

**INTERDEPENDENCE BETWEEN THE
CONSTRUCTION SECTOR AND THE NATIONAL
ECONOMY IN DEVELOPING COUNTRIES: A
SPECIAL FOCUS ON ANGOLA AND
MOZAMBIQUE**

JORGE PEDRO LOPES

T.I.M.E. Research Institute
Department of Surveying
University of Salford, UK

Submitted in Partial Fulfilment for the Degree of
Doctor of Philosophy, May 1997

To my parents

Vicente e Claudina

and my son

Vicente Pedro

Contents

	page
List of Tables	iv
List of Figures	viii
List of Abbreviations	ix
Acknowledgements	xii
Abstract	xiii
Chapter I	
Introduction	1
I.1 Why Study the Construction Industry in the Context of Economic Development?	1
I.2 Statement of the Problem	3
I.3 Objectives, Hypothesis and Methodology	6
I.3.1 Objectives	6
I.3.2 Main Hypothesis	7
I.3.3 Methodology	7
I.4 Structure of the Thesis	12
Chapter II	
Economic Growth and Development	14
II.1 Introduction	14
II.2 The measurement and Comparability of Economic Growth and Development	16
II.3 A Historical Review of the Processes of Economic Growth of Nations	20
II.3.1 Trends in Population Growth	20
II.3.2 Trends in the Growth of National Product	22

II.3.3 External Relations among Countries	28
II.4 Growth Theory: A Review	29
II.5 Concluding Remarks	32
Chapter III	
The Role of Construction in Economic Growth and Development	35
III.1 Introduction	35
III.2 Analysis of Previous Works	38
III.3 Recent Statistical Trends in Construction Industry and Related Sectors	45
III.3.1 Introduction	45
III.3.2 Data and Statistical Sources	47
III.3.3 Analysis and Discussions	53
III.4 Concluding Remarks	56
Chapter IV	
The Macroeconomic Framework in Sub-Saharan Africa Post-1970	59
IV.1 Introduction	59
IV.2 Demographic and Economic Indicators of Sub-Saharan Africa	63
IV.2.1 Demographic and Social Trends	63
IV.2.2 Macroeconomic Trends	67
IV.3 Inter-African Co-operation	73
IV.4 Significant Events	75
IV.5 Concluding Remarks	79
Chapter V	
A Model of Interdependence between the Construction Sector and the General Economy for Developing Countries of Africa	82
V.1 Introduction	82
V.2 Statistical Sources	85
V.3 Data	86
V.4 The Model	93
V.4.1 Introduction	93
V.4.2 Statistical Method	94
V.4.3 Analysis of Results	96
V.5 Concluding Remarks	104

Chapter VI	
The Relationship between the Construction Sector and the General Economy in Angola and Mozambique within a Sub-Saharan African Perspective	106
VI.1 Introduction	106
VI.2 The Interdependence between the Construction Sector and the General Economy in Angola	107
VI.2.1 The System of National Accounts of Angola	107
VI.2.2 Data and Statistical Sources	111
VI.2.3 Analysis and Discussions	114
VII.3 The Interdependence between the Construction Sector and the General Economy in Mozambique	117
VI.3.1 The System of National Accounts of Mozambique	117
VI.3.2 Data and Statistical Sources	119
VI.3.3 Analysis and Discussions	122
VI.4 Comparisons of the Results of Angola and Mozambique within the Context of the General Model	125
VI.5 Concluding Remarks	129
Chapter VII	
Angola and Mozambique: Country Surveys	131
VII.1 Introduction	131
VII.2 Objectives and Methodology of Data Collection	132
VII.2.1 Objectives	132
VII.2.2 Methodology of Data Collection	133
VII.3 Angola: Country Survey	139
VII.3.1 Introduction	139
VII.3.2 The Economic Development of Angola since Independence	139
VII.3.3 Questionnaire Results	152
VII.4 Mozambique: Country Survey	162
VII.4.1 Introduction	162

