

**THE STRUCTURE AND GROWTH OF THE SERVICE SECTOR IN  
SOUTH AFRICA (1945 - 1990).**

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## **DECLARATION**

Except for the quotations indicated in the text, and such help as I have acknowledged, this thesis is wholly my own work and has not been submitted for degree purposes at any other university.

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# TABLE OF CONTENTS

LIST OF TABLES AND FIGURES . . . . .	v
ABSTRACT . . . . .	vii
INTRODUCTION . . . . .	1
CHAPTER 1. A Method for Service Industry Analysis . . . . .	5
1.1 The Concept and Definition of Services . . . . .	5 *
1.2 Measurement of Service Activities . . . . .	7
1.3 Conventional Analytical Framework . . . . .	9
1.4 A New Approach to Service Industry Analysis . . . . .	14 *
CHAPTER 2. Structure of the South African Service Sector. . . . .	19
2.1 Employment in South African Service Industries . . . . .	19
2.1.1 Sectoral Shares and Trends in South African Employment . . . . .	19
2.1.2 Employment by Individual Industries . . . . .	22
2.1.3 Service Subsector Growth . . . . .	25
2.1.4 Trends in Occupations . . . . .	27
2.1.5 Salient Features of Service Employment . . . . .	29 *
2.2 Gross Domestic Product of Service Sector Industries . . . . .	31
2.2.1 Sectoral Shares and Trends in South African GDP . . . . .	31
2.2.2 Gross Domestic Product by Service Industries . . . . .	34
2.2.3 Salient Features of Service GDP . . . . .	38
2.3 Productivity in the Service Sector . . . . .	39
2.3.1 Aggregate Productivity Trend: 1946 to 1987 . . . . .	41
2.3.2 Sectoral Productivity Trends . . . . .	41
2.3.3 Productivity Growth of Service industries compared with Manufacturing . . . . .	43
2.3.4 Growth versus Levels of Productivity . . . . .	45
2.3.5 Physical and Human Capital in Industries . . . . .	46
2.3.6 Salient features of Productivity in the Service Sector . . . . .	48
2.4 Concluding Comments on the Structure of the South African Service Sector	49



CHAPTER 3. An Application of Grubel and Walker's New Taxonomy of Services . .	50
3.1 Statistical Procedures for the New Taxonomy of Services . . . . .	50
3.2 Level and Growth of Consumer, Government and Producer Service Shares	52
3.3 Salient Features of Service output in terms of the New Taxonomy . . . . .	56
 CHAPTER 4. Consumer Services . . . . .	58 *
4.1 The composition of Household Service Expenditure . . . . .	60
4.2 The Determinants of Household Expenditure . . . . .	62
4.3 Salient Features of Consumer Services . . . . .	70
 CHAPTER 5. Government Services . . . . .	71
5.1 Earlier studies of Government Current Expenditure . . . . .	71
5.2 Explaining the Demand for and Supply of Public services. . . . .	73
5.3 The composition and trends of Government Current Expenditure . . . . .	78
5.4 Conclusion and Future Trends . . . . .	81
 CHAPTER 6. Producer Services . . . . .	84
6.1 Level and Trends of Producer Service Output . . . . .	85
6.2 Important Producer Services . . . . .	86
6.3 The determinants of Producer Service Growth . . . . .	87
6.4 Conclusion and Future Trends . . . . .	89
 CONCLUSION . . . . .	91
 BIBLIOGRAPHY . . . . .	96

## LIST OF TABLES AND FIGURES

Table 1	Function-based Classification of Services: Standard Industrial Classification of all Economic Activities	11
Table 2	Standard Occupational Classification	12
Table 3	Employees engaged in Service Capacities: Public, Personal and Domestic	13
Table 4	Consumption-based Classification of Services	15
Table 5	Detailed Description of Services	16
Table 6	Employment Shares by Sector	20
Table 7	Statistical data with regard to Employment Growth: 1971 to 1990	21
Table 8	Employment Totals and Growth by Industry: 1946 and 1990	22
Table 9	Annual Compound growth in Employment per decade (Percentages)	24
Table 10	Employment Totals and Growth in Selected Service Subsectors: 1976 and 1990	26
Table 11	Employment Totals and Growth of Occupations: 1969 and 1989	28
Table 12	Occupational Distribution in Service Industries	29
Table 13	Sectoral Contribution in terms of Percentage share of GDP ( GDP at Current Prices)	31
Table 14	Sectoral GDP shares compared with Sectoral Employment shares	32
Table 15	Annual Percentage Growth of GDP and Employment of Service Industries: 1946 to 1990	36
Table 16	Ranking Service Industries according to Annual Growth Rates of GDP	37
Table 17	Annual Compound Growth Rate of Labour Productivity: 1946 to 1987	43
Table 18	Annual Compound Growth Rates of Labour productivity in the Service Subsectors: 1946 to 1987	45
Table 19	Educational Attainment by Sector and Service industry: 1985	47
Table 20	Composition of service output in the South African Economy: 1946 to 1990. Shares of GDP (at Current Prices) in Percentages	52
Table 21	Composition of Service output in the Canadian Economy: 1947 to 1983. Shares of GDP (in Current Prices) in percentages	53
Table 22	Composition of service output in the South African Economy: 1946 to 1990. Shares of GDP (at Constant 1985 prices) in percentages	55
Table 23	Composition of service output in the Canadian Economy: 1961 to 1986. Shares of GDP (at Constant 1981 prices) in percentages	56
Table 24	Real Expenditure on Services as a Proportion of Real (1971 Constant Dollars) Total Private Consumption Expenditure.	59
Table 25	Expenditures on Services by Households as a Percentage of Total Expenditure (Constant 1985 Prices)	60
Table 26	Annual Growth Rates in Real Household Expenditure by main service expenditure : 1975 to 1985	62
Table 27	Female Labour Force Participation rates: 1960 - 1980.	66
Table 28	Per Capita Incomes (Constant 1985 Rands) by Race and Racial Shares of Income: 1972 to 1990	67

Table 29	Income Elasticities of the Demand for various Service Expenditure items by the respective population groups in selected areas	69
Table 30	The Composition of Gross Current Government Expenditure in South Africa 1949/50 - 1975/76	79
Table 31	Annual compound growth rates of various Functional Categories of State Expenditure, 1945 to 1980	80
Table 32	The Composition of Service Industries Output	87
Figure 1	Employment Shares by Sector	20
Figure 2	Growth Rates in Employment, 1971 to 1990	21
Figure 3	Employment & GDP Shares of Services	33
Figure 4	GDP Share of Service Industries	35
Figure 5	GDP (1980 Prices) per Employed Person	41
Figure 6	GDP per Employed Person by Sector	42
Figure 7	Labour Productivity: Service Industries	44
Figure 8	Index of Relative Labour Productivity	46
Figure 9	Services as a % of Total Consumption	59
Figure 10	Consumer Price Index for Goods and Services	64

## ABSTRACT

The purpose of this dissertation is to analyze the structure and growth of the service producing industries, in the South African economy. Furthermore, the determinants of the growth of particular service categories in South Africa, from 1945 to 1990, are investigated.

The analysis is concerned with the share of the service producing sector in Gross Domestic Product and employment. The first part of the thesis uses the Standard Industrial Classification of economic activities and compares the performance of service industries to goods industries in terms of employment, output and productivity. The second part of the thesis analyses total service output in terms of: Consumer services, which are for the purpose of final consumption and purchased by consumers in private markets; those services provided by Government as public functions; and Producer services, which are intermediate inputs into the production of goods and other services. The shares of each of these services in total service output and their trends are presented.

The most significant findings show that service industries have experienced an increasing and consistent growth in employment from 1950 to 1990. The balance of employment has shifted in favour of service industries. Furthermore service output has contributed a relatively stable fifty percent share towards total national output. In general the service share in national output has followed the same trend as the service share in employment. However the magnitude of the changes in the service share of employment and the service share in GDP have been considerably different. A comparison of the sectoral GDP shares and sectoral employment shares in 1946 and 1990 revealed that relatively more units of labour were

required to produce the same unit of output in the service sector in 1990 compared to 1946. In general labour productivity in service industries such as the Community, Social and Personal service industries is lower than in manufacturing industries. However Wholesale, Retail, Catering and Accommodation and Transport, Storage and Communication have experienced positive growth in output per worker in the period 1945 to 1990 and a similar level of productivity to that of manufacturing. Financing, Insurance, Real Estate and Business Services experienced declining labour productivity in the period.

Analyzing service output in terms of the shares of Consumer, Government and Producer services, it is shown that consumer services had the lowest and declining share until the mid 1970's, while thereafter, the consumer service share of total service output increases. The main reasons for this increase are the redistribution of income towards Blacks, increased per capita Black incomes, and their propensity to increase their expenditure on the consumption of certain services. The government service share of total service output increased the most markedly from 1945 to 1990. The main reasons for increased government expenditure on certain services are the implementation of Apartheid programmes in the 1960's and, since 1975, the increased provision of health, education and other social services to the Black community and the elimination of wage discrimination in the provision of these services. Finally, the composition of total service output reveals that producer services have contributed the largest share at approximately half the service output. The historical trends in employment and output and the determinants of service growth that have been identified, suggest that in the future service activities are going to become even more significant in the South African economy.

## INTRODUCTION

An analysis of the service industry in South Africa is of interest because there has been very little, if anything, written on service sector in the South African economy. An understanding of the workings of the service sector in South Africa is important because it is the service sector which provides a variety of crucial functions that enhance the ability of the economy to develop and grow. These crucial functions include the distribution networks for extractive and manufactured goods, the capital markets for financing enterprises, the administrative functions that enable a society to exist, the renting and leasing facilities for durable goods, and activities such as health, education and recreation that enhance the quality of the labour force (Riddle, 1987: 1). The analysis seeks to answer the question: " What factors have determined the employment and output trends of services in the South African economy from 1945 to 1990 and what will be the determinants of service industry developments in the future ?"

Studies done elsewhere provide a guide as to how to conduct this analysis. Grubel and Walker (1989) researched the Canadian service industry. The impetus for their study came from the issues and concerns which had arisen in smaller projects, on certain service industries, undertaken by the Fraser Institute. Another major study on the workings of the service sector was conducted by Fuchs (1968) who analyzed the service economy in the United States for the period 1929 to 1965. Fuchs followed in the footsteps of other authors who were trying " to meet Colin Clark's challenge that "the economics of tertiary industry remains to be written" " (Fuchs, 1968: xxiii). Fuchs addressed the issues of service employment, output and productivity. What this thesis does is apply the method of both the Fuchs and Grubel and Walker studies to analyze the South African service sector.

The analysis can, essentially, be divided into two parts. The first provides a comprehensive review of the South African service sector in terms of a number of different criteria. The available data on the service sector is analyzed in terms of: Employment; contribution to Gross Domestic Product; and productivity. This view is presented within a conventional framework; that being in terms of the Standard Industrial Classification and Standard Occupational Classification of activities. The purpose of this section is to illustrate the



trends and characteristics of the service sector. The service sector is compared to the goods sector for the period 1945 to 1990.

The analysis of the employment data gives us an indication of the number of workers in the goods and service sectors at both an aggregated as well as at a disaggregated level. The purpose of this exposition is to determine what the long term trend of service employment has been. The percentage growth in employment over the 1945 to 1990 period and during each decade will be discussed. Occupational employment data will supplement the Sectoral employment analysis.

Gross Domestic Product (GDP) provides the most commonly used benchmark to measure the economic importance of sectors and individual industries. Service industries will be ranked in terms of both their Nominal and Real GDP contributions to total GDP in order to ascertain their value to the South African economy. Comparisons between employment trends and output trends will also be made in order to establish whether shifts in employment are due to changes in demand for service output.

To complete the survey of the available statistical information, an analysis of productivity in the service and goods sectors is undertaken. The reason for this section is to establish whether changes in service industry employment can be explained by lower productivity of service activities. Here again, the analysis is a comparative one in that the productivity in the service sector is compared to that in the goods sector.

The second part of the thesis reformulates the output data presented in the first part using the techniques developed by Grubel and Walker to analyze the service sector. Their method was presented in such a manner so as to allow for replication of their estimates elsewhere (Grubel and Walker, 1989: 143). The information that is generated from this model provides a " a more purposeful organization of the empirical knowledge " (Grubel and Walker, 1989: 137). Given their methodology, one can seek to answer the question, posed at the outset, in a more rigorous manner.

Grubel and Walker suggest that all services produced in an economy can be categorized into one of three classes: Consumer services; Government services; and Producer services. Their rationale for this categorization is that each of the services has a different economic function and that the demand for each is determined by forces sufficiently different to warrant separate treatment (Grubel and Walker, 1989: 139). Consumer services are those services that are for final consumption and are recorded in the Private Consumption Expenditure table of the National Accounts. Producer services are intermediate service inputs into the production process of goods and other services. Finally, Government services, which can be final or intermediate in nature, are those services that are provided by public authorities. The characteristics of each of these classes of services will be analyzed and their trends, from 1945 to 1990, will be presented. Given these trends for each service class, one can then investigate and establish the determinants of their development. This will give us an indication of what forces should be identified for future policy attention.

The plan of this dissertation is therefore to set out, in Chapter One, a method for service industry analysis. This will entail a brief discussion on the history of thought on Services; some definitions; and a discussion on the measurement of services. Furthermore there is a presentation of the Standard Industrial Classification and Standard Occupational Classification of activities, which are the conventional frameworks for the analysis of economic activities. Finally the "New Taxonomy of Services" (Grubel and Walker, 1989: 137) and the statistical procedures of the identity will be explained. A detailed description of Consumer, Government and Producer services will be presented.

Chapter Two is devoted to the analysis of the available information on the South African service industry within the conventional framework. This chapter is in essence a general description of the service sector and the data represents the foundation on which the Grubel-Walker analysis is based.

Chapter Three analyzes the results obtained from the application of Grubel and Walker's New Taxonomy to the South African data. The shares and trends of consumer, producer and government services are compared in order to ascertain which is the most significant in terms of GDP output and growth. A presentation of the Canadian results will allow for comparison



and help determine the correctness, usefulness and applicability of their methodology for service sector analysis generally.

Each of the service classes is then examined separately in Chapters four, five and six. The services are disaggregated into their various components and the reasons for the growth trends in each class will be discussed.

In the Conclusion, the potential for future increases in service activities is questioned. Given the determinants of service sector growth in the past one can make some projections about the future trends of consumer, producer and government services.

The analysis in this thesis encompasses employment and output only in the formal economy of South Africa and the independent National states. Numerous studies have been undertaken on the informal sector in the South African economy although none of these concentrate on the informal service aspect. The Central Statistical Service (CSS) estimated that the informal labour force accounted for the employment of 29.3 percent of the economically active population in October 1989 (van der Berg, 1990:38). Another significant finding of the CSS study is with regard to the occupational distribution of informal economic activity. The number of workers involved in informal service activities, transport, accommodation and so on, amounted to 19.2 percent of total informal employment. Finally, the CSS estimated that unrecorded economic activities amounted to R16 Billion in 1989 or output equivalent to 8 percent of Gross Domestic Product (Hartzenberg and Leiman, 1990:35). However, the results produced in this thesis are based exclusively on the published series for employment and GDP, and this data does not include the contribution of the informal sectors to the production of services.

## CHAPTER 1.

### A Method for Service Industry Analysis

While the distinction between goods and services is an intuitively obvious one, to give the distinction scientific precision has caused considerable debate. The need to distinguish and identify services accurately is important because it affects the manner in which economic activities are classified empirically. This chapter considers the source of the debate and the impact it has had on the classification of economic activities and more importantly on the categorization of services.

#### 1.1 The Concept and Definition of Services

The distinction between productive and unproductive use of resources in goods and services respectively was first made by Adam Smith (1776). Karl Marx followed the same tradition in his writings. For Adam Smith services were seen to be valueless where value was based on the Labour Theory of value and value in exchange: Petit (1986) states that "the simultaneity of production and consumption nullifies the value of the work dispensed" (Eatwell, Milgate and Newman, 1987: 314). In other words, once services have been produced they can no longer be exchanged for goods. Ultimately nothing exchangeable has been created through the service activity and therefore services do not lead to an increase in the volume of exchange (Eatwell et al, 1987: 314). Therefore any labour employed in services was unproductive labour. Similarly, for Marx, value could only be found in material output.

In the Neoclassical analysis there is no independent mode of analysis of services. Services are treated as any other commodity being traded in the market. Within the Neoclassical approach one includes such authors as Fisher (1939), Clark (1940) and Marshall. "Marshall, for example, treated services as 'immaterial products' while present day economists tend to describe them as 'immaterial goods' or simply as 'goods'" (Hill, 1977: 315). Fisher and later on Clark developed models of Economic development which distinguished the production of raw materials as primary and of goods as secondary. Tertiary

production is synonymous with the service sector and is viewed as the residual between aggregate economic activity and primary plus secondary production. All these perceptions of services were indifferent in terms of an evaluation of their economic importance.

The historic view of services, as an activity without merit changed due to the fact that , after 1945, service activities were recognized as accounting for more than half the employment and GDP in many developed industrialized nations. Fuchs (1968) wrote that the service sector "had long been the stepchild of economic research" (1968: xxiii) and that a programme of action was needed to investigate this dynamic industry. However, the concern of Stigler (1956), that there was no consensus on a definition for services and the lack of a standardized framework with which to study the service industry, also perturbed Fuchs (Fuchs, 1968). The need for an accurate description of services has been argued as late as 1977 when Hill wrote that services are as important as goods in modern economies and that accurate identification and qualification of services is necessary if the measurement of economic growth is to have any meaning for the economy as a whole (1977: 315).

Traditionally, services have been defined in terms of their intangibility or non-material nature. Dictionaries of Economics often use these terms. For example Moffat's (1983) definition of a service industry is "Any of the industries whose output is an intangible service rather than a tangible good. Services can include gardening, medical care and any other output which adds value but does not produce a product" (1983: 271). Another similar definition is "Services. The component of gross national product that measures the output of intangible items" (Greenwald, 1973: 533). The problem with the use of the intangibility criteria is that certain services do provide some form of tangible product. For example catering provides food and beverages, motorcar repairs and servicing invariably includes parts and so on.

Another common manner in which to describe services is with respect to the proximity of the consumer to the service offering: "Services are produced with the consumer present and participating" (Grubel and Walker, 1989: 31); "Services are sometimes referred to as intangible goods; one of their characteristics being that in general they are consumed at the point of production" (Pearce, 1981: 390).

More sophisticated definitions of services are provided by Hill (1977). These definitions move away from the use of terms such as intangible and the criteria of proximity to the consumer. Hill's first suggestion for a definition of services is: " A service may be defined as a change in the condition of a person, or of a good belonging to some economic unit, which is brought about as the result of the activity of some other economic unit with the prior agreement of the former person or economic unit" (1977: 318). In 1987 Hill refines his definition in order to take account of the fact that services can either have a physical/material or mental influence on an economic unit: " A service producing activity is one in which the activity of the producer brings about an improvement in the condition of some other economic unit. The improvement may take the form of a physical transformation of some good or goods owned by the consumer unit. Alternatively, the improvement may relate to the physical or mental condition of some individual or group of persons. In either case, the distinguishing feature of service production is that the producer adds value, not to his own goods or person, but to the goods or person of some other economic unit" (Grubel and Walker, 1989: 32).

No definition of services has been able to synthesise all the views and principles of economists concerned with the study of services and therefore there exists no standard definition of a service. However, Hill's definition seems to be the most comprehensive one and provides a conceptual status for services and a wider criteria with which to distinguish services from goods. This is the accepted definition for services in this thesis.

