	2	100.0		

Specialized Courses Recommended for Improvement of Performance	Years Worked as Economist			
	0-10 years		25 + years	
	N	per cent	N	per cent
Modeling	15	71.4	6	28.6
Quantitative Analysis/Financial Programing	8	57.1	6	42.9
Policy Analysis	13	72.2	5	27.8
Emerging Issues (Extractive Industries)	0	.0	1	100.0
EIA	2	28.6	5	71.4
Public Sector Management	1	20.0	4	80.0
SLDP	11	73.3	4	26.7
Monitoring and Evaluation	12	57.1	9	42.9
ICT Based Courses	1	25.0	3	75.0
PHD Courses	0	.0	1	100.0
Project Management	12	63.2	7	36.8
PPPs	0	.0	2	100.0
Report Writing	1	100.0	0	.0
Performance Management	0	.0	3	100.0
Strategic Planning	1	50.0	1	50.0

Short Courses Undertaken during Employment	Gender			
	Male		Female	
	N	per cent	N	per cent
SMC	21	70.0	9	30.0
SLDP	19	76.0	6	24.0
EIA	2	66.7	1	33.3
Regional Integration	2	100.0		
Poverty Analysis	1	33.3	2	66.7
Financial Programming and Policy	12	70.6	5	29.4
Project Management	11	78.6	3	21.4

Short Courses Undertaken during Employment	Gender			
	Male		Female	
	N	per cent	N	per cent
Policy Analysis	8	61.5	5	38.5
Monitoring and Evaluation	18	66.7	9	33.3
Modeling	5	71.4	2	28.6
CPA			1	100.0
Global Leaders Fellowship programme			1	100.0
Performance Management	11	91.7	1	8.3
Computer Skills	1	50.0	1	50.0
Gender Analysis and Mainstreaming			1	100.0
PPPs	2	100.0		

Short Courses Undertaken during Employment	Years Worked as Economist			
	0-10 years		25 + years	
	N	per cent	N	per cent
SMC	18	60.0	12	40.0
SLDP	6	24.0	19	76.0
EIA	1	33.3	2	66.7
Regional Integration	1	50.0	1	50.0
Poverty Analysis	1	33.3	2	66.7
Financial Programming and Policy	8	47.1	9	52.9
Project Management	6	42.9	8	57.1
Policy Analysis	10	76.9	3	23.1
Monitoring and Evaluation	16	59.3	11	40.7
Modeling	3	42.9	4	57.1
CPA	1	100.0		
Global Leaders Fellowship programme			1	100.0
Performance Management	6	50.0	6	50.0
Computer Skills	1	50.0	1	50.0
Gender Analysis and Mainstreaming	1	100.0		
PPPs	1	50.0	1	50.0

What to do to reduce the gap between number of graduate economists and those in employment	Gender			
	Male		Female	
	N	per cent	N	per cent
Networking	3	75.0	1	25.0
Strengthen the link between GoK, Industry and Academia	13	76.5	4	23.5
Employment	28	68.3	13	31.7
Strengthen ESK/Professional Body for Economists	6	100.0		
Introduce internships	15	78.9	4	21.1
Implement the scheme of service for economists	10	76.9	3	23.1
No Specialization			2	100.0
Capacity building of proposal writing/self-employment	5	100.0		
Provision of resources/grants	2	100.0		
Mentorship	2	28.6	5	71.4
Provision of scholarships			1	100.0
Identification of opportunities within and outside the country	1	50.0	1	50.0

What to do to reduce the gap between number of graduate economists and those in employment	Years Worked as Economist			
	0-10 years		25 + years	
	N	per cent	N	per cent
Networking			4	100.0
Strengthen the link between GoK, Industry and Academia	9	52.9	8	47.1
Employment	25	61.0	16	39.0
Strengthen ESK/Professional Body for Economists	1	16.7	5	83.3
Introduce internships	12	63.2	7	36.8
Implement the scheme of service for economists	6	46.2	7	53.8
No Specialization	2	100.0		
Capacity building of proposal writing/self-employment	2	40.0	3	60.0
Provision of resources/grants			2	100.0
Mentorship	5	71.4	2	28.6
Provision of scholarships	1	100.0		
Identification of opportunities within and outside the country	1	50.0	1	50.0
Challenges Economists Face in the Job	Gender			