VII.4.2 The Economic Development of Mozambique since Independence	162
VII.4.3 Questionnaire Results	178
VII.5 Comparison between the Results of the Questionnaire-Surveys of Angola and Mozambique within the Perspective of the ECERU Opinion Surveys	188
VII.6 Concluding Remarks	192
Chapter VIII	
Conclusions and Further Development	197
VIII.1 Introduction	197
VIII.2 Summary of the Thesis	197
VIII.2.1 Main Conclusions	197
VIII.2.2 Some Implications for Public Policy	202
VIII.3 Contribution of the Study	204
VIII.4 Further Development	205
References	208
Appendix A.1	
Additional Data for Chapter V	223
Appendix A.2	
Additional Information for Angola Survey	242
Appendix A.3	
Additional Information for Mozambique Survey	252
Appendix A.4	
Opinion Survey	265
List of Tables	
Table II.1 Growth of Population, Economically Less Developed and More Developed Countries; 1750-1975	21
Table II.2 GDP Levels at 1984 International Dollars in Selected Industrial Countries; 1870-1984	24

Table II.3 GDP per capita at 1984 International Dollars in Selected Industrial Countries; 1870-1984	24
Table II.4 Labour Force Structure in U.S., and the Average for France, Germany, Japan, Netherlands and U.K; 1870-1984	26
Table II.5 Total Gross Fixed Capital Stock (Asset Weights) at Midyear; 1913-1984	27
Table II.6 Capital Productivity Growth; 1913-1984	28
Table III.1 GNP per capita (1993) and Measures of Construction Activity for Selected Countries (most recent estimates)	50
Table III.2 Share of CVA in GDP and Contribution of GFCFC to GDP for Selected years (1970- most recent estimates)	51
Table III.3 Average annual growth rate of GDP, CVA, MVA, Population and Urban Population; 1970-1980 and 1980- most recent estimates	52
Table IV.1 Area and Population	65
Table IV.2 Labour Force	66
Table IV.3 Components of Population Change	66
Table IV.4 School Enrolment Ratios	66
Table IV.5 GNP per capita and External Transactions	67
Table IV.6 Evolution of the Terms of Trade	68
Table IV.7 Change in Gross Domestic Product	69
Table IV.8 Change in Agriculture	71
Table IV.9 Change in Industry	71
Table IV.10 Change in Services	72
Table IV.11 Change in Gross Domestic Investment	72
Table V.1 Basic Indicators from the Countries of the Sample	88
Table V.2. GDP per capita (US\$, 1987 constant prices) in Group 1	89
Table V.3 GDP per capita (US\$, 1987 constant prices) in Group 2	90
Table V.4 CVA as Share of GDP (percent) in Group 1	91
Table V.5 CVA as Share of GDP (percent) in Group 2	92
Table VI.2.1 Evolution of GDP, CVA, GFCGC and GFCF in Angola; 1980-1993	112

Table VI.2.2 CVA as a Share of GDP and GDP per capita; 1980-1993	113
Table VI.2.3 CVA/GFCFC and GFCFC/GFCF Ratios in Selected Years	113
Table VI.3.1 Evolution of GDP, CVA, GFCGC and GFCF in Mozambique; 1980-1993	120
Table VI.3.2 CVA as a Share of GDP and GDP per capita; 1980-1993	121
Table VI.3.3 CVA/GFCFC and GFCFC/GFCF Ratios in Selected Years	121
Table VI.4.1 CVA as a Share of GDP and GDP per capitain Group 2 (mean), Angola and Mozambique; 1980-1992	126
Table VI.4.2 Evolution of Official Grants, GFCF and GFCFC in Mozambique; 1980-1993	129
Table VII.3.1 Gross Domestic Product of Angola in Selected Years; 1980-1993	148
Table VII.3.2 Structure of Gross Domestic Product (percent); 1980-1994	148
Table VII.3.3 The Productive Sectors and Economic Development, 1975-1985	153
Table VII.3.4 The Productive Sectors and Economic Development; 1985-1995	153
Table VII.3.5 The Productive Sectors and Economic Development, 1995-2005	154
Table VII.3.6 Goals of Economic Development	155
Table VII.3.7 Role of Construction in Economic Development	156
Table VII.3.8 Strategies for Development of the Building Materials Industry	157
Table VII.3.9 Construction and Stages of Development	158
Table VII.3.10 Measures on the Demand-side of the Construction Industry	159
Table VII.3.11 Measures on the Supply-side of the Construction Industry	160
Table VII.3.12 Construction Market for the Next 10Years	161
Table VII.4.1 Evolution of the GSP in Mozambique; 1973-1980	175
Table VII.4.2 Evolution of the GDP in Mozambique;1980-1994	177
Table VII.4.3 Structure of GDP in Mozambique; 1980-1994	177
Table VII.4.4 The Productive Sectors and Economic Development; 1975-1985	179