## **1.2 Measurement of Service Activities**

Another important issue that emerges from the theoretical debate is the measurement of service output. Hill (1977) felt that the Walrasian model of exchange was of no use to the analysis of services because " when a service is provided by one economic unit for another, nothing is actually exchanged between them in the way that the ownership of goods is transferred from one unit to another" (Hill, 1977: 318).

" The search for appropriate units of quantity in which to measure services is not an idle metaphysical pursuit. Without quantity units there can be no prices, and most economic

theory becomes irrelevant. Indeed, large parts of economic theory may be irrelevant to the analysis of services anyway, precisely because they are not goods which can be exchanged among economic units" ( Hill, 1977: 315). Apart from providing an interesting classification of services, Hill offers a number of insights into the measurement of services. The most important for our analysis are highlighted here.

In Hill's second definition of services (See Section 1.1), Hill concentrates on the effect of the provision of the service on an economic unit, be it a good or person. Hill therefore states that the measurement of the value of the service product should, in principle, be calculated from the change that has occurred in the economic unit: comparing the condition of the good or person before and after the provision of the service. However, the measurement of such results as achieved by service operations is not an easy or even viable strategy (Hill, 1977: 325).

Alternative measures of service value include (a) measures based on input costs and (b) measures based on the price of marketed services. The latter approach entails the valuation of service output according to the total receipts from the sales of that service. Most service output, in a market situation, is measured in this manner, at current prices. However, many services are non-market in nature and therefore one has to resort to the former measurement technique. The measurement of Public services falls into this category. Hill writes that the problem with Pure Public services is not in their classification but in their measurement. The production and consumption of public services is not a function of their utilization by individual economic units. The output values or changes that occur (or do not occur) cannot be ascertained. Ultimately, these services are measured by their inputs (Hill, 1977: 336). The use of inputs to ascertain output values may involve, either, the projection of base year figures of value by indicators of the quantity of labour or capital used or the deflation of values by price series based on the cost of inputs (Haig, 1966: 522).



### 1.3 Conventional Analytical Framework

There are essentially four commonly used classification systems for economic activities. The first merely specifies activities as either primary, secondary, or tertiary; a production-based classification. The second describes activities in terms of their function in the economy; a function-based classification of activities and defined as the Standard Industrial Classification of all economic activities. The third framework is an occupational classification of activities and the fourth is the Material Product System of Socialist Countries. Each of these conventional analytical frameworks will be discussed in this section.

The perception that services are either "tertiary" (of lower rank) or residual (small) or merely immaterial in nature, influenced the manner in which industries were grouped and measured. Prior to the introduction of the International Standard Industrial Classification (1948), industry activity was grouped into three categories: Agriculture, Industry and Services (where services were comprised of all those activities not reconciled in Agriculture or industry). Analysis of service activities took the form of comparisons between the service and Industrial sectors. While this approach does allow for an analysis of the shifts in output and employment between the goods and services sectors, it is not sufficient for a deeper understanding of services. Bauer and Yamey argued that "tertiary industry is not a meaningful concept; even if the broad statistical relationships which are claimed for it were prima facie to be found, moreover, it would be misleading as a tool of analysis in the study of economic development since the movement of the individual items is of greater interest than that of the 'category' as a whole" (Bauer and Yamey, 1951: 752). The service category consists of an aggregation of many dissimilar activities, ranging from business services to community services to personal services, each of which have different underlying economic trends and effects on the economy. These dissimilar service activities need to be specified.

Fuchs (1968) highlighted the problem of classifying services by listing the approaches that had been undertaken by other authors. Apart from revealing different classification criteria from one study to the other, he also noted that some researchers themselves changed their classification systems from study to study. The classification criteria that Fuchs perceived to be the most common, were: closeness to the consumer; presence or absence of a tangible

product or merely those activities that do not qualify as agricultural or manufacturing. The application of such subjective criteria raised the problem that there was very little consistency and comparability in economic research because each author categorized activities under different headings.

Hill (1977) suggests other categories to classify services: Services that affect goods; services that affect persons; permanent services (in that the change to the economic unit, to which the service is applied, is lasting); temporary services; reversible services (for example transportation); and irreversible services. " By combining the properties listed above it is possible to envisage a cross-classification of services into at least nine sub-groups" (Hill, 1977: 330). These alternative service distinctions would result in a very complex study.

The classification based on the type of production covers approaches such as that of Fisher (1939) and Clark (1940) who distinguish activities as either primary, secondary or tertiary. Fuchs' study of the service economy in the United States of America is presented within the framework of Agriculture, Industry, and service sectors, also a production-based classification.

However, the most common method of classification is the function of the industry in the economy (Riddle, 1987: 16). Table 1 specifies the classification of transactions by the function of the industry in either producing goods or rendering services. Services fall under the major divisions 6 to 9. This framework is provided by the International Standard Industrial Classification (ISIC) of all economic activities as recommended by the United Nations for use in market-oriented economies.

<b>Table 1 Function-based Classification of Services: Standard Industrial Classification of all Economic Activities.</b>
1. Agriculture, Hunting, Forestry and Fishing
2. Mining and Quarrying
3. Manufacturing
4. Electricity, Gas and Water
5. Construction
6. Wholesale and Retail trade and catering and Accommodation
7. Transport, Storage and Communication
8. Financing, Insurance, Real estate and Business services
9. Community, Social and Personal services

Source: South African Reserve Bank, Supplement to the Quarterly Bulletin, June 1991, p.3.

It is important that one emphasizes the difference between the service activities in Table 1 and service occupations. An occupational classification of activities specifies the type of work that is rendered by individuals rather than the output of firms by their function. This is an important distinction because within the service industries (6 to 9) one will find many activities which are not classified as rendering a service. For example, in the Transport, Storage and Communication industry there will be labourers, supervisors, operators and other occupations that are not described as service worker.

The National Manpower Commission, the Human Sciences Research Council, together with the Central Statistical Service published, in 1986, the Standard Classification of Occupations (Barker, 1992: 113). In terms of this Standard classification and the Manpower Surveys, the major Occupational groups are as set out in Table 2. This classification provides one with a different perspective on economic activities in terms of the workforce, its training and development. However, note needs to be made of the fact that the service occupation that is specified (No. 5) takes account only of non-manual, skilled, semi-skilled and unskilled service occupations. All professional service occupations, such as Medical Doctors, Nurses and Teachers, are included in the Professional, Semi-professional and Technical category. Furthermore, the Managerial, Executive and Administrative occupations will also include workers who perform service tasks.



<b>Table 2 Standard Occupational Classification</b>
1. Professional, Semi-professional and Technical
2. Managerial, Executive and Administrative
3. Clerical
4. Sales
5. Service
6. Mining and Quarrying
7. Transport, Delivery and Communication
8. Operators
9. Labourers
10. Supervisors
11. Artisans and Apprentices

Source: Compiled from Central Statistical Service, South African Labour Statistics, 1991.

Table 3 provides an extensive breakdown of the occupations that are regarded as being service in nature (No. 5 in Table 2).

<b>Table 3</b>	<b>Employees engaged in Service Capacities: Public, Personal and Domestic.</b>
1. Military Staff	
2. Fireman	
3. Police and Detective services	
4. Prison Warder	
5. Traffic Inspector	
6. Field and Bush Ranger	
7. Doorman, Gateman, Porter, Churchwarden	
8. Watchman, Caretaker	
9. Cleaner	
10. Ship Guard	
11. Lift Operator	
12. First-aid Attendant	
13. Photographer	
14. Projectionist, Bioscope Operator	
15. Usher	
16. Outdoor Officer: example Customs and Excise	
17. Groundsman	
18. Nursery School Supervisor, Children's Play Centre Assistant	
19. Other Public Service Occupations	
20. Other Occupations in Entertainment	
21. Funeral Director, Undertaker	
22. Children's Nurse	
23. Nursing Assistant	
24. Beautician, Powder Technician	
25. Barman, Wine Steward, Waiter, Waitress, Air Hostess	
26. Page	
27. Caterer	
28. Chef, Cook, Staff Cook	
29. Fireman (Food)	
30. Matron: Hostel Matron, Housekeeper, Boardinghousekeeper, Housemaster	
31. Kitchen-hand, Pantry-hand, Tea-servant	
32. Laundryman	
33. Linen-keeper	
34. Other: Servants in Business	
35. Shampoo Lady	
36. Other service Occupations (Personal)	

Source: Compiled from Department of labour, Mannpower Survey No. 11, 1975.

A final approach to the classification of services is provided by the Material Product System of Accounting as employed by Socialist nations. All forms of production are classified into material and immaterial sectors. Immaterial production defines those services that affect people. Within material production, services that affect goods are included together with goods output. This is different from the Standard Industrial Classification where no distinction is made between services affecting goods and services affecting people.

Four classification systems have been forwarded in an attempt to analyze service activities: classifications based on the type of production, the function of the industry, the type of work rendered by individuals and the Material Product System. The first three frameworks have been used extensively in the study of the service sector in many countries and will be used in Chapter Two of this dissertation. The Material Product System of Accounting is inappropriate for obvious reasons. The descriptive analysis that emerges does not allow for an insight into the demand and supply functions for services and this will require additional analysis.

#### 1.4 A New Approach to Service Industry Analysis

Grubel and Walker (1989) have suggested an alternative economic model with which to study services. They sub-divided service output into Consumer, Producer and Government services. As was stated in the introduction, their reasoning was that each of the developments in these service groups is determined by different forces and therefore should be treated separately.

Grubel and Walker were not the first authors to suggest such a framework. Singer (1971), in studying Brazil, proposed a service classification based on the type of consumption of services (Riddle, 1987). His categories of production services, collective service consumption and individual service consumption are analogous to the Grubel and Walker characterizations. "Singer's categories distinguish among consumption by industries and institutions, consumption by the Public and consumption by individuals" (Riddle, 1987: 16). Hill (1977) also distinguished between individual, collective and pure public services. Pure Public services are the same as the collective and government services of Riddle and Grubel

and Walker respectively. The collective services in Hill's case refer to the fact that it is possible for a single service activity to affect several different economic units at the same time. These economic units can be sub-divided into households (consumer) and enterprises (producers). Table 4 highlights a consumption-based classification of services.

<b>Table 4 Consumption-based Classification of Services</b>		
<b>Singer (1971)</b>	<b>Grubel &amp; Walker (1989)</b>	<b>Hill (1977)</b>
Individual services	Consumer services	Collective services
Production services	Producer services	
Collective services	Government services	Pure Public services

Source: Compiled from:

Grubel and Walker, *Service Industry Growth: Causes and Effects*, 1989.

Hill, *Goods and Services*, 1977.

Riddle D.I. *Service-led Growth*, 1987.

According to the Grubel and Walker (1989) study, consumer services are those services that individuals and households purchase in the market for final consumption. These services correspond to those items accounted for by the service consumption expenditure in the Private Consumption Expenditure account (C in the Keynesian Consumption Function) of the National Accounts. A list of consumer services is provided in the first column of Table 5.

Government services are defined by those items found in the "Economic and Functional Classification of Vote Expenditure and Statutory Appropriation from the State Revenue and other Revenue Accounts" (South African Statistics). These services may be final or intermediate in nature and what distinguishes them from consumer and producer services is that they are provided by public authorities as 'Public Goods.' These services are listed in the second column of Table 5.

Producer services are the intermediate service inputs into the production of goods and other services. Producer services increase the efficiency with which goods and other services are produced and supplied in the market. The categories of producer services, such as trade, transport and finance, that will be analyzed are also identified by Riddle who

<b>Table 5 Detailed Description of Services</b>		
<b>Consumer Services</b>	<b>Government Services</b>	<b>Producer Services</b>
1. Rent	1. General Administration	1. Wholesale Trade
2. Household services: including domestic services	2. Foreign Affairs	2. Commercial Agents and Allied services
3. Medical	3. General Research	3. Retail Trade
4. Transport and Communication	4. Public Order and Safety: Defence, Police, Prisons, Law Courts	4. Motor Trade and Repair
5. Recreational and Entertainment	5. Social Security and Welfare services	5. Catering and Accommodation and Licensed Restaurants
6. Educational	5.1 Education	6. Agricultural Control Boards
7. Restaurants, Cafe's, Hotels and Lodging	5.1.1 Pre-primary, Primary, Secondary	7. Transnet
8. Personal care services: Barber, Beauty shops	5.1.2 Tertiary	8. Department of Posts and Telecommunications
9. Financial	5.2 Health	9. Private Transport of Goods and Passengers
10. Consumption Expenditure by non-residents in the domestic market	5.3 Social security and Welfare services	10. Finance and Insurance
11. Direct purchases of Resident households abroad	5.4 Housing	11. Business Services
	5.5 Recreation and Culture	11.1 Accounting, Auditing and Bookkeeping
	6. Economic Services	11.2 Legal services
		11.3 Consulting Engineering
		11.4 Employment Placement Agencies
		11.5 Data Processing
		11.6 Advertising Practitioners and Allied services and Marketing Research.

Source: Compiled from:  
 South African Reserve Bank, Supplement to the Quarterly Bulletin, June 1991.  
 South African Statistics; and Census Reports from the 1985 census.

discussed their "effectiveness" (Riddle, 1987: 76) or influence on economic growth. For example, trade services determine the extent to which products are available and accessible to customers. Similarly, the provision of transport and communication infrastructure increases the efficiency of supply. Business services, which include access to finance, insurance, realty, accounting, personnel administration, advertising and data processing are, increasingly, provided by specialized firms. This means that businesses can externalize many functions. " In short, there is virtually no function other than that of chief executive officer which cannot be contracted out to a third party. Such a range of intermediary services makes it possible for firms in all economic sectors to concentrate on the activities which they can perform themselves in a cost-effective manner, while taking advantage of the economies of scale possible for a specialty firm for those activities which are not cost-effective to provide in-house" (Riddle, 1987: 185) The specific producer services are also listed in Table 5.

Grubel and Walker set out the procedures to determine the magnitude of these services. They state that the discussion is necessary because neither Statistics Canada nor any other foreign statistical office estimates data on the size of output produced in the categories that we call Consumer, Government, and Producer services (Grubel and Walker, 1989: 143). A detailed description of the statistical procedures is presented here.

Total Service Expenditure in the economy is calculated from the Gross Domestic Product (at factor cost) by kind of economic activity. The service industries of: Wholesale and Retail trade, Catering and Accommodation; Transport, Storage and Communication; Finance, Insurance, Real Estate and Business services; Community, Social and Personal services; and General Government are summed to give us Total Service output in the Economy. This Gross Domestic Product at Factor cost is inflated to market values.

Within this total one will find Consumer services. Private Consumption Expenditure ( C in the Keynesian Consumption Function) can be disaggregated into goods and services expenditure. A service consumption expenditure series can therefore be easily ascertained. This series needs to be adjusted so as to eliminate the intermediate goods inputs employed in their production.



The next component of total service output is Government Services<sup>1</sup>, and since these services are not marketed, output can be estimated only on the basis of input costs, that is, on the basis of salaries and wages and other inputs. Consumption Expenditure by General Government (G in the Keynesian Consumption Function) consists of (a) Expenditure on Intermediate goods and services; (b) compensation of employees; (c) Sales of Government Services; and (d) consumption of fixed capital (allowance for depreciation of general government buildings). All of these go towards the calculation of Government service output.

Finally there are the Producer services and the magnitude of these services is the empirical counterpart of the residual from Total Service Expenditure Less Consumer and Government Services.

It is important to note that Government services can include items which could be produced privately as Consumer and Producer services. For example, private education and health services and private transport services. The provision of these services by government could change as the private provision of these services increases.

Each of the service categories plays a different role in the economy and has a different set of growth determinants. The consumption-based classification system allows one to analyze the importance of each in the economy and the factors that determine their demand and supply. This analytical framework is applied in Chapter 3. However, the production, function and occupational-based classifications are useful in providing a description of service activities in the South African economy. These categorizations of activities are used to analyze service employment, output and productivity in the next chapter.

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<sup>1</sup> "Current expenditure on salaries and wages and on goods and other services of a non-capital nature of the general departments, but not the business enterprises of public authorities. Public authorities include Central authorities, Provincial administrations and Local authorities of the defined territory and extra-budgetary funds" (South African Reserve Bank, Supplement to the Quarterly Bulletin, June 1991: B-5).

## **CHAPTER 2.**

### **Structure of the South African Service Sector.**

This chapter assembles the published statistical information, on the service sector in the South African economy. It provides an overview of service employment, output and productivity in South Africa from 1945 to 1990. Apart from being a description of the service economy, the material forms the basis for the analysis in chapters three to six. Section 2.1 presents data on the level of employment in service industries at different levels of aggregation. In section 2.2, the GDP contributions of the service sector and service industries are analyzed. This allows one to determine whether the trends in service employment are related to the demand for service output. If the service output and employment trends do not follow one another then productivity needs to be looked at as possible explanation of trends in employment in the service sector.

#### **2.1 Employment in South African Service Industries**

In 1946 South African employment stood at 3 399 000. By 1990 this figure had reached 7 953 000. Sixty Three percent of this net growth occurred in the service sector. Goods sector employment contributed the remaining thirty seven percent. This section examines the growth in service employment. The employment trends in Agriculture, Industry and Services will be examined, together with the growth in particular service industries as described by the ISIC of activities. The ultimate objective is an answer to the question: "What are the reasons for the growth in service employment?"

##### **2.1.1 Sectoral Shares and Trends in South African Employment**

This sub-section as well as 2.1.2 and 2.1.3 use the production and function-based classification systems. Table 6 shows the proportion of South Africans working in the Service, Agricultural, and Other Goods sectors from 1946 to 1990. The agricultural sector has had a steady decline in its share of employment from a level of 28.15% in 1946 to 9.5%

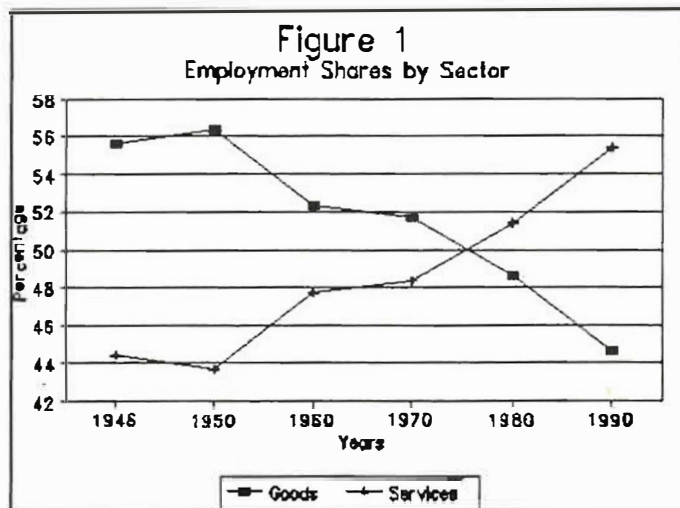


in 1990. The share of Employment in the service sector increased from 44.42% in 1946 to 55.36% in 1990. Other Goods also absorbed an increasing share of labour.