Market	Male		Female	
	N	per cent	N	per cent
Lack of recognition of the important role of economists	10	52.6	9	47.4
Stagnation	11	78.6	3	21.4
Weak link between GoK, Industry and Academia	13	81.3	3	18.8
Weak/no professional body	12	75.0	4	25.0
Limited job opportunities	9	64.3	5	35.7
Poor remuneration	3	60.0	2	40.0
Inadequate training opportunities	4	66.7	2	33.3
Non dynamic scheme of service	5	100.0		
No specialization most of the times	9	75.0	3	25.0
Inadequate internship opportunities	1	33.3	2	66.7
No prioritization of activities	2	50.0	2	50.0
No compliance to plans	1	100.0		
Lack/inadequate data for public policy			2	100.0
Limited analytical skills	2	100.0		
Lack of motivation	2	66.7	1	33.3

Challenges Economists Face in the Job Market	Years Worked as Economist			
	0-10 years		25 + years	
	N	per cent	N	per cent
Lack of recognition of the important role of economists	10	52.6	9	47.4
Stagnation	9	64.3	5	35.7
Weak link between GoK, Industry and Academia	7	43.8	9	56.3
Weak/no professional body	11	68.8	5	31.3
Limited job opportunities	9	64.3	5	35.7
Poor remuneration	4	80.0	1	20.0
Inadequate training opportunities	3	50.0	3	50.0
Non dynamic scheme of service	2	40.0	3	60.0
No specialization most of the times	8	66.7	4	33.3
Inadequate internship opportunities	1	33.3	2	66.7
No prioritization of activities	2	50.0	2	50.0
No compliance to plans			1	100.0
Lack/inadequate data for public policy	1	50.0	1	50.0
Limited analytical skills			2	100.0
Lack of motivation	2	66.7	1	33.3

How to increase the Productivity of Economists	Years Worked as Economist			
	0-10 years		25 + years	
	N	per cent	N	per cent
Regular Training/sensitizations	30	55.6	24	44.4
Sensitization of emerging issues	2	28.6	5	71.4
Fair and timely promotions/career growth	21	84.0	4	16.0
Implementation of the scheme of service	10	62.5	6	37.5
Strengthen ESK/Professional body for economists	4	80.0	1	20.0
Implement incentives and sanctions initiatives	2	33.3	4	66.7
Review terms of service for economists	6	54.5	5	45.5
Assignment of relevant roles to economists	6	85.7	1	14.3
Promote specialization			1	100.0
Ensure more funding for research and development	1	50.0	1	50.0
Improve work environment/provision of working tools	2	33.3	4	66.7
Implementation of mentorship and coaching interventions	1	100.0		
Implement exchange programmes for economists	1	50.0	1	50.0
Strengthen CPP&MUs			1	100.0

How to increase the Productivity of Economists	Gender			
	Male		Female	
	N	per cent	N	per cent
Regular Training/sensitizations	38	70.4	16	29.6
Sensitization of emerging issues	6	85.7	1	14.3
Fair and timely promotions/career growth	13	52.0	12	48.0
Implementation of the scheme of service	14	87.5	2	12.5
Strengthen ESK/Professional body for economists	4	80.0	1	20.0
Implement incentives and sanctions initiatives	6	100.0		
Review terms of service for economists	10	90.9	1	9.1
Assignment of relevant roles to economists	3	42.9	4	57.1
Promote specialization			1	100.0
Ensure more funding for research and development	1	50.0	1	50.0

How to increase the Productivity of Economists	Gender			
	Male		Female	
	N	per cent	N	per cent
Improve work environment/provision of working tools	3	50.0	3	50.0
Implementation of mentorship and coaching interventions			1	100.0
Implement exchange programmes for economists	2	100.0		
Strengthen CPP&MUs	1	100.0		