Table VII.4.5 The Productive Sectors and Economic Development; 1985-1995	179
Table VII.4.6 The Productive Sectors and Economic Development; 1995-2005	180
Table VII.4.7 Goals of Economic Development	181
Table VII.4.8 Role of Construction in Economic Development	182
Table VII.4.9 Strategies for Development of the Building Materials Industry	183
Table VII.4.10 Construction and Stages of Development	184
Table VII.4.11 Measures on the Demand-side of the Construction Industry	185
Table VII.4.12 Measures on the Supply-side of the Construction Industry	185
Table VII.4.13 Construction Market for the Next 10Years	186
Table VII.5.1 Construction and Stage of Development: View from Angola and Mozambique	190
Table VII.5.2 The Productive Sectors and Economic Development in Angola and Mozambique for the Period 1995-2005	191
Table A.1.2.1 Evolution of the Indicators of the Construction Industry, GDP and GFCF in Botswana	229
Table A.1.2.2 Evolution of the Indicators of the Construction Industry, GDP and GFCF in Cape Verde Islands	230
Table A.1.2.3 Evolution of the Indicators of the Construction Industry, GDP and GFCF in Gambia	231
Table A.1.2.4 Evolution of the Indicators of the Construction Industry, GDP and GFCF in Ghana	232
Table A.1.2.5 Evolution of the Indicators of the Construction Industry, GDP and GFCF in Kenya	233
Table A.1.2.6 Evolution of the Indicators of the Construction Industry, GDP and GFCF in Malawi	234
Table A.1.2.7 Evolution of the Indicators of the Construction Industry, GDP and GFCF in Mauritius	235
Table A.1.2.8 Evolution of the Indicators of the Construction Industry, GDP and GFCF in Namibia	236

Table A.1.2.9 Evolution of the Indicators of the Construction Industry, GDP and GFCF in Nigeria	237
Table A.1.2.10 Evolution of the Indicators of the Construction Industry, GDP and GFCF in Swaziland	238
Table A.1.2.11 Evolution of the Indicators of the Construction Industry, GDP and GFCF in Tanzania	239
Table A.1.2.12 Evolution of the Indicators of the Construction Industry, GDP and GFCF in Zambia	240
Table A.1.2.13 Evolution of the Indicators of the Construction Industry, GDP and GFCF in Zimbabwe	241
Table A.2.2.1 Principal Exports of Angola; 1950-1973	247
Table A.2.2.2 Evolution of Gross Domestic Product of Angola; 1950-1973	249
Table A.2.2.3 Manufacturing Output (percent) by Major Industrial Groups in Angola; 1966-1970	249
Table A.2.3 Balance of Payments of Angola; 1985-1994	251
Table A.3.2.1 The Structure of Employment and GDP in Mozambique in 1973	261
Table A.3.2.2 Balance of Payments of Mozambique; 1965-1972	262
Table A.3.3 Macroeconomic Indicators of Mozambique; 1980-1991	264
 List of Figures	
Fig. I Map of Africa	10
Fig.III.1 The Relationship between Value Added in Construction and GDP per capita	41
Fig. III.2 Employment Share over Time	43
Fig. III.3 Construction Volume over Time and Level of Economic Development	43
Fig. III.4 Share of Construction in GNP versus GNP per capita	43
Fig. IV Evolution of GDP per capita in Developing Countries	61
Fig. V.1 One-tail Significance Test (0.05 level)	95
Fig. V.2 Indices of Gross Domestic Product per capita in Group 1	100
Fig.V.3 Indices of Gross Domestic Product per capita in Group 2	101

Fig. V.4 Construction Value Added as a Share of GDP in Group 1	102
Fig. V.5 Construction Value Added as a Share of GDP in Group 2	103
Fig. A.1.1.1 Indices of GDP per capita (Countries with Increasing GDP per capita in the period 1970-1980)	224
Fig. A.1.1.2 Indices of GDP per capita (Countries with Decreasing GDP per capita in the period 1970-1980)	225
Fig. A.1.1.3 CVA as a Share of GDP(Countries with Increasing GDP per capita in the period 1970-1980)	226
Fig. A.1.1.4 CVA as a Share of GDP(Countries with Decreasing GDP per capita in the period 1970-1980)	227