Sector	1946	1950	1960	1970	1980	1990
Agriculture	28.15	26.88	22.21	17.45	12.29	9.56
Other Goods	27.41	29.46	30.07	34.19	36.30	35.06
Services	44.42	43.64	47.71	48.34	51.40	55.36

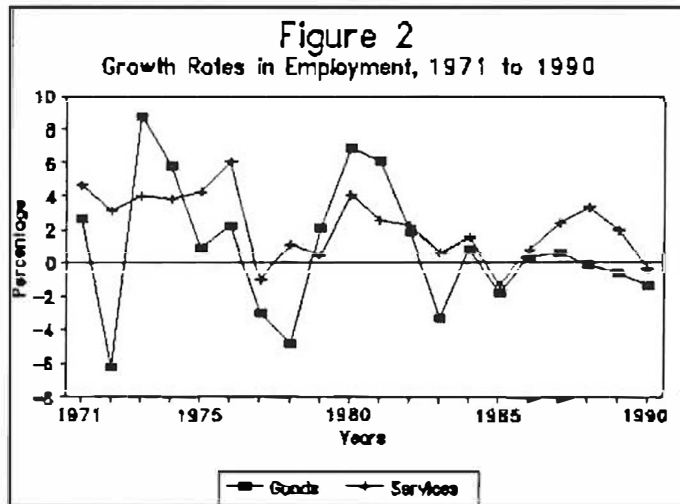
Source: Compiled from Central Statistical Service, South African Labour Statistics, Standardized Employment Series, June 1990, p.2.249.

The change in employment shares between the goods and service producing industries is markedly illustrated in Figure 1. The trends in employment are unambiguous. In 1946 the shares of labour in the service and goods sectors were 44.42% and 55.57%, respectively. By 1990, the employment shares have reversed with 55.3% and 44.6% levels in services and goods respectively. Each industry accounted for 50% of workers in about 1976.



Source: Same as Table 6.

Annual average growth rates in employment, for the goods and service sectors, from 1970 to 1990 are plotted in Figure 2.



Source: Compiled from Central Statistical Service, South African Statistics, August 1990, p.7.9 -7.31.

Additional important statistical data, that is calculated from Figure 2, is presented in Table 7.

<b>Table 7 Statistical data with regard to Employment Growth: 1971 to 1990</b>			
Industry	Mean Annual Growth (%)	Standard Deviation	Variance
Services	2.2	1.9	3.9
Goods	.9	3.8	15.1

Source: Compiled from Central Statistical Service, South African Statistics, August 1990, p.7.9 -7.31.

Table 7 shows that employment in the services sector grew at an annual average rate of 2.2% while the growth rate for the goods industries was 0.9%. More importantly, however, is the standard deviation and variance. The variance of employment growth rates is much smaller for the service sector (3.9) than for the goods sector (15.1), suggesting greater stability in employment growth in the former sector.

### 2.1.2 Employment by Individual Industries

Table 8 lists employment by industries using the Standard Industrial Classification (SIC) of All Economic Activities<sup>2</sup>. The breakdown of the goods and service sectors reveals both the absolute numbers employed and, more importantly, the annual growth rates of each industry. Industries 1. to 5. are Goods producing and 6. to 11. are Service producing industries.

Industry	Employment Numbers (Thousands)		Annual Compound Growth (%)
	1946	1990	
1. Agriculture, Forestry, Fishing	957	761	-0.5
2. Mining and Quarrying	466	713	0.97
3. Manufacturing	392	1517	3.1
4. Electricity, Gas, Water	19	91	3.6
5. Construction	55	468	4.9
6. Trade, Catering, Accommodation	321	1017	2.6
7. Transport, Storage, Communication	221	439	1.5
8. Finance, Insurance, Real estate and Business services	44	448	5.4
9. Non-Government, Community and Personnel services	74	319	3.3
10. Government services	250	1318	3.8
11. Domestic services	600	862	0.8

Source: Compiled from Central Statistical Service, South African Labour Statistics, Standardized Employment Series, June 1990, p.2.249.

<sup>2</sup>This SIC was modified by the Institute for Futures Research in that Community, Social and Personal Services excluded Government and Domestic Services; and these two new categories were created.

The second column gives us an indication of the number of people employed in specific industries in 1946 and 1990. In 1946 the goods industry which accounted for the highest employment was Agriculture (957 000), whilst in 1990 it was Manufacturing(1 517 000). With regard to the Service Industries, if one is to use the aggregated category "Community, Social, and Personal Services" (divisions 9., 10., 11.), then this accounted for 924 000 workers in 1946, the highest of any service sector. By 1990 the figure had reached 2 499 000. The next largest service employer, in 1990, was the Trade, Catering and Accommodation sector.

The service industry which showed the greatest growth in employment, from 1946 to 1990 (be it goods or services), was Finance, Insurance, Real Estate, and Business services. As is evident from Table 8, this sector grew at annual rate of 5.4% in the period. The next highest growth rate was achieved by the Government sector (3.8% per annum). Non-government, community, and personal services grew by 3.3% per annum from 1946 to 1990. The Construction industry posted the highest growth (4.91% per annum) of all the goods industries. The only activity that had a negative employment growth rate was Agriculture (-0.5% per annum).

Continuing to use the conventional SIC, one can present employment growth rates per decade. The use of the decade does not correspond to any particular economic phenomenon in South Africa, however it does serve to illustrate whether strong growth in employment, in any particular decade, has been sustained in future years. Table 9 reveals the employment growth rates for each of the industries.

<b>Table 9 Annual Compound growth in Employment per decade. (Percentages)</b>				
<b>From: to:</b>	<b>1950 1960</b>	<b>1960 1970</b>	<b>1970 1980</b>	<b>1980 1990</b>
1. Agriculture	0.14	0.4	-1.5	-1.8
2. Mining	2.1	0.8	1.5	-0.7
3. Manufacturing	2.3	5.3	3	0.38
4. Electricity, gas, water	3.2	3.3	5.5	1.4
5. Construction	2.7	10.1	2.1	1.6
6. Trade, catering & accommodation	3.4	3.6	2.5	0.7
7. Transport, storage & communication	2.4	1.3	3.3	-1.3
8. Finance, insurance, real estate & business services	7.7	4.7	4.3	4.3
9. Non-government, community & personal services	5.8	3.1	3.7	1.9
10. Government services	5.1	3.5	4.4	3
11. Domestic services	0.8	2.3	-0.3	0.1

Source: Compiled from Central Statistical Service, South African Labour Statistics, Standardized Employment Series, June 1990, p.2.249.

Agricultural employment experienced its highest decline in employment numbers during the 1980's which followed on from a bad 1970's. The Construction sector, as is evident from the Table, recorded the greatest growth in employment for any industry or decade with an annual 10.1% increase in the 1960's. What is of even greater significance is the fact that certain industries experienced a strong growth in employment in a particular decade but thereafter that growth rate was not sustained. It can be seen in Table 9 that no industry experienced the same growth rate in all decades. In the 1960's Manufacturing had a 5.3% annual increase in labour but by the 1980's the figure had reached 0.3% per annum. A similar sharp downward trend is evident for Construction; Electricity, gas, and water; Trade, catering and accommodation; Transport, storage and communication; and Domestic services.

However, a semblance of employment stability is experienced by three service sectors. Financing, Insurance, Real Estate and Business services increased their employment numbers by 7.7% per annum in the 1950's and whilst the figure did drop to 4.7% per annum in the

1960's, the growth rate was maintained through the 1970's and 1980's. Similarly, Non-Government, Community and Personal services, and Government services experienced high annual growth in employment in the 1950's and then a decline to a relatively stable rate in the 1970's and 1980's. The high percentage employment growth rates of these three sectors in the 1980's indicates the role of service industries, as against the goods industries, in providing employment opportunities.

### 2.1.3 Service Subsector Growth

Table 10 gives a disaggregated view of the service industries that were presented in Section 2.1.2. Due to data constraints, a further disaggregation within the selected service subsectors could not be undertaken.

The largest employer of any of the service subsectors in 1976 and 1990 was Central government, Provincial administrations and Local authorities (746 400 in 1976 and 1 217 846 in 1990). The Retail sector and Public transport were the two next highest employers in 1990 with 417 900 and 116 486 workers respectively.

The service subsector which had the greatest growth in employment, from 1976 to 1990, was the Insurance industry with a 4.9% rise in labour per annum. Financing and Real estate, the other services to business, show the fourth largest growth rate (3.4% per annum). University and Central Government, Provincial administration, and Local Authorities establish the second (3.9% per annum) and third (3.5% per annum) highest growth rates in employment respectively.

Three service subsectors experienced negative growth rates during the period. Employment in Public transport fell by 3% per annum (whilst employment in Private transport increased by 1.2% per annum). Employment in Licensed accommodation and Laundry and Dry cleaning also fell.



**Table 10 Employment Totals and Growth in Selected Service Subsectors: 1976 and 1990**

Subsector	Employment Numbers (thousands)		Annual Compound Growth (%)
	1976	1990	
<b>Wholesale, Retail, Catering and Accommodation</b>			
1. Wholesale	207200	223200	0.5
2. Retail	359800	417900	0.7
3. Motor Trade	110800	119100	0.5
4. Control Boards	2449	3067	1.6
5. Accommodation (Licensed)	54100	46900	-1.01
<b>Transport, Storage and Communication</b>			
6. Transport (Public)	255938	166486	-3.02
7. Transport (Private)	71850	85700	1.2
8. Communication	72875	102108	2.4
<b>Financing, Insurance, Real Estate and Business Services</b>			
9. Financing and Real estate	74149	119309	3.4
10. Insurance	33958	66971	4.9
<b>Community, Social and Personal Services</b>			
11. Central government, Provincial administration, Local authorities	746400	1217846	3.5
12. Universities	26797	45932	3.9
13. Laundry and Dry cleaning	16600	13600	-1.4

Source: Compiled from Central Statistical Service, *South African Statistics*, August 1990, p. 7.91 - 7.31.

The analysis has revealed a number of significant findings. Firstly, service industries now account for over half of the total formal employment in the economy. Secondly, the service sector has maintained a higher employment growth rate than the goods sector. However, this

growth rate is not evenly distributed across all service industries. The service industries with the most significant growth in employment were Non-Government, community, social and personal services; Government services and Financing, Insurance, Real Estate and Business services.

#### 2.1.4 Trends in Occupations

The distinction between Service industries and Service occupations, highlighted in Chapter 1, showed that many occupations within the service industries are not classified in the category service worker. The preceding discussion has clearly shown a shift of employment to service industries. However, a classification of employment by occupations instead of industry is useful to confirm the existence of a trend toward services.

Table 11 uses the Standard Classification of Occupations and presents the total number of employees in each occupation in 1969 and 1989, and the annual growth rate in each. The reader is reminded that the "service occupations" take account of non-manual, skilled, semi-skilled and unskilled service workers, while service workers in professions such as Medical Doctors, Teachers, Nurses and Attorneys, to mention just a few, are included in the Professions. The data reveals that labourers have consistently been the occupation into which the majority of employment could be categorized. Operators and clerical workers are the second and third highest, respectively. Occupation in the services can be ranked as the fourth largest, with the professional occupations being in fifth place. In 1969, three hundred thousand workers were employed in a service capacity. This number increased to 798 143 in 1989. Therefore, the number of workers engaged in a service capacity increased by 4.9 percent per annum from 1969 to 1989. Service occupations experienced their strongest growth from 1983 to 1989 during which time they grew at an annual rate of 7.4 percent. The only other occupation that outgrew services was the Professions which had a 5 percent annual growth rate. Managerial and supervisory occupations grew 4.7 and 4.8 percent per annum, respectively. Miners, labourers, transporters and communicators have shown very little growth.



<b>Table 11 Employment Totals and Growth of Occupations: 1969 and 1989</b>			
	1969	1989	Annual Compound Growth (%)
Professional	253607	674794	5
Managerial	80408	202153	4.7
Clerical	399080	730508	3.1
Sales	151613	288215	3.2
Mining	467432	384587	-0.9
Transporters & Communicators	235197	274904	0.7
Artisans & Apprentices	224070	327779	1.9
Supervisors	135284	346994	4.8
Operators	533240	1013985	3.2
Labourers	1099498	1025048	-0.3
Service	304875	798143	4.9

Source: Compiled from Department of Labour, Manpower Surveys, No. 8 (1969) and No. 16 (1985). Central Statistical Service, *South African Labour Statistics*, 1991.

Table 12 illustrates occupations within service industries and shows the proportion of total employment that certain standard occupations take up. One would find that within the goods industries production workers make up the greatest proportion while they are a small proportion of employment in the service industries. The so called "Service occupations" are those listed as "Employees engaged in Service capacities: Public, Personal, and Domestic" in the Manpower surveys. Table 3 (in Section 1.3) provided a list of these service occupations.

**Table 12 Occupational Distribution in Service Industries**

	Wholesale, Retail, Catering & Accommodation (WRCA) (%)	Transport, Storage & Communication (TSC) (%)	Financing Insurance Real Estate & Business Services (FIRE) (%)	Community, Social & Personal services (CSPS) (%)
Professional	2.46	11	14.16	38.8
Managerial	9.6	13.6	9.48	3.5
Clerical	20.74	26.1	52.15	15.5
Sales	29.24	1.95	7.76	.35
Production	11.76	18.35	2.21	10
Service	26.17	28.7	14.2	31.7
	100	100	100	100

Source: Compiled from Central Statistical Service, Manpower Survey No. 17, Occupations by Major Industrial Division, 1987, Report No. 02-01-02.

The Community, Social and Personal service (CSPS) industry has the greatest proportion of service workers, about 31.7% of total employment. Service workers also make a significant contribution in WRCA (26%) and TSC (28.7%). The Professions (teachers, nurses, scientists) are also, not surprisingly, well represented in CSPS, FIRE, and TSC Clerical workers make up a significant proportion of the employees in FIRE.

The growth trends in service and professional occupations coupled with the occupational distribution in service industries, support the finding of a shift to service industry employment. Service and professional occupations grew at a high annual rate and are significantly represented in all the service industries.

#### 2.1.5 Salient Features of Service Employment



The first main finding of this study is that the balance of employment in South Africa has shifted from goods' industries to service industries in the 1945 to 1990 period. The service

industries which have absorbed an increasing share of workers have been the Community, Social and Personal service industries and Financing, Insurance, Real Estate and Business services. Government services were significant in terms of both absolute numbers and growth; Central government, Provincial administration, local authorities and university experienced strong employment growth from 1976 to 1990. Employment in insurance also grew significantly in this period. The occupational data reflects an increasing number of workers engaged in service activities in South Africa. Finally, given the speculative hypothesis that most of the growth in the informal sector is service-related, none of the major conclusions of this chapter would be seriously affected. In other words, that employment in the service sector has grown more rapidly than employment in the goods sector.

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The question that now needs to be answered is: " What are the reasons for the shift of employment from goods to service activities ?" The principal hypotheses, as suggested by Fuchs, are that: the shift to service employment is as a result of a shift in the composition of national output (there has been a relatively rapid rate of growth of demand for service output as compared to goods output); there has been decreased productivity in Service industries so that more labour has been attracted and absorbed into the service sector. The next two sections are concerned with these issues. Trends in National Output and productivity, across sectors and industries will be discussed.

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## 2.2 Gross Domestic Product of Service Sector Industries

In this section the share of service output in GDP as well as the growth rate of GDP for different sectors and industries will be analyzed in both current and constant price terms. Given the trends in employment in the previous section and the shifts in national output to be presented here, one hopes to be able to test Fuchs' hypothesis that the increased demand for service labour has been derived from an increase in the demand for service output. Furthermore, this section serves as a description of the service sector and service industries in the South African economy, from 1945 to 1990, and their status in terms of national output.

### 2.2.1 Sectoral Shares and trends in South African Gross Domestic Product

<b>Table 13 Sectoral Contribution in terms of Percentage share of GDP ( GDP at Current Prices)</b>				
	Services	Agriculture	Other Goods	Total
1946	54.55	12.56	32.8	100
1950	46.6	17.25	36.14	100
1960	49	12.19	38.7	100
1970	53.1	7.79	39	100
1980	44.7	5.08	50.1	100
1990	52.4	4.91	42.67	100

Source: Compiled from South African Reserve Bank, *South Africa's national accounts, 1946 to 1990*, Supplement to Quarterly Bulletin, June 1991, p. B-3.

Table 13 shows the contribution that services, agriculture, and "other goods" made to total GDP ( in Current prices) during the period 1946 to 1990. The service sector in both 1946 and 1990 produced the highest percentage of GDP. Services accounted for 54.55% of GDP in 1946, while agriculture and "other goods" accounted for 12.56% and 32.88% respectively. The only period when "other goods" share of GDP was higher than the service share was in 1980 (other goods percentage of GDP was 50.11%). The share of Agricultural GDP has shown a steady decline from 1951 to 1990 when its percentage reached 4.91% of total GDP.

The service producing industries, as is evident from Table 13, have displayed a relatively constant contribution to GDP over the period. By 1990 the share of services in GDP was 52.41%, only 2.15% less than in 1946. In Constant 1985 Rands, the service share in GDP moved from 49.8%, in 1946, to 51.4% in 1990, an increase of only 1.6%. "Other goods" share, in 1990, was 42.67%. The comparable service employment share displayed far less stability than the service GDP share of national output. The difference between the 1946 and 1990 service employment share is 11.11%.

Table 14 compares the employment shares and GDP shares attributable to each sector.

<b>Table 14 Sectoral GDP shares compared with Sectoral Employment shares</b>						
	<b>1946</b>		<b>1990</b>		<b>1946</b>	<b>1990</b>
<b>Industry</b>	<b>GDP (a)</b>	<b>EmPLY. (b)</b>	<b>GDP (c)</b>	<b>EmPLY. (d)</b>	<b>Ratio (a/b)</b>	<b>Ratio (c/d)</b>
Services	54.56%	44.25%	52.41%	55.36%	1 : 0.8	1 : 1.05
Agric.	12.56%	28.15%	4.92%	9.50%	1 : 2.24	1 : 1.93
Other goods	32.88%	27.60%	42.67%	35.14%	1 : 0.83	1 : 0.82
Total	100%	100%	100%	100%		

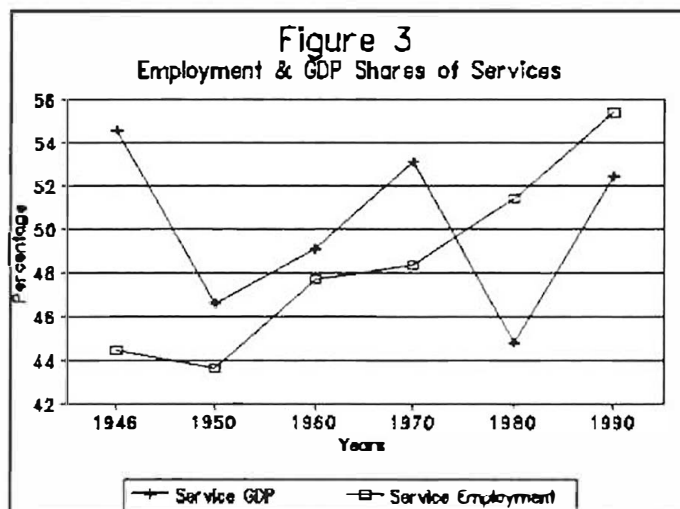
Source: Same as Table 7 and Table 13.

As can be seen from Table 14, the difference in service employment share from 1946 to 1990 is greater than the difference in service GDP share between 1946 and 1990. In other words services have employed relatively more units labour to produce the same unit of output. Agriculture, however, has employed relatively less labour over the period relative to its contribution to total GDP. The "other goods" producing sector has shown a relatively constant GDP/EmPLYment Ratio. This brief analysis suggests that productivity in services has lagged behind that of agriculture and other goods. The discussion will return to the question of productivity and its measurement in section 2.3.

Even though it can be said that services have contributed a relatively stable share towards GDP from 1946 to 1990, it is nevertheless interesting to note the movements in the share

during the period (as is reflected in Table 13) and to compare them to the service employment share. In 1946 the share of GDP accounted for by services was 54.55%. This share dropped through the late 1940's to a low of 45.98% in 1951. During the 1950 to 1970 period the share of services in GDP grew steadily to 54.13% of total GDP in 1971. From 1971 to 1980 the service contribution to total GDP decreases while the goods contribution increases due to the global boom in natural resource prices and demand (Grubel and Walker, 1989: 71). By 1980 goods output represented about 55.2% of total GDP while that of the service producing sector represented 44.8%. During the 1980 to 1990 period there is an upturn in the service GDP share. The final GDP shares reflected in Table 13 are 52.44% for the service sector and 47.58% for the goods sector in 1990.