List of Abbreviations

AIC (s)	Advanced Industrial Country (s)
BM	Banco de Moçambique (Bank of Mozambique)
BNA	Banco Nacional de Angola (National Bank of Angola)
CMEA	Council for Mutual Economic Assistance
CNP	Comissão Nacional do Plano (National Planning Commission)
CPLP	Comunidade dos Países de Língua Portuguesa (Community of Portuguese-speaking Countries)
CVA	Construction Value Added
DNE	Direcção Nacional de Estatística (National Directorate of Statistics)
DNP	Direcção Nacional de Planificação (National Directorate of Planning)
EEC	European Economic Community
ERP	Programa de Reabilitação Económica (Economic Rehabilitation Programme)
EU	European Union
FRELIMO	Frente para Libertação de Moçambique (Front for Liberation of Mozambique)
G7	Group of Seven Industrial Countries
GATT	General Agreement of Tariff and Trade

GDI	Gross Domestic Investment
GDP	Gross Domestic Product
GFCF	Gross Fixed Capital Formation
GFCFC	Gross Fixed Capital Formation in Construction
HIE	High- Income Economies
INE	Instituto Nacional de Estatística (National Institute of Statistics)
ILO	International Labour Organisation
IMF	International Monetary Fund
LDC (s)	Less Developed Country (s)
LIE	Low- Income Economies
MC	Ministério da Construção (Ministry of Construction)
MIE	Middle- Income Economies
MPCE	Ministério do Planeamento e Cooperação Económica (Ministry of Planning and Economic Cooperation) .
MPF	Ministério do Plano e Finanças (Ministry of Planning and Finance)
MPLA	Movimento Popular de Libertação de Angola (People's Movement for Liberation of Angola)
MT	Ministério do Trabalho (Ministry of Labour)
MVA	Manufacturing Value Added
NIC (s)	Newly Industrialised Country (s)
OAU	Organisation of African Unity
ODA	Official Development Assistance
OECD	Organisation for Economic Cooperation and Development
PECs	Planos Estatais Centrais (State and Central Plans)
PES	Programa Económico e Social (Economic and Social Programme)
PTIP	Programa Trienal de Investimento Público (Public Triennial Investment Programme)
RENAMO	Resistência Nacional Moçambicana (Mozambican National Resistance)
SADC	Southern African Development Community
SAP (s)	Structural Adjustment Programme (s)

SEF	Saneamento Económico e Financeiro (Programme for Economic and Financial Restructuring)
SEPLAN	Secretaria de Estado de Planeamento (Secretary of State of Planning)
SNA	System of National Accounts
SSA	Sub-Saharan Africa
UN	United Nations
UNDP	United Nations Development Programme
UNIDO	United Nations Industrial Development Organisation
UNITA	União Nacional para Independência Total de Angola (National Union for Total Independence of Angola)
WB	The World Bank

Acknowledgements

I would like to thank my supervisor, Dr. Les Ruddock, who guided me throughout the period of preparing this thesis. I am very grateful for his support and encouragement.

The Portuguese Junta Nacional de Investigação Científica e Tecnológica- JNICT (Programa CIENCIA and subsequently Programa PRAXIS XXI) provided the finances which enabled me to undertake this study. I am very grateful for this support.

While undertaking this study I benefited from the support of many people and organisations both in UK and Portugal, and also in Angola and Mozambique. I would like to register my thanks and appreciation to the academic staff of the Surveying Department of the University of Salford, particularly to Prof. Peter Barrett, Prof. Martin Betts and Dr. John Hinks, for their helpful criticisms and encouragement. From Portugal, I am very grateful to: Prof. Monteiro de Oliveira who provided invaluable advice, particularly on African economics; Prof. Artur Bezelga and Prof. Braga de Macedo, for encouragement and advice.

I would like to register my appreciation and thanks to all interviewees and participants in the questionnaire-survey in Angola and Mozambique. I also benefited from the support of many people in these countries. I am particularly indebted to: Messers Mário Machungo and Antero Barbosa, Mrs Céu Reis and Vitória Ginja, in Mozambique; Prof. Luís Colaço, Mr João Faria and Mrs Laurinda Ferreira, in Angola.

I would like to register my gratitude to Mr Pedro Vilarinho, Mrs Hilma Gomes and Nhári Viana, for their support and friendship.

Finally, I would like to thank Alexandra, my special friend. I appreciated very much her support and encouragement.

Abstract

This research discusses and analyses the role of construction in economic development in Sub-Saharan Africa, with a special emphasis on Angola and Mozambique.

This study follows research undertaken by previous writers who have investigated the relationship between the construction sector and economic development and found a direct relationship between the share of construction in gross domestic product (GDP) and GDP per capita in an increasing form of per capita income level.

Data on construction and economic related sectors spanning generally 22 years are used to model the development pattern of the construction industry in Sub-Saharan African countries for the near future.

The statistical sources used in this analysis are drawn from World Bank and United Nations publications. Additionally, field study data, including collection of secondary data, from Angola and Mozambique are used in detail to complement data provided by international sources. The construction sector operating environment including policy changes in the area of general economic policy of these countries are also addressed in this study.

Studies on construction in developing countries have tended to approach the construction industry in the context of the process of industrialisation, towards a long-term economic growth. It is argued that the new approach should focus the construction industry in the general framework of the determinants of growth.

This thesis puts forward evidence that a long-term decreasing growth in GDP per capita corresponds directly to a relative decrease in construction volume. The converse does not appear to be true. Some implications for public policy for the concerned countries are discussed.

CHAPTER I

INTRODUCTION

1.1 Why Study the Construction Industry in the Context of Economic Development?

Development is the most important challenge facing the human race (World Bank, 1991a). Development and economic development are a relatively recent pursuit of many writers from various research centres world-wide. The political and public concern with the poorer nations of the world is equally of recent origin (Thirlwall, 1994). The majority of the national and international bodies to promote development, such as national development banks, the World Bank Group, and special agencies of the United Nations, have all been established since the Second World War. With this upsurge in interest in development and co-operation, economic policies urged on developing countries have produced some notable successes in parts of Asia and Latin America. However, in Sub-Saharan Africa, most of the countries are not just standing still. For the last sixteen years they have been moving dramatically backwards.

Historically, the construction industry has been linked with the process of industrialisation and development. Railway systems and canals played an important role in the connection of different regions of Europe, North America, and in some parts of Latin America (Rostow, 1963). Transport infrastructures facilitated trade and co-operation between countries, and also the diffusion of technical innovations from

the most advanced to the less advanced areas of the globe. The construction industry also played a key role in the reconstruction and development process of the war-ravaged Europe. The heavy programme of construction and improvement of housing and social infrastructure, besides its contribution to the national economy, was also a reflection of a better re-distributive economic policy in Europe post World War II.

The construction industry constitutes a significant part of the national output of both developed and developing nations, as can be seen looking at the national account statistics of any country. It also plays a major role in satisfying a wide range of physical, economic and social needs, including shelter and employment creation. Due to its great flexibility in adjusting to different framework conditions, the construction industry activity can be more or less capital intensive depending upon the resources available and national goals.

The proceedings of a recent Euroconstruct conference portrays with clear evidence the concern of the national and international bodies of the developed world for the role public investment in infrastructure (hence construction investment) plays in national and world economies. Commenting on the resolutions of the Edinburgh European Council, the Permanent Secretary Economic Ministry of Denmark stated:

...This time Member States, conscious of the importance for long-term development of the economy as a whole of a modern, efficient capital stock, are first seeking to protect capital spending from general budget economies and in addition have announced increases over earlier plans in selected areas of public sector capital expenditure, mainly on infrastructure projects. Besides its multiplier effect public investment will induce a crowding-in of private investment (Thomsen, 1993: p. 488).

Growth initiatives through public investment in infrastructure and their importance to the general economy and to the construction industry were also emphasised, in the same conference, by Saito (1993) and Robertson (1993) on behalf of national development agencies of respectively Japan and U.S.

The construction industry is also a fertile ground for co-operation between countries-another important issue in the development agenda. As pointed out by Moavenzadeh and Koch Rossow (1976), the industry's size, the nature of its operation, and its presence in every developmental activity make it an attractive area for the transfer, adaptation, and development of technologies consistent with the developmental goals of emerging nations.