Figure 3 plots the service share in employment and the service share in GDP. This Figure gives us the opportunity to track movements in employment shares and GDP shares (at Current prices) from 1946 to 1990. The behaviour of these shares can indicate the extent to which the demand for labour in the service sector is due to the demand for output in the sector.



Source: Same as Figure 1 and Table 13.

If one follows the series for the service share of GDP and the service share of employment then it appears that, generally, both follow the same trend. From 1946 to 1950 there is a downward movement in the shares; the 1950 to 1970 period sees an increase in the service

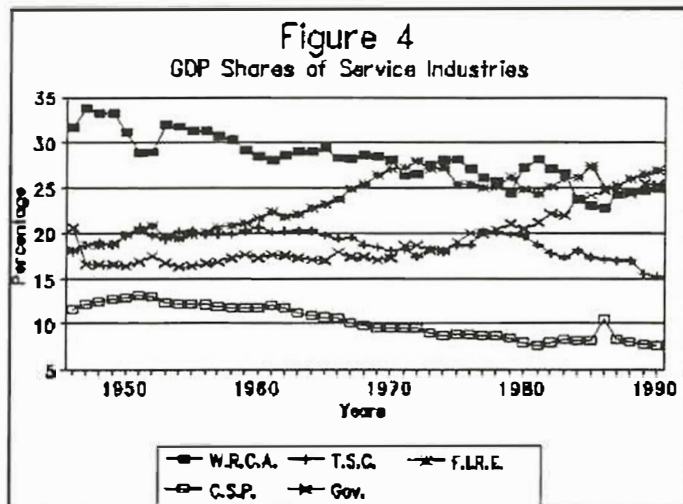


employment and GDP shares. However, in the 1970's the service GDP share falls while service employment share continues to rise. After 1980 the shares of employment and GDP return to the trends experienced during the 1950 to 1970 period. In four out of five cases the direction of change in the service employment and GDP shares is the same but the magnitude of the changes are very different. This is in contrast to the employment and GDP shares for the service sector in Canada, which tracked each other remarkably closely (Grubel and Walker, 1989: 72). Furthermore the correlation coefficient between the changes in employment and GDP shares in South Africa is very weak (-0.0037).

Given this analysis and the one in Table 14, one is persuaded to look at productivity (output per worker) as an explanatory variable rather than the changes in output as an explanation for the trend in service employment. Furthermore, it is probably more important that one disaggregates the service GDP share into its component industries in order to gain a better understanding of the trend in Table 13. This disaggregation also allows one to look at the issue of productivity in terms of particular industries rather than the entire service sector.

#### 2.2.2 Gross Domestic Product by Service Industries

Figure 4 presents a time series view of the GDP ( at Current Prices) of the major industries making up the service sector. The service sector has been disaggregated into five basic industries: (1.) Wholesale, Retail, Catering, and Accommodation (WRCA); (2.) Transport, Storage, and Communication (TSC); (3.) Financing, Insurance, Real estate and Business services (FIRE); (4.) Community, Social, and Personal services (CSP); and (5.) Government (GOV). Figure 4 presents the contribution, of these basic industries, to total GDP during the period 1946 to 1990.



Source: Compiled from South African Reserve Bank, *South Africa's national accounts, 1946 to 1990*, Supplement to Quarterly Bulletin, June 1991, p. B-3.

In 1946 the WRCA industry made the greatest contribution to GDP, 31.7%. The industry which contributed the least in 1946 was CSP (11.5%) and its share has continued to decrease through the decades. By 1990 CSP had reached 7.5% of GDP, the lowest share of any of the industries. The GDP share of WRCA has, generally, fallen throughout the period. In 1990, WRCA was only the third largest service industry in terms of GDP share (24.9%).

The service industries which have experienced an increasing share of GDP (at Current Prices) have been FIRE and GOV. FIRE's share of GDP in 1946 was 18.17% and in 1990 was 26.9%. FIRE experienced sustained growth in GDP from 1946 to 1972, after which it displayed a relatively constant share. GOV's share of GDP increased from 20.6% in 1946 to 25.3% in 1990. This trend was particularly significant from 1970 to 1990 because previous to 1970, the GDP share of GOV had been relatively constant. These results are interesting because it was these two sectors which were identified, in Section 2.1, as being important in terms of employment growth. A discussion of productivity will reveal whether employment outgrew output or vice-versa.

Table 15 presents the annual percentage growth rates of GDP (in terms of Current and Constant Prices) and employment for these same industries.

Service Industry	Annual GDP Growth (Current Prices)	Annual GDP Growth (Constant Prices)	Annual Employment Growth
1. FIRE	12.9	3.9	5.4
2. GOV	12.4	3.2	3.8
3. TSC	11.5	4.2	1.5
4. WRCA	11.3	4.4	2.6
5. CSPS	10.8	3	3.3
<b>AVERAGE</b>	<b>11.7</b>	<b>3.7</b>	<b>3.3</b>

Source: Compiled from South African Reserve Bank, *South Africa's national accounts, 1946 to 1990*, Supplement to Quarterly Bulletin, June 1991, p. B-3. Central Statistical Service, *South African Labour Statistics*, June 1990, p.2.249.

As can be seen from Table 15, in terms of Current Prices, CSPS experienced the lowest annual growth (10.8%) through 1946 to 1990. Therefore its position, as the smallest contributor to GDP, in 1946, persisted through to 1990. The largest annual growth rate was established by FIRE (12.9%) and, interestingly, the second largest by the GOV sector (12.4%). As is evident from Table 15, the Constant and Current GDP values differ to a great extent. Looking at the average values, the GDP of all service industries, measured in Current terms, increased at an annual rate of 11.7% while GDP in 1985 prices rose only 3.7% per annum. Employment in the total service sector increased by 3.3% per annum from 1946 to 1990. Viewing particular service industries, it can be noted that FIRE, GOV and CSPS experienced negative productivity growth rates in that the growth of GDP at Constant prices was less than the employment growth rates. The greatest productivity growth rate was in TSC and the second highest in WRCA.

A further important issue is the effect of Constant and Current price measures on the ranking of the service industries. Table 16 shows the annual growth rates of the service industries in Current and Constant Price terms and ranks them accordingly.

**Table 16 Ranking Service Industries according to Annual Growth Rates of Gross Domestic Product.**

Service Industry	Current Prices: % Annual Change	Ranking	Constant Prices: % Annual Change	Ranking
Finance, Insurance, Real Estate and Business Services.	12.9	#1	3.9	#3
Government.	12.4	#2	3.2	#4
Transport, Storage, and Communication.	11.5	#3	4.2	#2
Wholesale, Retail, Catering, and Accommodation.	11.3	#4	4.4	#1
Community social and Personal Services.	10.8	#5	3	#5

Source: Compiled from South African Reserve Bank, *South Africa's national accounts, 1946 to 1990, Supplement to Quarterly Bulletin*, June 1991, p. B-3, B-4.

FIRE shows the greatest annual growth rate in Current Rands (12.9%) but only the third largest growth rate in terms of Constant values (3.9%). Another important change is with regard to WRCA; this service industry only experienced the fourth largest growth in Current terms while in Constant terms it moves to first place. TSC ranks fourth in current and second in constant terms. Interestingly, GOV moves from second place in current terms to fourth in constant prices. Finally, with regard to Table 16, CSPS remains in fifth place for both measures.

If one is to divide the Current annual growth by Constant GDP growth of the service industries, the ratios that one obtains provide for an interesting analysis. GOV has the largest ratio, while WRCA has the smallest. These ratios reflect the influence of inflation on particular service industries and the impact of the implicit price deflators that are used in the construction of the constant-price series. GOV, FIRE, and CSPS have manifested considerable inflationary pressures while WRCA and TSC have experienced less inflationary pressure.

### 2.2.3 Salient Features of Service GDP

The main feature of the analysis of Gross Domestic Product is the share of service activities in national output. If one compares the South African results to those of, for example, Canada, where the GDP share of services increased from 50 percent in 1946 to 73 percent in 1983, then one can state that services, in South Africa, have made a relatively stable contribution to national output<sup>3</sup>. This is in marked contrast to the employment trends where the share of service employment has continually increased since 1950, through to 1990. Thus one notes that in comparing the trends of GDP and employment shares, the changes in service employment share have followed not followed the changes in service output share. In comparing the 1946 and 1990 share of sector output to the share of sector employment, one should investigate the rates of change of output per worker as an explanatory variable for the growth of service employment, rather than the shifts in output. Furthermore, the disaggregated analysis of the service sector revealed that for certain service industries, productivity might well be a strong determinant of employment.

Two issues have therefore emerged from this section and they need to be addressed. Firstly: " Why has the service sector had a relatively constant share of GDP from 1946 to 1990 ?" This question is partly answered by the decomposition of total service output into its service industries. A more useful method with which to answer this question, and one that is suggested by Fuchs, is to delineate service output and the demand for services as being intermediate or final services; essentially producer and consumer services. Grubel and Walker's New Taxonomy provides the techniques with which to do this. An analysis of the trends of these services and their demand functions could help one answer the question. Such an analysis is undertaken in Chapter Three. The second issue is: " To what extent is productivity the explanation for the growth in service employment generally and in service industries specifically ?" This issue is looked at in the next section.

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<sup>3</sup>If the informal sector is primarily service-oriented, and this is an unconfirmed hypothesis, then the share of services in GDP might well be larger than is suggested in this analysis.



### 2.3 Productivity in the Service Sector

A broad definition of productivity is a ratio between the quantity of goods and services produced and the quantity of resources employed in turning out these goods and services (Fabricant, 1952:3). Productivity levels and trends are important for this study because we are seeking to establish whether there has been a correlation between service employment and productivity in service activities. The increased employment in the service sector could be as a result of low productivity in service activities. This section will establish in which sector there is the greatest productivity growth in the South African economy (Goods sector versus Service sector) and the rate of this productivity growth. The productivity of individual service industries will also be analyzed. A discussion of why there is high or low productivity in service industries will complete this section.

No attempt is made to undertake an in-depth analysis of productivity calculations or the problems associated with productivity measurement. This type of analysis is easily available in the literature on productivity. Rather this section, as with the previous ones, will work with data which is readily available<sup>4</sup> and present the productivity levels in the form of indices. Given these indices, the trends and levels of productivity will be examined.

The analysis will be confined to a partial (specific) productivity, "expressed as the ratio between a given measure of output and a given measure of one or more production factors" (International Labour Office, 1969: 11). The ratio that is calculated is then converted into an index. The factor of production that has been chosen for this analysis is labour, where labour is the number of workers employed in each sector. While other factor inputs could be used and despite the fact that employment is not a good measure of labour input, employment is chosen in light of the discussion in sections 2.1 and 2.2. Some of the problems associated with the use of employment are that it does not take account of the hours that are actually worked in sectors and industries. Ideally one would like to use hours worked plus overtime but this data is not readily available in South Africa. The other

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<sup>4</sup>A set of standardized and consistent data for employment levels and Gross Domestic Product (at 1980 prices) is provided by the Industrial Development Corporation (IDC) of South Africa for all sectors. The IDC uses this data to calculate productivity values.



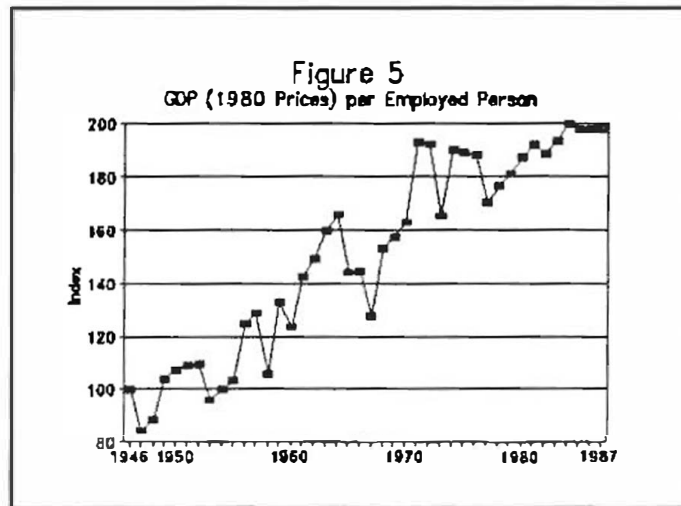
problem associated with the use of employment is that it tells us nothing about the quality of labour, the quantity of capital available per worker, or of technical progress. These constraints might be eliminated by using sectoral production functions but this is beyond the scope of this thesis.

The measure of output is Gross Domestic Product at constant 1980 prices. "Gross domestic product in constant dollars is not a completely satisfactory measure of real output by industry, but it is probably the best available for industry productivity analysis" (Fuchs, 1968: 47). It is not satisfactory because: firstly, output in certain industries, such as Government, is determined on the basis of inputs like employment and compensation because there is no market price for their output. The output series that emerges could be inconsistent with the results of market industries. Secondly, the use of implicit price deflators introduces a bias against productivity because prices are assumed to rise as rapidly as wages in Government and other such non-commercial sectors. However, most significantly, this measure controls for the effects of inflation.

Note is also taken of Riddle's concern that the true value of service activities should not be measured by the quantitative method of "GDP divided by employment" because such a measure does not account for the quality of service output. "In service industries, we must be concerned not only with the efficiency of resource allocation, but also with the effectiveness of service delivery (i.e. achieving the goals of service provision). A more appropriate definition for productivity in services could be stated as maximizing output of acceptable quality, while minimizing the total costs of the production process. Such a definition includes both objective/quantitative and subjective/qualitative concerns, while including a range of cost considerations" (Riddle, 1987: 72).

### 2.3.1 Aggregate Productivity Trend: 1946 to 1987

Figure 5 gives the labour productivity index at its most aggregated level: Gross Domestic Product per employed person in South Africa as a whole.



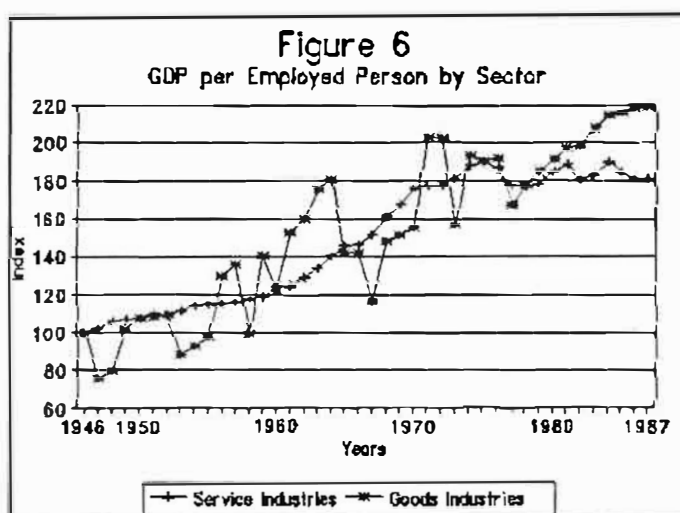
Source: Compiled from Industrial Development Corporation, Gross Domestic Product, Capital Intensity, and Employment (values, relationships, and indices), July 1988.

GDP per employed person has almost doubled from 1946 (100) to 1987 (197). However this growth has been rather uneven and cyclical as is apparent from Figure 5. The major changes in productivity levels occurred in the period 1960 to 1971. There was a 40 point (7.6% per annum) increase in productivity from 1960 to 1964. Productivity then fell by almost as much from 1964 to 1967. The period 1967 to 1971 sees productivity grow by 10.8% per annum. A final observation with regard to Figure 5 is that productivity growth from 1984 onwards has tapered off. The growth of Labour productivity in the entire economy, from 1946 to 1987, was 97.72%. This is represented in Table 17 (Section 2.3.2) in terms of annual compound rate of growth: 1.67%.

### 2.3.2 Sectoral Productivity Trends

Figure 6 displays the labour productivity for the goods and service sectors. The sectors analyzed in the figure have different real levels of productivity in 1946 but in order that we

may see their respective growths, 1946 has been chosen as a base year with an index of 100. Several facts stand out from this representation. Firstly, in the context of the full time series, there isn't a large divergence between the labour productivity of the two sectors. Though, on a year-to-year basis, there are greater instabilities in the goods industries than the service industries. Secondly, there are three distinct time periods during which the productivities of the two sectors are consistently very different. The period 1960 to 1965, sees productivity in the goods sector grow at a greater rate than productivity in the service sector. This situation is reversed from 1965 to 1970 when the service sector has a higher labour productivity. Finally, and most importantly, was the experience of 1978 to 1987. In terms of total labour productivity, as was analyzed in Figure 5, this period manifested an increasing labour productivity index for the entire economy. Figure 6 shows one that this increasing productivity can be attributed to the good's sector. The labour productivity in this sector grew by 2.43% per annum while the service sector experienced no productivity growth from 1973 to 1987.



Source: Industrial Development Corporation, Gross Domestic Product, Capital Intensity, and Employment (values, relationships, and indices), July 1988.

Table 17 provides the same data as in Figures 5 and 6, but in terms of annual growth rates. We have already established that total labour productivity grew at an annual rate of 1.67%. Service labour productivity grew 81.3% from 1946 to 1987, which translates into an annual

compound rate of 1.46%. As can be seen, the goods sector has had the highest rate of productivity growth: 1.92% per annum and 118.89% over the entire period.

<b>Table 17 Annual Compound Growth Rate of Labour Productivity: 1946 to 1987</b>	
Sector	Annual % Growth
Service	1.46
Goods	1.92
Economy	1.67

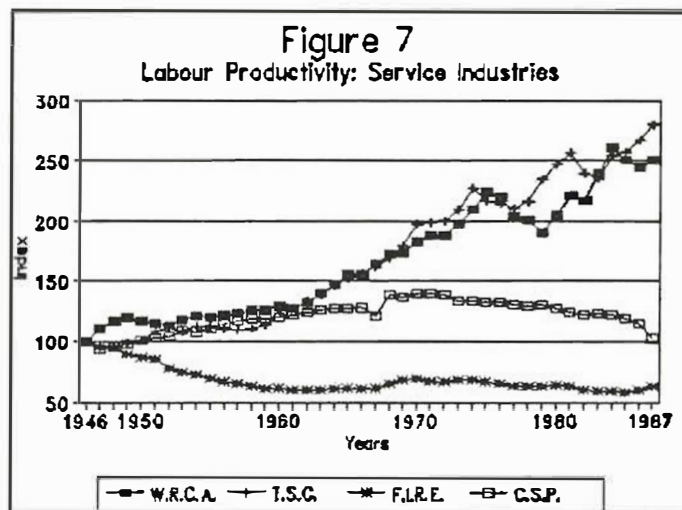
Source: Industrial Development Corporation, Gross Domestic Product, Capital Intensity, and Employment (values, relationships, and indices), July 1988.

This analysis does certainly suggest that productivity has increased more rapidly in the goods sector than in the service sector. Relatively fewer workers have been required in the goods sector to produce the same units of output. While employment growth in service activities could be explained by the lower productivity gains. What the analysis does not reveal is, firstly, the extent of individual service industry productivity. This is important because one can then compare the employment trends of such industries as Financing, Insurance, Real Estate and Business services and Community, Social and Personal services, to their productivity trends. Such a study may reinforce the argument that the growth in total service employment is due to lower productivity in the sector. Secondly, one needs to look at the level of productivity in industries and thirdly the reasons for the differential productivity gains in the goods and service sectors. These issues are addressed in the next sections.