1.2 Statement of the Problem

The role of construction in economic development has been addressed by various writers and international bodies, many of whom focused on developing countries (Turin, 1973; WB, 1984; Wells, 1987; Ofori, 1990). This concern is reinforced due to the fact that construction is the only sector of the economy that appears twice in national accounts statistics according to the System of National Accounts (SNA) of the United Nations: as one of the sectors that make up the gross domestic product (GDP) by industrial origin; and as a component of a country's gross capital formation.

Bearing in mind that the macro-level of the construction industry is the main concern of this study, other important features of the construction industry activity are not dealt with.

A brief diversion is in order concerning the building materials industry and its role in economic development. Bon (1992), emphasised the special relationship between the construction sector and the building materials industry, and these in turn are related to the processes of industrialisation and urbanisation, the main catalysts for economic growth and development. Previous experiences suggest that the building materials industry development is an appealing ambition for any developing country which is willing to embark on an industrialisation programme. Indeed, with the exception of the heavy metal industry, the building materials sub-sector is one of the "infant industries" that can bring, in the long-term, comparative advantage in the use of foreign currency even for poorer resource-endowed countries (Barreiro, 1985;

UNIDO, 1986). However, Kisanga (1991), in her study on the building materials industry in Tanzania, argue against the way import-substitution policies of building materials was implemented in less developed countries, where the governments have been involved in providing and directing the industry. She suggest that the role of the government is to provide a positive environment for the industry to grow and develop, by devising policies and support for the formal and informal sector of the construction activity, and by encouraging and promote competition and innovation within the industry, country and region.

Turning back to the relationship between the construction sector and economic growth and development, previous writers (Turin, 1973; Wells, 1987), using cross-country comparisons, found an association between construction investment and economic growth.

That finding was consistent with the classical approach in growth theory (Rosenstein-Rodan, 1943; Nurkse, 1967; Lewis, 1954 & 1955) in which physical capital formation is the main engine of economic growth and development. Rapid capital accumulation was seen as a prerequisite for any successful industrialisation programme. As Lewis (1954: p. 155) observed:

...We cannot explain any "industrial revolution" until we can explain why saving (investment) increased relatively to national income.

In the aftermath of the second oil shock in 1979/80 and the international financial crisis that followed in 1981, most of Sub-Saharan African countries have been experiencing a long-term decreasing growth in per capita national income. The disappointing performance in HCI (heavy and chemical industries) by large developing countries, was also a cause of concern among development economists and institutional bodies (Auty, 1994). Another approach in the theory of growth (Romer, 1986, 1990; Barro, 1991) has been emerging. Following this endogenous growth theory, endogenous policy changes (e.g. macroeconomic stability, investment in human capital, improving capacity building) play an increasing role in the development process.

De Long and Summers (1991), using data from the United Nations International Comparison Project (ICP) drawn from 61 countries representing all stages of economic development, found that machinery and equipment investment has a strong association with economic growth. Further, they put forward evidence that structures investment are weakly or not at all associated with growth, depending upon the less developed countries are included or not in their sample. The World Bank (1993, 1994a), in the *Structural Adjustment Programmes (SAP)* for Africa, seems to follow the view that the construction sector does not lead but rather should accompany economic growth.

Bon (1990), analysing the development pattern of the construction industry in a worldwide perspective, called for the attention of the research community for three pertinent tasks pertaining to the study of the construction industry on the global scale. These are: i) national and international surveys of economic activity needs to include more information pertinent to the construction sector; ii) more and better descriptive studies of the construction sector are needed, for descriptive studies are the substratum required for generation of explanatory hypotheses about construction industry activities; iii) it is needed more and better fundamental research concerning construction sector and its role in national and world economies (Bon, 1990: p. 23). More recently, Wells (1993), in a special issue of the *Construction Management and Economics* devoted to developing countries, pointed to a sombre prospect of the construction industry in the low-income economies of Africa and South Asia. She suggested that research in construction management and economics in these countries must be directed at three levels - the firm, the industry and the economy. Ofori (1993), singled out the specificity factor as one of the main concerns in the study of the construction industry in developing countries. As the economic, social and technological prospects of these countries are generally not bright, the industry should make its contribution to the economy, despite the continued existence, and in some cases worsening, of the difficulties which were once considered to be easily solved (Ofori, 1993: p. 183).