### 2.3.3 Productivity Growth of Service industries compared with Manufacturing

This section considers the productivity in various subsectors of the aggregate service sector. The subsectors are: Wholesale, Retail, Catering and Accommodation (WRCA); Transport, Storage, and Communication (TSC); Financing, Insurance, Real estate and Business Services

(FIRE); and Community, Social and Personal services (CSP). Figure 7 shows labour productivity growth for these specified industries.



Source: Industrial Development Corporation, Gross Domestic Product, Capital Intensity, and Employment (values, relationships, and indices), July 1988.

The service industries that have experienced the greatest productivity gains, during the period 1946 to 1987, have been WRCA and TSC. Their productivity gains compare favourably to the productivity gains of the manufacturing sector<sup>5</sup> (see Table 18 p.45). The only service industries that lag in productivity growth behind Manufacturing are FIRE and CSP. These two sectors, as is apparent from Figure 7, have displayed relatively low, or even negative, productivity growth. CSP has experienced a poor productivity growth rate while F.I.R.E. displays a negative productivity growth rate. Interestingly, it was FIRE and CSP services which were identified, in section 2.1, as having the highest employment growth.

Table 18 provides a more accurate representation of productivity growth, in terms of annual rates, of the chosen industries. The highest annual average productivity growth rate of 2.5% was achieved by TSC over the period. Manufacturing and WRCA both achieved 2.26% per annum. The lowest annual average productivity growth rate was -1.11%; experienced by FIRE. The productivity gain for CSP was 0.07% per annum.

<sup>5</sup>The reason for choosing the manufacturing sector for comparison is that it is a common notion to regard this sector as de facto the most productive (Riddle, 1986: 73 and Grubel and Walker, 1989: 129).

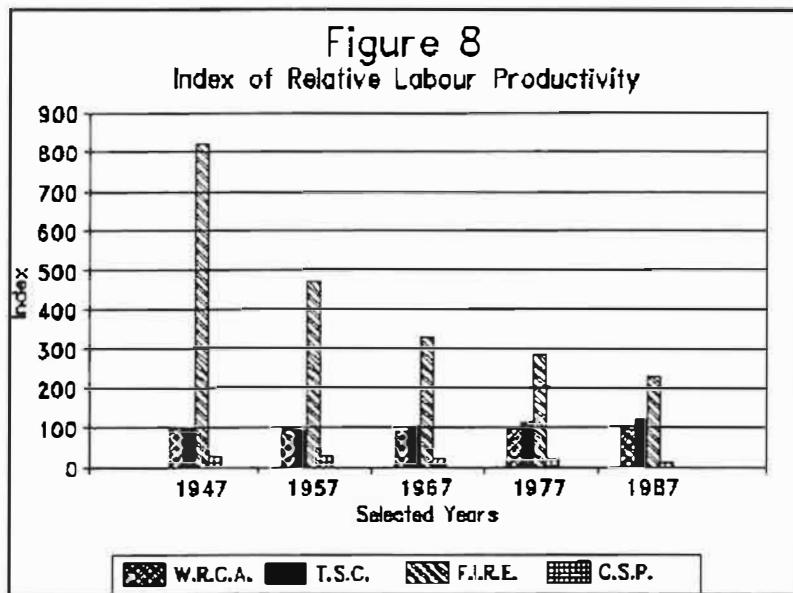
<b>Table 18 Annual Compound Growth Rates of Labour productivity in the Service Subsectors: 1946 to 1987</b>	
<b>Industry</b>	<b>Annual % Growth</b>
Wholesale, Retail, Catering & Accommodation	2.26
Transport, Storage & Communication	2.5
Financing, Insurance, Real Estate & Business Services	-1.11
Community, Social and Personal Services	0.07
Manufacturing	2.26

Source: Industrial Development Corporation, Gross Domestic Product, Capital Intensity, and Employment (values, relationships, and indices), July 1988.

**2.3.4 Growth versus Levels of Productivity**

The preceding discussion was concerned with the rate of productivity growth. One now needs to introduce a further dimension; that being the absolute levels of productivity in the various subsectors that have been analyzed. Such a perspective allows one to establish which subsector has inherently higher productivity, regardless of its rate of productivity growth. Figure 8 is helpful for this purpose. For the years 1947, 1957, 1967, 1977 and 1987, the GDP per employee in Manufacturing was calculated and set equal to 100 in each year. All the other ratios of the various service subsectors have been expressed relative to this base.





Source: Industrial Development Corporation, Gross Domestic Product, Capital Intensity, and Employment (values, relationships, and indices), July 1988.

It is apparent that F.I.R.E. has produced the highest output per employee over the decades. One can compare this to the rates of productivity growth which saw F.I.R.E. with the lowest productivity growth (Figure 7) at a negative rate (Table 18). Figure 8 shows that relative to manufacturing F.I.R.E. has experienced declining labour productivity. The index of relative labour productivity for F.I.R.E. was 822 in 1947 and 227 in 1987. Nevertheless, output per employee has been far greater than any other sector. The other service sector which has a higher productivity index than manufacturing is T.S.C. but only for the years 1977 and onwards. C.S.P. displays consistently low productivity throughout the years relative to manufacturing.

### 2.3.5 Physical and Human Capital in Industries

In judging the productivity growth and levels of these service industries one needs to take account two factors. Firstly, as technological changes occur industries are more likely to substitute physical capital for labour. The growth of productivity in manufacturing is most probably due to the rapid rise of physical capital per worker. According to the National Productivity Institute, the Capital-Labour ratio of manufacturing increased by 54 percent from 1974 to 1989. The labour productivity performance of W.R.C.A. and T.S.C. might

also be explained by increased physical capital per worker. From 1974 to 1989, W.R.C.A. experienced a 26.3 percent increase in the capital-labour ratio and T.S.C. a 55.7 percent increase. F.I.R.E., on the other hand, had a 6.5 percent decline in its ratio.

Secondly, the productivity measure that has been used fails to adjust for quality improvements in the provision of services. These quality improvements could come about as a result of better skills and increased education amongst service workers. Table 19 presents the educational levels in the service and goods' sectors and in the service industries in 1985.

<b>Table 19 Educational Attainment by Sector and Service industry: 1985</b>						
	Percentage Distribution					
	Less Std. 6.	Std. 6 & 7.	Stds. 8,9,10.	Diploma	University	
Goods	60.5	15.5	18.2	4.4	1.2	100
Services	35.9	16.4	32.3	10.6	4.6	100
W.R.C.A.	29.9	22.9	38.8	6.7	1.5	100
T.S.C.	32.1	21.3	38.5	6.9	1.03	100
F.I.R.E.	9.9	7.2	54.2	17.7	10.7	100
C.S.P.S.	44.1	13.9	24.1	12	5.7	100

Source: Central Statistical Service, Population Census, 1985, Economic Characteristics: Statistics according to occupations, Industry and identity of employer, Report No. 02-85-07.

The service industries employed proportionally less low skilled people and proportionally more highly educated workers. This result is consistent with Fuchs' analysis, of the American service economy, in which the author stated that " the service industries make greater use of workers with higher education and relatively less use of those with only limited schooling. This is not true of all service industries, of course, but it is true for the

sector on average" (Fuchs, 1968: 188). Sixty percent of those employed in the South African goods sector had the least educational qualification, less than standard six, while in the service sector only 35.9 percent of workers had less than a standard six. Furthermore, in relation to the service sector, there are fewer workers with a university degree in the goods sector.

The service industry which has a greater than proportionate number of highly educated people (10.75 percent of the total) and a less than proportionate number of low educated workers (9.9 percent of the total) is Financing, Insurance, Real Estate and Business Services. Of special note is that in the Community, Social and personal services, approximately 44 percent of the workforce have less than a standard six in educational attainment. Workers with university degrees have a 5.7 percent share in C.S.P.S. These results suggest that the quality of service provision and the need to apply more workers to a service task are important considerations in analyzing service industry productivity.

#### 2.3.6 Salient features of Productivity in the Service sector

The analysis of productivity by sectors reveals lower output per worker in services. Furthermore, the low productivity of individual industries such as F.I.R.E. and C.S.P.S is significant in the light of the fact that these activities had high employment growth rates. The prima facie evidence certainly suggests that productivity is an important explanatory variable in service employment growth. Other interesting features of the analysis include the fact that certain service industries ( T.S.C. and W.R.C.A.) are as productive as certain goods industries ( manufacturing). The productivity gains in W.R.C.A. and T.S.C. have been significant in the period 1946 to 1990.

Lower output per worker in service industries is not per se undesirable, for a number of reasons. Firstly, in South Africa, with an increasing labour surplus, employment creating industries are important. Secondly, the nature of many service producing activities demands that more workers be applied to the provision of the service. Finally, many service activities are inputs into the production of goods ( this is looked at in the Chapters 3 and 6), and ultimately their productivity will be reflected in the overall national output. Even though

productivity gains in some service industries has been low, the increased provision of these services (such as F.I.R.E. and C.S.P.S.) has had a positive influence on the growth rate of national income.

#### 2.4 Concluding Comments on the Structure of the South African Service Sector

Using the production, function and occupational-based classifications of economic activities one has been able to show the status of the service sector in the South African economy. With regard to employment, service activities provide for more than half the total employment in South Africa and the growth rate of employment in services has been greater than that in goods. Consideration was then given to the question of whether the service share in GDP followed a similar trend. The finding is that the service share in GDP is far more stable than the service share in employment. Furthermore, a comparison of the sectoral GDP shares to sectoral employment shares revealed that services required relatively more units of labour to produce the same output in 1990 as compared to 1946. This result directed our attention to labour productivity in the goods and service sectors and in service industries. The analysis showed that, in aggregate terms, the goods sector manifested greater growth in labour productivity than the service sector. However, certain service industries, such as Wholesale, Retail, Catering and Accommodation and Transport, Storage and Communication were shown to be as productive as Manufacturing.

Having used the conventional analytical frameworks to analyze service employment, output and productivity, the discussion now focuses on a consumption-based classification. This is to ascertain why the service share in GDP has been so stable throughout the years 1946 to 1990.

## CHAPTER 3.

### An Application of Grubel and Walker's New Taxonomy of Services

The evidence on the service sector's share of GDP revealed that the share of service output in 1946 was very similar to that in 1990, in both current and constant 1985 prices. Using the Standard Industrial classification of economic activities one was able to gain some insight as to why this was the case. The relative output shares of the various service industries and their growth was useful in understanding the structure of the service sector's output. An application of Grubel and Walker's identity provides one with an alternative analytical framework with which to understand the growth of the service sector. Essentially, national service output is sub-divided into Consumer, Government and Producer services<sup>6</sup>. It is the level and growth of these different service categories which have determined the development of total service share in National output.

The purpose of this chapter is to present the estimates ( in current and constant prices) of the relative contribution to total service output of consumer, government and producer services and their growth trends. These estimates will be compared to the Canadian estimates given that they are the only other comparable results.

#### 3.1 Statistical Procedures for the New Taxonomy of Services

Chapter 1 (Section 1.4) set out the method that is required to determine the output of the service sector in terms of consumer, government and producer service output. Total service output was obtained by adding the GDP of all service industries. This data is obtained from the Series: *Gross Domestic Product by kind of Economic Activity*<sup>7</sup>. Series at factor cost are converted to market prices by making the necessary adjustments with taxes and subsidies.

From total service output we deduct consumer services which is *Private Consumption Expenditure* of services. This is a gross expenditure and it is necessary to remove the

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<sup>6</sup>Discussed in the Introduction and Chapter One.

<sup>7</sup>For the Canadian analysis, this Series is titled: Gross Domestic Product at Factor Cost by Industry.

intermediate good's inputs employed in the production of these services. For example, medical services frequently include the provision of goods such as medicine; similarly restaurant services have a large goods component. The value of these goods needs to be deducted from the series. Grubel and Walker state that " for this purpose we estimated the ratio of value added to gross output of the broad categories of consumption expenditures from the publication *GDP by Industry* (61-213). The weighted average ratio for these industries was 0.6 in 1973 and to simplify matters, we used this ratio to deflate the consumer expenditures for all the years in the time series. The resultant statistic is the empirical counterpart to our conceptual index consumer service production" (Grubel and Walker, 1989: 144). In essence, the expenditure on services is valuing goods' inputs at sixty percent and the service provision at forty percent. Due to the lack of similar data, the proportion of 0.6 was also used to deflate South African private consumption expenditure on services. The factors that could influence and change this weighting include the cost of goods relative to the cost of services and the compensation of employees in the provision of services. If the cost of intermediate goods' inputs in South Africa was relatively higher than in Canada and the remuneration of service workers lower than in Canada, then the higher the weighting by which consumer services must be deflated, and this would mean that consumer services would have an even smaller share of total service output.

The second service share which is subtracted from total service output is Government services. The series: *Consumption Expenditure by General Government* is the appropriate one in that it reflects current expenditure in the provision of services. In the Canadian national accounts, Consumption Expenditure by General Government includes capital investment and therefore Grubel and Walker deduct this from the government service series. In South Africa government capital formation is included in *Gross Domestic Fixed Investment* and therefore does not represent a problem.

The balance of the total service output that is not accounted for by consumer services and government services is producer service output. The deflation of consumer services, to remove intermediate goods' inputs, makes the producer service share bigger. " The deflation of expenditure data to obtain the value added of these service industries therefore is the correct procedure for our model" (Grubel and Walker, 1989: 145).



### 3.2 Level and Growth of Consumer, Government and Producer Service Shares

The composition of total service output is reflected in Table 20. Service output accounted for 54.55 percent in 1946, 44.79 percent in 1980, and 52.41 percent of total GDP in 1990, and summing the three categories of services gives us "Total services"<sup>8</sup>. As is clear from Table 20, Producer services have consistently been the biggest contributor to total service output. The producer service share has ranged from 35.9 percent in 1946 to 26.4 percent in 1980 and finally 27.6 percent in 1990. The share of producer service output has therefore decreased by 23 percent over the period. The producer service share did however experience some growth from 1950 to 1974. Consumer services were the smallest component of total service output throughout the period and their share fell from 8.5 percent to 5.8 percent from 1946 to 1990.

Year	Consumer	Government	Producer	Total
1946	8.5	10.1	35.9	54.55
1950	7.5	8.9	30.1	46.6
1955	7.4	9.08	31.7	48.3
1960	7.1	9.12	32.8	49.1
1965	6.5	10.89	31.8	49.3
1970	6.6	11.94	34.5	53.1
1975	5.7	13.63	30.1	49.5
1980	5	13.31	26.4	44.7
1985	6	16.81	26.9	49.7
1990	5.8	18.9	27.6	52.4

The share of Government service output has increased from 10.1 percent in 1946 to 18.9 percent of GDP in 1990, making it the second largest contributor to national service output. The share of Government service output has grown at the most rapid rate: 1.43 percent per annum in the period being analyzed. The greatest portion of this growth was experienced from 1974 to 1990, during which there was a 75 percent increase in the share of Government

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<sup>8</sup>This trend of the share of total services in GDP corresponds to the trend in Table 13 in Section 2.2.1 of the Gross Domestic Product chapter.

service provision. 1960 also marks an important year in increased current expenditure by government ( 19.6 percent from 1960 to 1965).

In the analysis of Canadian services (Table 21), producer services are also the largest component of national service output with shares ranging from 26 percent in 1947 to 34 percent in 1980. Another important feature of the Canadian service output is the share of consumer services; a much higher percentage than in South Africa and an increasing share. The share of government services in Canada has also grown rapidly as is reflected in the increasing percentage from 9 percent of GDP in 1947 to 22 percent in 1983. For Canada, therefore, all service shares experienced positive growth. The share of government service output grew 2.5 percent per annum from 1947 to 1983. The shares of consumer and producer services grew at annual rates of 0.85 and 0.66 percent respectively. Given this growth in shares one can understand why the share of total service output has continually increased from 49 percent of GDP, in 1947, to 74 percent in 1983.

**Table 21 Composition of Service output in the Canadian Economy: 1947 to 1983.**  
**Shares of GDP (in Current Prices) in percentages. ( Selected Years).**

Years	Consumer	Government	Producer	Total
1947	14	9	26	49
1950	14	9	26	49
1960	18	11	30	59
1970	17	18	28	63
1980	16	19	34	69
1983	19	22	33	74

Source: Compiled from Figure 42 in Grubel and Walker, 1989: 146

In comparing the South African service shares to the Canadian service shares it is important to note that the size of the consumer and government service share depends on the degree of state provision of certain services such as health, education, and transport. The greater

the provision of these services by government, the higher the government service share and the lower the consumer service share. In other words, there is less private consumption expenditure on these types of services.

Grubel and Walker (1989) also provide service shares in Constant 1981 Dollar values. Their rationale for a constant price analysis is that during the period under investigation there had been price increases and changes in the relative prices of goods and the three types of service production and since economic demand functions and other important functional relationships typically are specified in terms of real quantities and relative prices, it was important to deflate the nominal series (Grubel and Walker, 1989: 147). The same situation has applied in South Africa and therefore current price data is also deflated by the Reserve Bank. A variety of techniques are used for the deflation of current price estimates. Many of the components of Private Consumption Expenditure on services, Consumption Expenditure by General Government and the GDP contributions of the various economic activities are deflated in different ways. The most common techniques include the nominal values being divided by the relevant component of the Consumer Price Index or Base year estimates are extrapolated using either number of workers or physical quantities purchased. The analysis in Constant price terms reveals some interesting trends.

**Table 22 Composition of service output in the South African Economy: 1946 to 1990. Shares of GDP (at Constant 1985 prices) in percentages. ( Selected Years).**

Year	Consumer	Government	Producer	Total
1946	8.1	14.1	27.5	49.8
1950	8.2	12.1	26.1	46.5
1955	7.3	11.4	25.8	44.7
1960	6.4	10.6	26.4	43.4
1965	5.5	11.9	24.3	41.8
1970	5	12.2	25.8	43.1
1975	5.2	14.1	27.5	46.9
1980	5.1	15.1	25.9	46.1
1985	6	16.8	26.9	49.7
1990	6.37	17.6	27.4	51.4

The share of total service output in Table 22 is less cyclical than the presentation in current prices. In 1946 service GDP accounted for 49.8 percent of total GDP and in 1990 the figure was 51.43 percent. The lowest contribution was in 1966: 41.56 percent. In 1946 the Consumer, Government, and Producer service shares in GDP were 8.1, 14.1 and 27.5 percent respectively. By 1990 the share of total services, as accounted for by consumer services, had fallen to 6.37 percent; producer service share had remained almost constant; and Government service share had risen to 17.6 percent. The Government service share grew 0.5 percent per annum from 1946 to 1990 and once again 1960 and 1974 are significant years in that they represent the start of strong increases in government current expenditure. From 1960 to 1974 there is a 21.3 percent growth in the government service share and from 1974 to 1990 the growth is 36.2 percent. The ranking of each service contribution is once again not difficult: producer services had the largest share, government services the second to largest and consumer services the lowest share.

The same ranking applies to the Canadian results ( in Table 23) but the consumer and government service shares are much more similar than in the case of South Africa. In Canada the share of Government services has only been marginally higher than the consumer service share.

Year	Consumer	Government	Producer	Total
1961	17	17	22	56
1965	15	16	23	54
1970	15	19	23	57
1975	16	19	24	59
1980	17	19	25	61
1986	16	18	27	61

Source: Compiled from Figure 44 in Grubel and Walker, 1989: 148.

### **3.3 Salient Features of Service output in terms of the New Taxonomy**

This analysis has set out the level and trend of shares of three classes of services which have determined the trend of total service output in the South African economy. The Constant Price analysis showed that, firstly, the consumer service share declined from 1946 to the mid 1970's after which the share increased. Secondly, the government service share has grown the most rapidly of all the service shares. Most significantly are the years 1960 and 1975, both of which signify substantial increases in government current expenditure. Thirdly, producer services have had an almost constant share of total service output in the economy in constant price terms. The question which now needs to be addressed is: " What factors have determined these patterns of shares of the different service categories ?" Expenditure on particular services by households and the factors determining such expenditure will help explain the consumer services trend. The pressures on government and their response in

budget allocations has determined government service provision. Finally, the demand for final goods, the extent of specialization and the use of business services has determined the demand for and growth of producer services. Each of these issues will be addressed.



## CHAPTER 4.

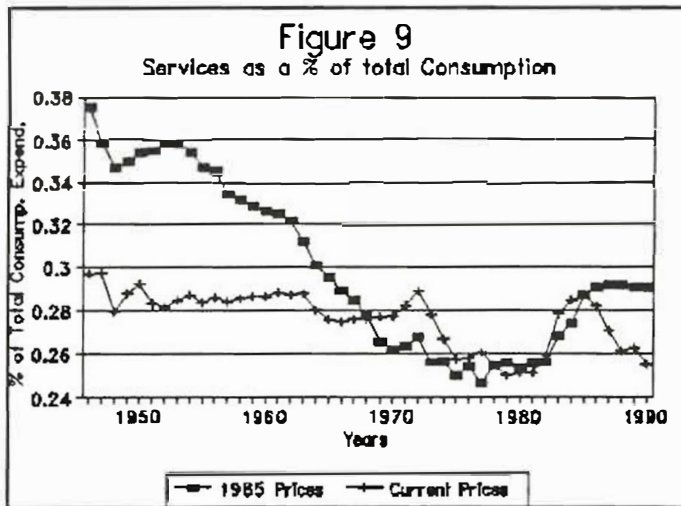
### Consumer Services

The analysis in Chapter 3 revealed that consumer services were the smallest component of service output in the South African economy. Furthermore, consumer services experienced a declining share in total service output from 1946 to the mid 1970's, after which there was an increase in the share. It is of interest to establish the reasons for this trend so as to ascertain future developments in consumer services. This section will therefore present the composition and trends of household service expenditures<sup>9</sup> and consider the factors which have determined expenditure on services. Such an analysis will help explain why, in both Current and Constant prices, Consumer services have had a decreasing share of National service output.

Figure 9 presents Real ( Constant 1985 prices) and Nominal expenditure on services as a proportion of Real and Nominal total consumption expenditure. The trends confirm the results obtained from the application of Grubel and Walker's model. At constant 1985 prices, service expenditures, as a proportion of total consumption expenditure, decreased from 37.48 percent in 1946 to 29 percent in 1990. Service expenditure in Current prices, while showing greater stability, also experienced a decreasing share in this period. However, there is a recovery in the share in the late 1970's.

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<sup>9</sup>Information on household expenditure is obtainable from three sources. The Reserve Bank provides data on household expenditure at a relatively aggregated level in both current and constant terms. The Central Statistical Service, in its Census surveys, presents a very detailed record of expenditure patterns. A final important source are the reports published by the Bureau of Market Research (B.M.R.) which include information on the percentage distribution of household expenditure by expenditure items.



Source: Constructed from South African Reserve Bank, Supplement to the Quarterly Bulletin, June 1991, p. B-26 to B-30.

Table 24 lists the results of a similar analysis for the United States, Canada and France for the period 1968 to 1982. The presentation shows that in all three cases there has been an increasing service share in total consumption expenditure, whereas in the South African case it has been a decreasing share.

Country	1968	1982
United States	46 %	50 %
Canada	44 %	45 %
France	33 %	40 %

Source: Compiled from Hammes, Rosa and Grubel, *Kyklos*, 1989.

#### 4.1 The composition of Household Service Expenditure

Table 25 lists the components of Real service expenditure as a percentage of total consumption expenditure for South Africa. Aggregate service expenditure can be broken into the categories of: Rent; Household services (including domestic servants); Medical services; Transport and Communication; Recreation, entertainment, and educational services; Miscellaneous ( which includes: Restaurants; Cafes; Hostels and Lodging; Personal Care services; Financial services; Consumption by non-residents in the domestic market; direct purchases of resident households abroad; and other services).

Year	Rent	Household	Medical	Transport & Commun.	Enter.	Misc.	Total Service Expend. as a % of Total Expend.
1946	11.5	5.16	2.36	6.4	3.28	8.67	37.4
1950	10.4	4.5	2.52	5.96	3.28	8.59	35.3
1955	10.2	4.2	2.64	5.74	3.33	8.45	34.6
1960	9.7	4	2.65	4.93	3.49	7.62	32.5
1965	9.3	3.1	2.38	4.84	3.37	6.48	29.5
1970	8	2.4	2.19	4.73	3.03	5.76	26.1
1975	7.23	2.5	2.53	4.96	3.28	4.41	25
1980	7	2.1	2.69	5.73	3.52	4.22	25.36
1985	9.4	2.4	2.86	5.71	3.22	5	28.7
1990	9.3	2	3.17	6.39	2.91	5.21	29.03

Source: Compiled from the South African Reserve Bank, Supplement to Quarterly Bulletin, June 1991, p. B-26 to B-30.

Throughout the period under investigation Rent has been the greatest component of expenditure on services; with 11.59% of total consumption being attributed to rent in 1946. This percentage fell to a low of 7% in 1980 after which it rose to 9.3% in 1990. The miscellaneous service items that were listed formed the second highest service expenditure up until 1974 when transport and communication moved into second position. In 1990, transport and communication was 6.4% of total consumption expenditure. The share of expenditure as accounted for by Household services was only 2% of total consumption expenditure in 1990. Medical service expenditures have shown a slight increase in share from 2.3% in 1946 to 3.1% in 1990. The percentage expenditure on recreation, entertainment and educational services has been fairly consistent.

From the late 1970's until 1990, it is evident that there has been some growth in the service expenditure share of total consumption. Table 26 provides a more disaggregated view of household service expenditures in terms of annual growth rates and is useful in identifying the growth of shares of certain service expenditures in the period 1975 to 1985.

Communication experienced the largest annual growth from 1975 to 1985 and coupled with the increased expenditure on transport one finds that, as a percentage of service expenditure (in Table 24), there has been an increase in the Transport and Communication share. Personal care, which is categorized within Miscellaneous service expenses, in Table 24, also experienced 2.9 percent annual growth during the period. Financial services, which are also grouped under Miscellaneous, correspond to Insurance and Funds in Table 25. The annual growth rate was 5.7%. Recreational, Educational and Entertainment expenditures have in total had a negative growth rate. Expenditure on servants has decreased. Expenditure on Medical services has increased by 0.5 % every year from 1975 to 1985. Finally, the item Housing and Electricity grew at an annual rate of 3.4%.

1. Transport	0.5%
2. Medical and Dental	0.1%
3. Education	0.0%
4. Recreation and Entertainment	-0.8%
5. Dry-cleaning and Laundry	-4.4%
6. Personal care	2.9%
7. Communication	11.3%
8. Servants	-0.5%
9. Holidays	1.7%
10. Housing and Electricity	3.4%
11. Insurance and Funds	5.7%

Source: Compiled from the Bureau of Market Research, Research Report No.155, 1989. p.37.

The decreasing share of expenditure on services, up until 1977, can essentially be attributed to a decreasing consumption of household services, rent, and the miscellaneous service items of restaurants, cafes, licensed accommodation, personal care, financial services and consumption by non-residents in the domestic market. The upward trend in service consumption from 1977 to 1986 has been driven by rent, transport and communication, holidays, personal care and financial service expenses.

#### **4.2 The Determinants of Household Expenditure**

Household expenditure consists of the purchase of services and durable, semi-durable and non-durable goods. Households purchase and consume these commodities or purchase goods as capital with which to, in combination with household labour, produce further goods or

services for final consumption. The analysis of the private consumption expenditure data reveals that there has been a trend towards a greater share of expenditure on goods rather than on services.

Gershuny (1977, 1978) argued that expenditure on services was decreasing in favour of expenditure on goods in Great Britain (Harding and Jenkins, 1989). He deduces that people were spending more on manufactured goods so that they could produce services for themselves at home. Burns (1977), on whose work he drew, saw the home as increasingly becoming a unit of production as well as consumption (Harding and Jenkins, 1989). These ideas were a direct response to Bell (1974) who had predicted that a post industrial society would see an increase in the provision of services (Harding and Jenkins, 1989). For Gershuny a post industrial society would not be characterized by the increased purchase of services but by increased self-provision.

Gershuny (1977, 1978) used time-series data concerning a variety of expenditure categories to show that there was a trend away from expenditure on certain kinds of services in the United Kingdom towards expenditure on certain kinds of goods. He developed this argument and claimed that people were spending more on manufactured goods in order to produce more services for themselves.

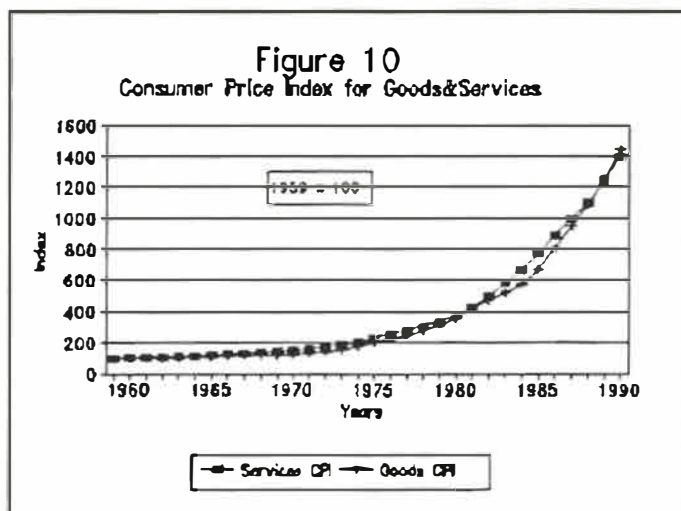
Gershuny sees this growth in the household economy as encouraged by the rising cost of services relative to the declining cost of domestic capital goods. He shows that, "with differential rates of productivity increases as between goods and services, it would be more expensive to pay for labour in formally acquired services" (Pahl, 1984: 93). Therefore, manufactured commodities tend to be increasingly substituted for final services and consequently the share of consumer expenditure devoted to private and marketed service does not rise over time and may actually decline, as was the case for South Africa.

In analyzing the cost of services relative to the cost of domestic capital goods ( which include furniture and equipment, vehicles and other transport goods) in South Africa, it was found that the Consumer Price Index (CPI) for services, with 1959 equal to 100, had increased at an annual compound rate of 9.8 percent from 1963 to 1989. For furniture and equipment



the CPI increased at an annual rate of 8.4 percent and the CPI for vehicles increased at an annual rate of 11.2 percent. Other transport goods, for the period 1975 to 1989<sup>10</sup>, experienced an increase of 14.6 percent per annum. Given this data it seems that Gershuny's hypothesis of substituting relatively less expensive manufactured commodities for more costly services could only have been the case if the manufactured commodities that are substituted for services are furniture and equipment. The other durable consumer goods manifested higher relative price increases compared to the average increase of services. The evidence is therefore inconclusive. One would need to have some indication of the composition of expenditure on the capital goods for household service provision.

If one compares the CPI for services and goods generally ( in other words including food, beverages, clothing and footwear in the goods sector) then both have risen at a similar rate from 1959 to 1990, as is shown in Figure 10 where the index for both goods and services has been presented with 1959 as the base year. However, the CPI for services has been at a higher level than that for goods throughout the period. This suggests that where price is the only consideration in private consumption expenditure, goods are preferred to services.



Source: Compiled from various Reserve Bank Quarterly Bulletins, 1959 to 1990.

<sup>10</sup>This category of good was only specified in 1975 in the Reserve Bank Quarterly Bulletins.

A second hypothesis which is forwarded in explaining the shift in service consumption expenditures is that of female participation in the labour force. Hammes, Rosa and Grubel (1989) argued that real expenditure on services would rise with the increase in the labour force participation rates of women. As women have entered the formal labour force, services previously provided by them in the households are now purchased in the market. Therefore, according to the authors, there should be an increase in real and nominal expenditure on services as a proportion of real and nominal total consumption expenditure.

They measure the impact of real income, relative prices and the participation rate of females in the labour market on private service expenditures for France, Canada, and the United States of America (U.S.A.). In all three cases there had been an increasing share of expenditure on services ( see Table 24) and a strong growth in female employment. In Canada female participation in the labour force grew 89 percent from 1961 to 1985. In the U.S.A. female participation in the labour force measured 33.3 percent in 1950 and 52.7 percent in 1982. In France, the participation rate grew by 19.2 percent from 1968 to 1986. In all cases the consumption of services and the female participation rate were positively and significantly correlated.

For South Africa, the share of services in household expenditure has decreased, while female participation in formal employment moved from a rate of 41.3 percent in 1960 to 44.7 percent in 1980. Much of this increase was due to increased Asian and White female employment. Table 27 provides a breakdown of female labour force participation according to racial groups. Asian female participation in the labour force increased at an annual rate of 3.8 percent, while the figure for Whites was 0.89 percent and for Blacks 0.25 percent. Despite these increases in female employment, there has not been an impact on household expenditure in the manner suggested by Hammes, Rosa and Grubel. Female employment in the Asian, Coloured and Black communities could to a certain extent have been for subsistence reasons. Consequently, the lack of purchasing power in these communities would have meant that the use of marketed services in the household would not have increased as females move into employment. In the case of Whites, the increased participation of White females might have led to an increase in the employment of domestic servants in the early period but this was reduced by the tightening of influx controls in the late 1960's. Later

however, rising wages for domestic servants may have led to the substitution of equipment for servants. The analysis seems to suggest that the phenomenon of an increased expenditure share on services due to increased female employment is not applicable to the South African experience.

Year	Total	Asians	Blacks	Coloureds	Whites
1960	41.3	8.9	45.5	44.9	30.9
1970	44.8	19.5	47.6	47.1	37.6
1980	44.7	19.1	47.9	44.9	36.9
Annual % Change	0.39	3.8	0.25	0	0.89

Source: Adapted from Table 3.4, Grobbelar, 1984 in Barker F.S., 1992, p.36

Another determinant of household expenditure is income. Income levels and the growth of income are often identified as the most important explanatory variables in consumption expenditure. In South Africa's case, the distribution of income between Blacks and Whites, because of the high disparities in average incomes, has had a great impact on demand patterns. A discussion of income distribution in South Africa invariably begins with a statement of the inequality in per capita incomes between racial groups. The wide income disparity in South Africa has been estimated in various studies<sup>11</sup>. The year 1970 is an important base year in the analysis of income distribution because prior to this the share of incomes accruing to Black and White had been relatively constant (Spandau (1971), McGrath (1977) ). It is after 1970 that authors such as Natrass identify a redistribution of the increase in income to Blacks which altered racial shares in total personal income (Natrass, 1977: 411).

<sup>11</sup>For the year 1970, Spandau (1971) estimated the white share of income to be 73 percent. McGrath (1977) arrived at a figure of 72 percent and Natrass (1977) 74 percent.

Table 28 provides estimates of per capita income by race and the racial shares of income in South Africa<sup>12</sup>. With regard to per capita incomes, Black personal per capita incomes have increased at an annual rate of 2.67 percent from 1972 to 1990. The White per capita incomes have only increased by 0.14 percent per annum. Furthermore, the Black share of income grew 43 percent in the period or 2 percent per annum. While white share of income decreased by 25.1 percent or 1.59 percent per annum.

Year	Per Capita White Incomes (Rands)	Per Capita Black Incomes (Rands)	White Share of Income (%)	Black Share of Income (%)
1972	6276.6	860.1	63.1	36.9
1973	6362.4	948.3	60.9	39.1
1974	6488.5	1047.5	58.8	41.2
1975	6508	1092.9	57.6	42.4
1976	6514.5	1162.8	56	44
1977	6238.1	1148.2	55	45
1978	6041.1	1131.2	54.4	45.6
1979	6064	1150.3	53.9	46.1
1980	6473	1235.3	53.5	46.5
1981	7059.3	1322.8	53.8	46.2
1982	7137.6	1370.5	52.9	47.1
1983	7047.4	1342.5	52.9	47.1
1984	7276.6	1408.1	52.3	47.7
1985	6767.8	1343.6	51.5	48.5
1986	6434.2	1292.1	50.4	49.6
1987	6251.2	1289.9	49.7	50.3
1988	6383.6	1309.1	49.4	50.6
1989	6323.1	1374	47.6	52.4
1990	6439.3	1382.9	47.2	52.8

Source: Central Statistical Service, South African Labour Statistics, Population Statistics, June 1991, p.1.6.  
van der Berg, S., October 1991, p.7,8.

Given this distribution of income towards Blacks since 1970 and the increased levels of per capita incomes accruing to Blacks, what has been the effect on the demand patterns for goods and services ? To answer this question note needs to be made of the fact that in the period 1970 to 1975 it was lower incomes on average which grew faster than higher incomes

<sup>12</sup>Ideally one would like to have household incomes.

(Nattrass, 1977). Secondly, the income elasticities of the different classes of goods and services are essential in establishing demand patterns and making projections about the composition of final demand. The limitations of using income elasticities for consumption expenditure analysis include: (a) the fact that income elasticities change over time; (b) the magnitude of the income elasticities vary depending on what other non-income determinants are included in the analysis; and (c) there is a difficulty in choosing income elasticities from the various studies that have been undertaken: for example, the Contogiannis (1982) study of consumer demand functions for South Africa and Barr's analysis (1983). Both applied the model developed by Houthakker and Taylor but with different interpretations and ultimately with different results. Despite the differences in estimation, it is evident that income elasticities coupled with the changing distribution of income and increased Black per capita incomes in South Africa have had a strong bearing on the consumption patterns of racial groups and will explain a great deal of the trend, reflected in Figure 9, on expenditure on services.

Black (1977) used income elasticities for White and Black households to establish the effect of an increase in income on the composition of final demand. Given the income elasticities (as calculated by Black (1977)) the suggestion is that the greater the share of a given increase in total income received by Blacks, the larger will be the increase in demand for food, clothing, alcohol and personal care products, while expenditure on personal savings, taxes and the demand for housing, holidays and recreation (Black, 1977: 405) and medical and dental services will grow more slowly. These results suggest a reduced share of expenditure on services in total consumption expenditure as there is a redistribution of income from Blacks to Whites. This reduced service expenditure share is reflected in Figure 9 from 1970 to 1977.<sup>13</sup>

However, as average Black incomes continued to increase into the 1980's and higher Black incomes, on average, began to grow faster, expenditure on personal care, transport and communication, holidays and recreation begin to have a greater impact on the composition

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<sup>13</sup>Nattrass (1977) suggests that a substantial proportion of the increase in Black wage income could have been expended on goods and services in the informal sector, which, again, supports a decreased expenditure on services produced in the formal market.



of total consumption. Table 29, of the Bureau of Market Research, lists estimated income elasticities for 1985.

<b>Table 29 Income Elasticities of the Demand for various Service Expenditure items by the respective population groups in selected areas.</b>					
Expenditure Items	Metropolitan Areas				
	Whites	Coloured	Asians	Blacks	
	All Households			Multiple Households	Single Households
Transport	1.26	1.37	1.49	1.25	0.74
Medical & Dental	0.65	1.2	1.09	0.98	0.96
Education	1.47	1.33	1.63	1.16	2.08
Insurance & Funds	1.24	1.73	1.79	2.10	1.48
Recreation, Entertainment & Sport	1.25	1.24	1.33	1.64	2.22
Dry-cleaning & Laundry	1.54	1.17	1.69	1.50	1.79
Personal Care	0.61	0.60	0.80	1	0.80
Communication	0.58	1.39	1.19	1.98	1.16
Holidays	1.32	1.23	1.81	2.47	1.10
Servants	0.97	1.49	1.88	1.48	

Source: Bureau of Market Research, *Research Report No. 175*, Page 20.

The majority of the service expenditures reflect income elasticities which are greater than one, suggesting that increases (decrease) in incomes will produce a strong increase (decrease) in the consumption of services. Furthermore, for the Black communities (to whom there is an increasing remuneration of income) there are higher income elasticities for most services compared to White households. These services include: recreation, entertainment and sport; holidays; personal care; communication; transport and insurance and funds. The upward trend in service expenditure share from 1977 to 1986 was disaggregated (in Section 4.1) into



increasing rent, transport and communication, personal care, financial services and holiday expenses. In the light of the above discussion it seems that much of the increased expenditure on these services can be attributed to the increased purchasing power of Blacks.

### 4.3 Salient Features of Consumer Services

Three hypotheses were forwarded in an attempt to explain the trend in the share of consumer services in total service output. The price of services relative to that of goods and Gershuny's suggestion that relatively cheaper manufactured commodities, with which to produce services, are substituted for more expensive services; the phenomenon of increased service expenditures as women leave the household and have to substitute their household functions with that of marketed services; and increased per capita incomes together with income elastic demand for services. The analysis of the CPI for services and capital goods was inconclusive in that certain capital goods did experience lower growth in CPI than services while others manifested higher growth in prices. With regard to increased female employment and the Hammes, Rosa and Grubel hypothesis that this leads to the use of more marketed services in the household, this has not been the experience for South Africa. The strongest explanation for the trend in the share of consumer services, from the mid 1970's is provided by the experience of increased Black per capita incomes. The changing share of expenditure on services, as reflected in Figure 9, seems to correspond closely to the trend of per capita incomes and redistribution of income towards Blacks in South Africa. The income elasticities together with the growth of per capita incomes in the Black community has had a strong bearing on the consumption patterns of racial groups and appears to explain a great deal of the trend in the share of service expenditure in Figure 9.

## **CHAPTER 5.**

### **Government Services**

In Chapter 3 the general government share of national service output (in Current Prices) was estimated as 10 percent in 1945 and almost 20 percent in 1990. The Constant Price estimation was 15 percent in 1945 and 18 percent in 1990. Given these results, one needs to address a number of issues. Firstly, what major factors have determined the demand for and supply of government services in South Africa ? Secondly, if one undertakes an analysis of the trend of government consumption expenditure over time, which service expenditures have been the most prominent in certain periods ? Thirdly, what does this analysis say for the future provision of government services ? Before one addresses these issues, a brief review of past studies on South African government expenditure will be undertaken.

#### **5.1 Earlier studies of Government Current expenditure**

In the analysis of state involvement in the South African economy, most authors have emphasized the growth of government be it in terms of employment, consumption expenditure or capital investment. As far back as 1957, authors such as Richards (1957) highlighted the growth of the government sector in South Africa. This author's analysis, for instance, estimated the increase in Central, Provincial and Local government expenditures for the period 1912 to 1956. Given the data for these public authorities it can be calculated that the ordinary expenditures of general government ( at current prices) increased by 7.04 percent per annum from 1911/12 to 1955/56 (or as Richards states: 1899 percent over the entire period). Furthermore, this growth is 75.7 percent greater than the growth of national income (which Richards (1957) stated to be 1080 percent for the same period. The comparable figures for the period 1956/1957 to 1990 show that consumption expenditure by general government increased 15.78 percent per annum and national income increased by 13.16 percent per annum.

Other, more recent studies, concentrate on the growth of government in post-war years and also reveal increased growth in the public sector. An important observation that can be made

from the studies of Seeber and Dockel (1978); Browne (1983); and Abedian and Standish (1984) is that all identify 1960 as a turning point in government expenditures. This turning point is also reflected in the results of the application of the Grubel-Walker model. The constant price analysis (Table 22 p.55) shows increased provision of services by government after 1960.

Seeber and Dockel (1978) estimated the annual per capita growth rates of current government expenditure in real terms for the periods 1948 to 1960 and 1960 to 1975. The growth rate in the first period was 1.53 percent per annum and for the latter period 4.14 percent per annum. Browne (1983) stated that expenditure almost doubled from R718 million in 1961/62 to R1406 million in 1967/68. The establishment of South Africa as a Republic in 1961 and the costs of implementing the Apartheid programme resulted in a growing share of economic expenditure by the State (Abedian and Standish, 1988: 393). Additionally, Browne provides estimates on the consumption expenditure (C) of general government as a percentage of GDP (Y), where general government means public authorities excluding public business enterprises and is therefore the same definition as that used in this thesis. For the war years of 1940 to 1945, C was 19.7 percent of Y. The estimate for 1946-1954 is 9.2 percent and for the period 1976-1981 it is 13.9 percent. These figures correspond closely to those produced in Table 20 in Chapter 3.

Abedian and Standish constructed a trend of state expenditure (G) as a function of national income (Y) for the period 1920 to 1982. In their analysis G includes both current expenditure and capital investment of general government. They show that the G/Y trend for 1945 to 1960 is relatively constant, but there is a large increase in the state's share of national expenditure after 1960.

This review shows the extent to which government current expenditure has grown in the post-war years and lends support to an analysis of the determinants of this growth. Furthermore, two important years, which were noted in Chapter 3, are identified in these studies. The years 1960 and 1976 signify substantial increases in government current expenditure and the reasons for this will be addressed.

## 5.2 Explaining the Demand for and Supply of Public services.

The public goods and market failure theory has been most influential in explaining government expenditure behaviour. Nevertheless, authors such as Seeber and Dockel (1978) argue that there exists "no satisfactory positive theory that explains expenditure behaviour over time" (1978: 340). Given the size and continued growth of South African Government spending, what factors (apart from the inability of private markets to provide certain services efficiently) can one identify as causing these trends? This is a difficult question to answer because there are many factors that would seem important (Seeber and Dockel, 1978: 337).

Prior to the implementation of Apartheid programmes and South Africa becoming a Republic, factors such as the economic instability of the depression of the 1930's; the Second World War; infrastructural development; and urbanization were easily identified as forces determining government spending during particular times. The large increase in current expenditure that occurred in the 1960 to 1965 period can be attributed to the increased provision of community services and Black administration, essentially reflecting the setting up of Apartheid structures. Up until 1975/1976 the increased supply of health, educational, social and community services was determined by the needs of the white community. Given that these service expenditures were segmented by race, government could easily fulfil the demands of the white community. The significant increase in current expenditure in the late 1970's, which was highlighted in our discussion in Chapter 3, is partly as a result of the government's attempt to eliminate supply and wage differentials in services provided to Blacks and Whites as well as in Black civil servants<sup>14</sup> (McGrath, 1979). The costs of providing health, education and other social services to Blacks had been contained in the past because of lower per capita expenditure on Blacks generally, pay discrimination and the rendering of services of a lower quality. The elimination of these discrepancies increased the costs of providing services to Blacks and current expenditure of general government rose (McGrath, 1979). McGrath (1979) estimated that the elimination of wage discrimination in 1975/76 in the supply of educational and health services, would have increased the total costs of supplying these services to all races by over thirty per cent. Consequently, this would

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<sup>14</sup>Other reasons for increased current expenditure, during this time, include the increase in the defence budget and also rising real interest rates.

have increased the Black share of services supplied directly by eight per cent, while the White share would have been reduced by the same proportion.

This analysis describes the reasons for the two important movements in current expenditure in the 1960's and 1970's. However, if one wishes to provide a general theoretical explanation of expenditure behaviour over time (1945 to 1990, for example) then there exist few economic models with which to do this. Furthermore, one needs to take into consideration the fact that social and political reasons have been dominant in guiding government intervention and expenditure in the South African economy. Despite these difficulties there have been numerous attempts at providing theoretical explanations of the behaviour of South African government expenditure over time and it is useful to review these investigations. Not all models distinguish capital and current expenditure by government. Nevertheless, some important conclusions do emerge for our analysis.

Seeber and Dockel (1978) discuss two empirically verifiable models of government expenditure. The one is demand oriented and the other concentrates on the supply side. The demand oriented model is Wagner's Hypothesis. "Wagner proposed that as real income increases ( $Y$ ), people spend a greater proportion of that increase on public goods ( $G$ ). This suggests that the voting population has an income elasticity with respect to public goods greater than that with respect to private goods" (Abedian and Standish, 1984: 399). In other words as per capita income increases, Wagner believes that there will be greater demand for certain services such as cultural, welfare and educational activities. These are considered to be luxuries and therefore have income elasticities which are greater than one.

Seeber and Dockel (1978); and Abedian and Standish (1984), in developing their own models for government expenditure in South Africa, go beyond the simple link between  $G$  and  $Y$  that Wagner suggests. In the Seeber-Dockel model (for 1948 to 1975), current government expenditure (excluding defence), as well as the various functional expenditure categories, were regressed on: private expenditure (Indirect Least Squares was applied and  $G$  is deducted from  $Y$  leaving  $C + I + \text{Net Exports}$ ); past government expenditure to take account of the incrementalist approach to the budgetary process; other government expenditures, which was included in order to investigate the interdependence between



expenditure categories; speed of response at which actual expenditure catches up with desired levels of expenditure. Finally, short-run (SR) and long-run (LR) variables which give us the SR expenditure elasticity describing the path that expenditure follows to get to the desired levels of government service provision and the LR expenditure elasticity which is based on the community's desired levels of expenditure by government.

The main conclusions of the model include the result that past levels of government expenditure was the most significant variable. This result was considered by Seeber and Dockel (1978) to be support for the incrementalist hypothesis of a gradual annual increase in expenditure through the bureaucratic process. Another important result is that there was a slow response of actual government expenditure catching up with desired levels of expenditure. The SR expenditure as well as income elasticities were low and in all cases below unity and this was due to the slow speed of response between actual and desired level of expenditure. On the other hand the LR expenditure and income elasticity (which eliminates the concern of any lags in government responses to desired levels of community expenditure) was above unity for total government expenditure and all the functional categories. " These elasticities provide support for the Wagner hypothesis. Total government expenditures do seem to increase more than proportionally with economic growth" (Seeber and Dockel, 1978: 348).

Abedian and Standish developed a similar model. Their results also reveal that government expenditure responds slowly to the public's desired level of public goods. " One reason, as suggested by Henning and Dale Tussing (1974, p.337): is that government expenditure responses have been slowing down as government becomes larger not only absolutely but also relative to GNP. The expansion of government responsibilities and the growth of bureaucracies may have contributed to this observed increasing inflexibility" (Abedian and Standish, 1984: 403). Finally, despite some reservations, Abedian and Standish conclude with an acceptance of Wagner's law for South Africa for 1948 to 1982.

The discussion up to now has centred on the demand for government services. Another framework which is helpful in explaining the continued increase in government expenditure is that of low productivity growth in government compared to other sectors of the economy.



In the analysis of service industry productivity in Section 2.3, government not only had the lowest level of productivity, but also a negative productivity growth rate. " Because productivity growth in the government sector is lower than for the remainder of the economy it follows that government expenditure will have to increase at a rate greater than that of the overall economy in order to maintain its real level relative to output" (Seeber and Dockel, 1978: 342). This view of lower productivity growth was given support with the results of Tridimas's model (1985). The author's results revealed that the rate of growth of public sector productivity was less than that for the mining and quarrying sectors.

Tridimas' model (1985) is even more important because it incorporates a new hypothesis on government spending to South Africa. The growth in the budget deficit is said to contribute to the growth of public spending in South Africa because "Budget deficits decrease the perceived price of public sector services because the present generation which benefits from these services does not pay sufficiently to cover the cost of their provision. If demand for public sector services is not completely price inelastic, a decrease in price will increase the quantity demanded. Budget deficits reduce the perceived price of public services when citizens discount the future tax liabilities (which will finance the accumulated government debt) by a higher rate than the interest rate that government pays on its bonds" (Tridimas, 1985: 393).

The dependent variable in the model is total public expenditure (TPS) which includes current expenditure and capital investment. The price of public services is the "tax price" (Tridimas 1985: 396) to the average voter taxpayer. Tridimas creates the independent variable  $T/G$  which is the ratio of total public revenue ( $T$ ) to total public expenditure ( $G$ ). A balanced budget has a ratio of one. As  $G$  increases ( and there is movement into deficit) so  $T/G$  becomes smaller. The relationship between TPS and  $T/G$  was estimated ( in first difference form) to be  $-0.39$  and was significant at the 99.9 percent level. " The change of the tax-price from year-to-year affects the change of public expenditure, from year-to-year " (Tridimas, 1985: 400). The negative relationship confirms that total public expenditure continues to increase despite a deficit because citizens discount the future tax liability at a higher rate than the interest that government pays on its bonds.

It is important to note that this analysis has described total public expenditure as inclusive of current and capital items, whereas the concern with services means concentrates on current expenditure by general government. Black and Cooper (1988) stated that current expenditures are normally easily financed by taxes and capital expenditures by loans. These authors equate the budget deficit to loan financing for capital investment. Therefore, increases in capital expenditure and the financing thereof, together with loan redemptions, have resulted in a growing deficit and have had an expansionary impact on government spending in both the short-run and long-run. By inference therefore, the growth of the provision of services by government will be limited to the growth of tax revenue, while the growth of capital expenditure is determined by the availability of loan financing.

### 5.3 The composition and trends of Government Current Expenditure

Both Browne (1983) and Abedian and Standish (1984), in their analysis of government expenditure, divided their historical analysis into various periods. Browne discusses each period in terms of current and capital expenditure, revenue, public debt and fiscal policy. Abedian and Standish, in their analysis for the sixty years of 1920 to 1980, look at the share of each of the various functional categories of state expenditure and also their percentage growth for every five years.

The government expenditure shares and trends produced in Chapter 3 reflect the entire current expenditure of General government and therefore include general administration, public order, defence, economic services as well as the services of health, education, community and social services. It is important to distinguish these two groups because firstly, according to Hill's definition of services there needs to be a change, either physical or mental, in the condition of the economic unit, and this is more likely to occur and be prominent when the type of services in the latter group are provided. Secondly, current expenditures of government can be divided into those which are allocated directly to racial groups and expenditures which are general in nature and are not allocated directly. General administration, defence, public order and economic services<sup>15</sup> are not directly allocable by race while the provision of health, education and other social services are. This section will highlight the position of health, education and social services generally in relation to other government current expenditures. For this purpose, Table 30<sup>16</sup> provides a useful historical analysis of current expenditure for the period 1949/50 to 1975/76.

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<sup>15</sup>Except for agricultural services and subsidies.

<sup>16</sup>The Table takes account of all government expenditure, including the homelands, provincial and local government. An extension of the data in the Table, into the 1980's, has not been undertaken because of the limited availability of data, as responsibilities for the provision of services have been changing in the 1980's.

<b>Table 30 The Composition of Gross Current Government Expenditure in South Africa 1949/50 - 1975/76</b>				
	Percentages			
	1949/50	1959/60	1969/70	1975/76
<b><u>Expenditures not directly allocable by race group</u></b>	46	41	52	55
Justice, Police, Prisons, Defence.	11	12	21	25
Income Generating services	12	11	12	16
Other services	23	18	19	14
<b><u>Expenditures directly allocable by race group</u></b>	54	59	48	45
Agricultural services & subsidies	6	7	7	6
Education	18	19	19	19
Health and Hospitals	13	13	8	7
Transfer payments	8	10	7	7
Other	9	10	7	6
Gross Current Expenditures as a percentage of Personal Income	24	21	23	25

Source: M.D. McGrath, 1979, *The Racial Distribution of Taxes and State Expenditures*.

The first significant observation is the status of education in the budget. This service has always accounted for approximately 18 or 19 percent of current expenditures. Given these shares, education has always ranked as the most important social service. Health and hospital expenditures have experienced a declining share from 13 percent in 1949/50 to 7 percent in 1975/76. The increasing share of the Justice, Police, Prisons and Defence category is due to increased defence expenditures. Defence expenditure has been described as "the most volatile share" (Abedian and Standish, 1984: 397). In 1945 the defence share of total expenditure was 35.1 percent and the share fell to 1.7 percent in 1955. From 1960 there was a gradual increase until 1975 when it once again became a major item in the budget.

In analyzing the position of education and health in the budget in the 1980's, it was found that in 1986/87 the education share was 18.26 percent. The share of expenditure on health by central government was 2.4 percent. This low share is due to increased responsibilities of provincial administrations for health and hospital services and their budgets would reflect this. Furthermore, the establishment of the homelands resulted in expenditures for education and health being allocated to an alternative category. A final note about the main

constituents of the budget, in the 1980's, is the emergence of public debt as a significant contributor to state expenditure. This is important because in the 1980's, interest payments on debt were high (16 percent of total government spending (excluding loan redemptions) in 1988/89) in relation to the essential services (defence, police and education) that were offered (Black and Cooper, 1988: 296).

With regard to the fluctuations in the relative budgetary shares of certain expenditures, the first significant movement in expenditures is from 1945 to 1954. With the end of World War Two, there is a reduction in defence expenditure of 37.1 percent per annum. Browne describes the 1946 to 1954 period as the "Years of Reconstruction" (Browne, 1983: 143). This is evident from Table 31 in the substantial increases of expenditure for Black Administration (24.8 percent per annum in the period 1945-50 and 21.2 percent per annum from 1950 to 1955); Community services (41.1% per annum); Health (16.8% per annum); and Education (9.7 percent per annum). The last three items have not experienced annual percentage growth to the same extent since this time.

Period	Black Administration (%)	Community Services (%)	Health (%)	Education (%)
1945-50	24.8	41.1	16.8	9.7
1950-55	21.2	5.2	-4.2	5.7
1955-60	4	9.4	10.5	4.6
1960-65	47	12.8	5.3	2.3
1965-70	8.9	2.6	7.1	7.8
1970-75	8.5	-0.5	2.7	4.4
1975-80	-2.4	9.8	-0.02	5.1

Source: Adapted from Abedian and Standish, 1984, p. 395.

1960 marks the second significant trend in current expenditures. The 47 percent annual increase in state expenditure for Black Administration and the 12.8 percent per annum increase in community services, from 1960 to 1965, reflects the implementation of Apartheid



programmes. The third prominent period is 1970 to 1975. The military conflicts in Angola and Mozambique caused a 19.8 annual percentage increase in defence expenditures. The 1975 to 1980 period sees community services grow by 9.8 percent per annum and education 5.1 percent per annum. Public debt grew 45.8 percent per annum in this period. Browne identified the years 1976 to 1983 as important because of the containment of State Expenditure and what he calls "Fiscal restraint" (Browne, 1983: 162). This fiscal restraint did not continue into the 1980's. Various social, political and economic pressures caused government expenditure to increase from R13 595.4 (million) in 1980/81 to R53 865.5 (million) in 1988/89 (Black and Cooper, 1988: 297). Expenditure on defence, education and public debt continued to grow and the allocations to public order (in 1985 and 1990) were also significantly larger than previous years.

#### 5.4 Conclusion and Future Trends

The major factors that have determined the growth in the provision of government services in South Africa, from 1945 to 1990, have been the implementation of Apartheid programmes from 1960 and the increased supply of health and education services to Black communities from 1975 onwards. This increased supply was in an attempt to eliminate the disparities in the provision of services to Blacks and Whites. Furthermore, the elimination of wage differentials in the provision of services to Blacks and Whites, increased current expenditure in the late 1970's and early 1980's. The most prominent government services in terms of budgetary allocations have been education and law and order.

A number of factors point to the continued increase in the provision of government services. Most importantly is the political pressure on government to provide adequate social services, in terms of quantity and quality, to non-white communities. In Tridimas' model (1985) of the demand for public services, the size of the non-white sector was included as an explanatory variable. The results for the period 1960 to 1983 showed this variable to have a low coefficient and to be insignificant. However, Tridimas does conclude by saying that the result may be different if the same empirical analysis is done again in a few years time given the changes in government policies (Tridimas, 1985: 401).



The most important social services, directly related to matters concerning the Black community, include education and health. An important force in the determination of increased expenditure on these services was identified by McGrath (1979). McGrath showed that health and education expenditures for Blacks was relatively lower in per capita terms because of wage discrimination and lower quality of services provided. The lower wages that were paid to non-white government workers, in the provision of these services, ensured that the cost of supplying health and education was lower for Blacks than Whites. As wage discrimination has been eliminated in the 1980's and 1990's and as more health and educational services are provided, one will find that budgetary allocations to health and education will have to be much larger. Higher costs and the improvement in the quantity of these services will force an increase in government expenditure.

Even with the possibility of lower expenditure on defence, which we have seen to be significant in the past, total government expenditure will not decrease. Abedian and Standish (1984) commented that " the state is unable to contain expenditure in any particular category for unlimited periods. Whenever a particular category of expenditure was contained ( for whatever reason) expenditure in a subsequent period quickly made up the previous losses" (1984: 405). Similarly, Seeber and Dockel (1978) wrote that major exogenous shocks, such as South Africa's conflicts in Angola, caused an increase in expenditures. Once the hostilities have ended the decrease in defence expenditures would then be taken up by other government services (1978: 341). van der Berg states that " had defence spending remained at its 1972 level of 2.2 percent of GDP rather than rising to the levels it did, the savings between 1972 and 1990 could have been R75 million in 1990 Rand, i.e. more than enough to eliminate both the housing and schools backlogs South Africa is presently experiencing" (Van der Berg, 1991: 23).

Another reason to believe that the provision of government services will continue to grow is that, given a more democratic society in South Africa, the speed of responsiveness by the state to increases in the demand for public goods will be much faster. In both the Seeber and Dockel (1978) and Abedian and Standish (1984) models one of the main features was the very slow speed of responsiveness by the state to increased demand for its output. "In the

1948 to 1982 period, the state only supplied on average 12 percent of the increased demand for its output" (Abedian and Standish, 1984: 405).

Finally, there is the issue of bureaucratic behaviour and " the tendency for existing programmes to increase over time and the failure to terminate old programmes and the steady increase in new programmes" (Seeber and Dockel, 1978: 342). " A natural feeling also exists against dismantling an empire once built" (Seeber and Dockel, 1978: 342).

## CHAPTER 6.

### Producer Services

In Chapter 1, producer services were defined as those intermediate service inputs into the production of goods and other services. Producer services include the business activities of accounting, auditing, advertising, data processing, legal services and employment agents to mention just a few. They also include wholesale and retail services, catering and accommodation; transport and communication; finance and insurance. All these activities facilitate and improve the efficiency with which goods and other services are produced. The problem with measuring the magnitude of producer services is that the industries of wholesale, retail, catering and accommodation; transport, storage and communication; finance, insurance, real estate and business services; and community, social and personal services do not distinguish between those services that are for final consumption and those that are intermediate in nature. " One of the important challenges of measuring the size of the producer service sector is to develop a methodology which permits the separation of producer and consumer services in these industries" (Grubel and Walker, 1989: 142). We estimated producer service output as the residual of total services output minus consumer and government service expenditure. In order to establish the extent to which particular service industries supply producer or consumer services one needs to adopt an alternative method. The method that is suggested by Grubel and Walker, and used in this chapter, is the use of input-output table for South Africa<sup>17</sup>.

The results of the Grubel-Walker identity show the magnitude of producer service output to be significant. In Chapter 3, it was revealed that producer services ( in both Current and Constant prices) had been the main contributors to total service output in the South African economy. This is an interesting result in light of the fact that services are usually perceived and analyzed in terms of personal consumption or government activity. In this chapter, the level and trend of producer services, in South Africa, will be discussed. Furthermore, the most prominent producer services, as established by the use of the input-output table, are

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<sup>17</sup>From the 1988 Social Accounting Matrix (1988 Current Prices).

identified. Finally, despite the fact that " there is not much relevant literature to be reviewed " (Grubel and Walker, 1989: 187), an attempt is made at finding the determinants of growth of producer services by briefly reviewing the suggestions put forward by Grubel and Walker. This allows one to make some predictions about the future trends of producer services.

### **6.1 Level and Trends of Producer Service Output**

At current prices, the share of producer services in total service output in South Africa was 65.8 percent in 1946 and 52.7 percent in 1990. In constant price terms, the shares were 55.3 percent and 53.3 percent in the respective years. In essence, then, producer services have accounted for over half the service output in the South African economy. Similar results were obtained by Grubel and Walker for the Canadian economy in 1983. Producer services represented about thirty-five percent of Canadian GDP in recent years or one-half of the total service sector output (Grubel and Walker, 1989: 188). As a percentage of South African GDP, producer services accounted for 27.6 percent, at current prices, and 27.4 percent, in constant prices, in 1990.

In the analysis of consumer and government services, the results revealed a declining share for consumer services and an increasing trend for government services. With regard to the growth of producer services, Tables 20 (p.52) and 22 (p.55) ( in Section 3.2) show a fairly constant share of GDP from 1946 to 1990. Thus, despite the high level of producer service output, there has been little growth in the sector relative to consumer and government services. The most significant trends that can be identified all occur within a narrow ten percent margin. A decomposition of producer service output can give us an indication as to why there exists this constant share.

## 6.2 Important Producer Services<sup>18</sup>

There are two difficulties in analyzing producer services. Firstly, one is limited to the extent to which one can disaggregate producer service output. Ideally, one needs to analyze the data on the individual contributions to GDP of industries such as insurance, accommodation, wholesale trade, management consultancy, personnel management and so on. The second difficulty is that many of the government services that were analyzed in Chapter 5 are not final in nature but are also intermediate and facilitators in the production of goods and other services, hence they should be included in this analysis. However, for the analysis to remain rigorous, this section can only concentrate on those producer services which are marketed in the private sector and are categorized under industries separate from 'Government.' Producer services are therefore found under the titles: Trade, which includes wholesale trade, retail trade, catering and accommodation; Finance, which accounts for financing, insurance, real estate and business services; Transport and communication; and community services.

The challenge is to establish the proportion of these industries that are for final consumption and the proportion that can be categorized as producer services. Using the input-output table (at 1988 Current Prices) for South Africa one is able to establish the nature of the demand for the outputs of the various production activities. The demand is from three sources: households, government, and the services which are reincorporated into the various production activities and may therefore be categorized as producer services. Table 32 presents the results of the analysis.

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<sup>18</sup>This analysis, to remain in line with the consumption-based classification, will concentrate on output in order to determine significant producer services. However, another criterion that can be used is employment. Section 2.1 provided a breakdown of industries in terms of number of workers and employment growth.

Production Activities	Total Output	Government		Household Expenditure		Producer/ Intermediate Services	
Trade	35499	1613	4.5%	21837	61.5%	12049	33.9%
Accommodation	3117	193	6.1%	2403	77%	521	16.7%
Transport	17533	1083	6.7%	8602	49.1%	7848	44.7%
Communication	4692	251	5.3%	921	19.6%	3520	75%
Finance	28127	1164	4.1%	10436	37%	16527	58.7%
Community	8030	471	5.8%	6156	76.6%	1403	17.4%

Source: Compiled from the Input-Output table in the Social Accounting Matrix for South Africa (1988 Current Prices), van Seventer, Eckert, de Lange, Development Bank of Southern Africa, 1992.

The producer service data can be analyzed in terms of output levels and shares. In terms of output, financial services have the largest while accommodation the least. Wholesale and retail trade and transport are also significant. With regard to shares, a large proportion (75 percent) of communication activities are intermediate in nature and facilitate in the production of other goods and services. 44.7 percent of the output from the transport industry can also be categorized as producer service. 58.7 percent of financial services are directed back into other production activities while 37 percent are for final household consumption.

### **6.3 The determinants of Producer Service Growth**

It has been shown that the provision of producer services constitutes a large share of both GDP and total service output in the South African economy. However, whereas in Canada the share of GDP represented by producer services increased twenty percent from 1961 to 1986 (Grubel and Walker, 1989: 188), in South Africa there has been no growth in the share of producer services and in fact it appears to have decreased slightly. In the United States of America the most rapid growth in the service sector has been in the provision of intermediate services (Riddle, 1987: 184). What do the high levels and growth or lack of growth in producer services reflect and what is the role of intermediate services in economic development and increased GDP ? To answer this question one needs to, firstly, ascertain



what producer services do in the production process; and secondly, identify the determinants of economic development as reflected in greater output of goods and services.

Many of the producer services are prerequisites for the development of other sectors in the economy and for increased productivity generally. It is the growth in the provision of producer services and, consequently, increased efficiency which needs to be looked at more closely. Riddle (1987) wrote that the increased use of producer services leads to greater integration of economic activities and said that " efficiency depends to an ever-increasing extent upon the interlinkages which are established among the different activities and not only on the productive conditions in the activities themselves" (Riddle, 1987: 68). One now needs to relate the use of intermediate services to economic development.

The determinants of economic development, which are traditionally discussed, are a growth in capital formation and labour specialization. The capital formation that was being analyzed, by authors such as Adam Smith, consisted of physical capital in the form of machinery, buildings and so on. " Until the 1930's, one of the central propositions of economic growth theory had been that the productivity of labour was an increasing function of the quantity of capital and land per worker" (Grubel and Walker, 1989: 188). Some classical economists did however recognize other avenues for increased productivity. These authors were, in the main, writing in the Austrian tradition. They added that the productivity of labour was an increasing function of specialization of capital and labour, more stages of production and an increasing use of intermediate goods (Grubel and Walker, 1989: 188).

It is only in 1935 that the concept of capital was broadened, by Fisher, to include Human and Knowledge capital. " He defined human capital as all investment in human beings which raises their productivity. The most important of these are education and on-the-job training. Knowledge capital is all the scientific and engineering knowledge which permits the design of more efficient machinery and products" (Grubel and Walker, 1989: 188).

These types of capital increase the efficiency with which physical capital is employed in the economy. Therefore increases in human and knowledge capital promote economic development. With regard to producer services, Grubel and Walker (1989) stated that human

and knowledge capital are incorporated into production processes through the use of highly specialized firms, professional services and technical firms. It is these types of businesses that would employ highly skilled workers and advanced technology and they are taken account of in the categories of trade, finance and transport/communication. It is this new concept by Grubel and Walker that provides us with a framework with which to analyze the trends in producer services.

Certainly, for Canada, it can be said that the twenty percent growth in producer services from 1961 to 1986 reflects the continued increase in training, education and improvement of skills in their workforce. Similarly, research and development was and is a priority for Canada in order to remain competitive in world markets. Applying Grubel and Walker's idea, of "producer services as conveyors of human and knowledge capital" (Grubel and Walker, 1989: 190), to South Africa, poses some interesting questions. Producer services in South Africa, while representing up to thirty five percent of GDP in the past, did not experience any growth from 1946 to 1990 in relation to the other service categories or in relation to national output. Increased output of goods and other services have certainly caused an increase in demand for intermediate services but there does not seem to have been any independent derivation of producer services. This could be as a result of the neglect of human and knowledge capital in South Africa in favour of physical capital formation. Specialized skills, professions and technological advances, which all improve productivity and are conveyed by intermediate producer services, have not grown in relation to other sectors. One can only speculate that the reason for this is that firms are producing these services themselves and that the size of the South African market does not yet warrant the specialized provision of producer services external to the firm.

#### **6.4 Conclusion and Future Trends**

Producer services have contributed a relatively constant share towards national output in the South African economy from 1945 to 1990. Using the input-output table for 1988, it has been shown that the most significant producer services are transport, communication and financing, insurance, real estate and business services. The lack of growth in these services,

relative to consumer and government services has been ascribed to the limited increases in human and knowledge in relation to other capital.

If there is to be increased productivity and economic growth in South Africa then, certainly, one of the areas that needs attention is human capital development and a greater accumulation of knowledge capital. Government will need to consider appropriate policies to encourage these developments. On the other hand, greater demand for final goods and services could, in itself, stimulate demand for specialized, technical and professional services as found in producer service industries. There are a number of tentative signs that point to an increasing producer service share in GDP in the future. Firstly, a post-Apartheid government will allocate a greater amount of funds towards education and training. Secondly, as South Africa becomes more integrated into the African and world economies there will be a freer flow of human and knowledge capital to and from South Africa. Furthermore, foreign investment in South Africa and increased trade with the rest of the world will create a greater demand for producer services. Finally, international competitiveness in the production of certain goods will force South African industries to strive for greater productivity. This can be achieved through the contracting-out of certain functions which are provided more efficiently by specialized firms.

## CONCLUSION

In presenting their New Taxonomy of services, Grubel and Walker (1989) cautioned that the applicability and usefulness of their study could ultimately " be judged only on its consistency with broad and well-known economic processes and its ability to predict developments through time and across different countries" (Grubel and Walker, 1989: 137). The South African estimates, that have emerged from the application of the Grubel-Walker framework, accurately reflect the developments of certain sectors in the economy from 1945 to 1990. Furthermore, the organization of the output data, in the manner prescribed by the two authors, has allowed one to highlight and concentrate on certain basic economic determinants of the growth of services in the South African economy. These economic determinants are different for each of the category of services and the New Taxonomy allows for " separate analytical and empirical treatment" (Grubel and Walker, 1989: 139) of consumer, government, and producer services.

This is in marked contrast to the conventional approach to service industry analysis, in other words the use of the International Industrial Classification of economic activities (SIC) where service output is defined in terms of a production-based classification. The forces of demand and supply for the services of particular industries are not easy to ascertain from such an organization of the empirical data. However this system is not without merit and does provide for a descriptive analysis of the service sector. Given that there has been no comprehensive study of the South African service sector, it was useful to use the conventional analytical framework as well as the New Taxonomy of services. Using the SIC of economic activities one was able to, firstly, address the levels and shares of employment, output and productivity of the service sector and thereby learn about the characteristics of the South African service sector. Secondly, one was able to explain some of the increase in the service share of employment and, thirdly, the basic output data to be used in the Grubel-Walker analysis was presented.

The first major finding with regard to service output in the South African economy, was its relatively constant share in national output from 1945 to 1990. Three forces have caused this and they are the trends of the consumer, government and producer services. Consumer

services had the lowest share in service output throughout the period. The share declined from 1945 until the mid 1970's when there was some positive growth through to 1990. The household expenditures that caused this increase were transport, communication, personal care and rent. The main determinant of increased household expenditure on services from the mid 1970's was the redistribution of income from White to Black, increased Black per capita incomes and the consequent increase in consumption expenditure on particular services by Blacks.

Government services contributed the second largest share to national service output. Furthermore, of the three service categories, it was the provision of public services that experienced a large and consistent positive growth. This positive growth was due to, firstly, increased expenditures on Black Administration from 1960 onwards and, secondly, increased expenditure on educational and health services and Black government institutions from 1975 onwards. The political pressure on government to increase the provision of certain services to the Black community and the pressure of trade unions for better remuneration of workers in the provision of services caused large increases in current expenditure in the late 1970's and 1980's.

Producer services have experienced a relatively constant share of service output in the South African economy. The only significant trend that need be mentioned is the slight negative growth in share ( in Current Prices) from 1975 onwards. However, the producer service share remains the largest component of the service sector both in current and constant price terms. In trying to understand the forces that determine producer service growth, Grubel and Walker (1989) suggest that producer services embody human and knowledge capital and it is this type of capital formation that needs to be analyzed in studying these services. Improvements in the quality of human and knowledge capital and greater use of intermediate service inputs that embody this capital, improves the efficiency and productivity of the production of goods and other services. The most important producer services that were identified were financial services (which include finance, insurance, real estate and various other business services) and transport and communication.



Given the trends of consumer, government and producer services and the determinants of their growth, one can make some predictions about the share of total service output in the South African economy in the future. There will be an increasing demand for those services bought by consumers in private markets. The reason for this is that South Africa will probably continue to experience a redistribution of income from Whites to Blacks and increased Black per capita incomes. The analysis in Chapter 4 suggests that household expenditure will be directed towards the increased consumption of particular services by Blacks.

With regard to government services, the need to provide adequate education, health and other social services to the Black community will be a priority for a future democratically elected government. Even though a future government will face budgetary constraints, it seems probable that the political pressures will force government to provide these services even if it is through greater deficit financing.

The demand for producer services is determined from two sources. Firstly, an increase in the output of goods and services raises the demand for producer services as inputs. Secondly, the benefits of increased efficiency and productivity, through the use of producer services, means that industries faced with strong competition both domestically and from abroad will increasingly use more specialized and technical services in their production processes. Strong economic growth and development in South Africa and greater international trade suggests a great potential for increased producer service output. Ultimately, the consumer, government and producer service trends are pointing to an increased share of national output that is service in nature rather than goods. The balance of national output, in South Africa, is likely to shift in favour of service industries.

This changing composition of national output will impact significantly on employment. The major finding with regard to service employment was its continued share increase in total employment from 1950 to 1990. The service industries which experienced the largest growth in employment from 1945 to 1990 were the finance, insurance, real estate and business service industries; community, social and personal service industry and government, with government employing the largest number of workers in absolute numbers. From 1976 to



1990 private transport, communication, financing, real estate, insurance and government continued to experience a significant and positive growth in employment. The historical employment trends and the projected composition of national output suggest that employment in the provision of services will continue to increase.

The issue of productivity will be significant to the extent that certain service industries can meet the demand for their output with limited increases in employment. It has been shown that in South Africa, in the period 1945 to 1990, the finance, insurance, real estate and business service (FIRE) industries and community, social and personal services (CSPS) experienced negative and constant labour productivity respectively. While the wholesale, retail and accommodation industry and transport and communication experienced positive growth in labour productivity. Increased demand for the service output of FIRE and CSPS, for example, may lead to a greater increase in employment in these industries. The lower productivity growth found in certain industries needs to be judged with a number of extenuating factors in mind. Firstly, the level and not merely the growth of productivity, should be looked at; secondly, inherent in the provision of certain services is the application of more labour to a particular task; and finally, the use of labour productivity is not a totally satisfactory measure of productivity in service industries.

Given the predictions for the employment and output trends of the service sector, the question which remains to be answered is: " what will the increased provision of services reflect about the South African economy ?" Firstly, with regard to consumer services, increased household consumption of services reflects a higher standard of living and better quality of life. With regard to government services, the increased supply of public services should be directed towards the improvement of human and knowledge capital which is essential for economic growth. If government expenditures concentrate on social spending and other services which increase the productivity in the economy then there will be a positive impact on economic development. The same applies to the provision of producer services. Appropriate policies that encourage the supply of technical and specialized skills and functions will increase efficiency and productivity in the South African economy.

An increasing share of service output in the South African economy, as against an increasing share of tangible goods, should therefore not be viewed in a negative light. It is important to refute the traditional allegation that service provision is an activity without merit and that only goods production is of value. The service sector facilitates in the production of all goods and services in the economy. " May we not be blinded by the tangible output of the manufacturing sector to the vital networks of intangible services necessary for that production to occur. And may we learn to recognize and foster the synergistic leadership role which the service sector is already exerting at all levels of economic development" (Riddle, 1987: 229 - 230.)

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