This study attempts to fill some of the gaps recommended by Bon (1990). It intends to be a contribution in reformulating the role of construction in economic development, focusing on the less developed countries (LDCs) of Africa. It is argued that the direct relationship between construction, specifically the share of construction in GDP, and GDP per capita seems to be consistent only with a downturn economy. This assumption is based on data spanning generally 22 years and concerns the development pattern of the near future, say the next 10 years.

1.3 Objectives, Hypothesis and Methodology

1.3.1 Objectives

As suggested by its title, this study deals with the interdependence between the construction sector and the national economy, with special reference to developing countries of Africa. The major aim of this study is to exploit a conceptual framework intended to be useful in the analysis of data. Closely related to this is an attempt to improve scarce and erratic data on the construction industry and related sectors pertaining to Angola and Mozambique. Following this line, three main objectives for this study are drawn. These are:

- **To test existing assumptions about the relationship between the construction sector and the macroeconomy in economic development, using most recent United Nations and World Bank data.**
- **To develop a model of interdependence between the construction sector and the national economy in developing countries of Africa, using UN and WB data and original data collected in Portuguese-speaking countries of Africa.**
- **To acquire and co-ordinate data on the construction industry and related sectors of Angola and Mozambique, taking into account the macroeconomic environment, including policy changes in the area of economic policy in these countries**

I.3.2 Main Hypothesis

The central hypothesis of this study can be stated as follows:

There is a minimum level achieved by the construction output in developing countries, measured in terms of construction value added (CVA) as a share of gross domestic product (GDP), in order to achieve, in the long-term, sustainable growth in the economy.

Put differently, a long-term decrease in GDP per capita corresponds directly to a relative decrease in construction volume (measured as a share of CVA in GDP). The converse is not true. A sustained or increasing growth in GDP per capita may not correspond to a relative increase in construction volume.

Although the model used in this study is not a predictive one, it is assumed that the macroeconomic framework prevailing in these countries in the near future will not significantly differ from that of the period of analysis.

I.3.3 Methodology

I.3.3.1 Accounting Framework

Due to its nature, this study follows closely the steps and fundamental characteristics of quantitative approach as described e.g. in Easterby-Smith *et al* (1991) and Bryman (1993). The data required were largely quantitative to establish growth in the construction sector and the aggregate growth in the economy. Like other similar works in the field of construction macroeconomics (Turin, 1973; Wells, 1986; Bon, 1990), its accounting framework follows the System of National Accounts (SNA) of the United Nations (UN, 1970, 1979,). The production approach of the SNA presents data on value added of different sectors that make up a country's gross domestic product (GDP), and the expenditure approach shows data on the components of GDP by expenditure.

The indicators of the construction industry activity used for this analysis is construction value added (CVA) and gross fixed capital formation in construction (GFCFC). CVA is calculated the same way as in any other sector, but includes only the activities of the construction activity proper (for example it excludes the building materials industry which is accounted in the manufacturing sector). GFCFC is a component of a country's gross capital formation. It measures growth output in construction excluding maintenance and repair construction works which are accounted as current expenditures in the SNA conventions. The main indicator of economic activity used in this study is GDP per capita. It adjusts the growth in the economy with the growth in population. It is a better indicator of a country's welfare particularly in developing nations where the growth rate of population has been since the Second World War roughly twice as high as in developed economies. For the sake of this study, a country is experiencing a *sustained* economic growth in a given period when GDP per capita at the end of the period (measured in constant prices) does not fall back to the level of the beginning of the period. Of course this does not take into account annual fluctuations which characterise the development pattern of many developing economies.

I.3.3.2 Method of Analysis

Having defined the accounting framework and the indicators of economic activity, I now consider how to set about analysing the relationship between the construction sector and the general economy. Countries are the primary unit of study, as has been since the pioneering works in growth accounting (Maddison, 1987). The rationale behind this proposition is that a country can control economic events within its boundaries but not beyond them. Thus national country studies are the substratum required for understanding the process of long-term growth and development. The basic material used in this study is national time series data drawn mostly from United Nations and World Bank publications.

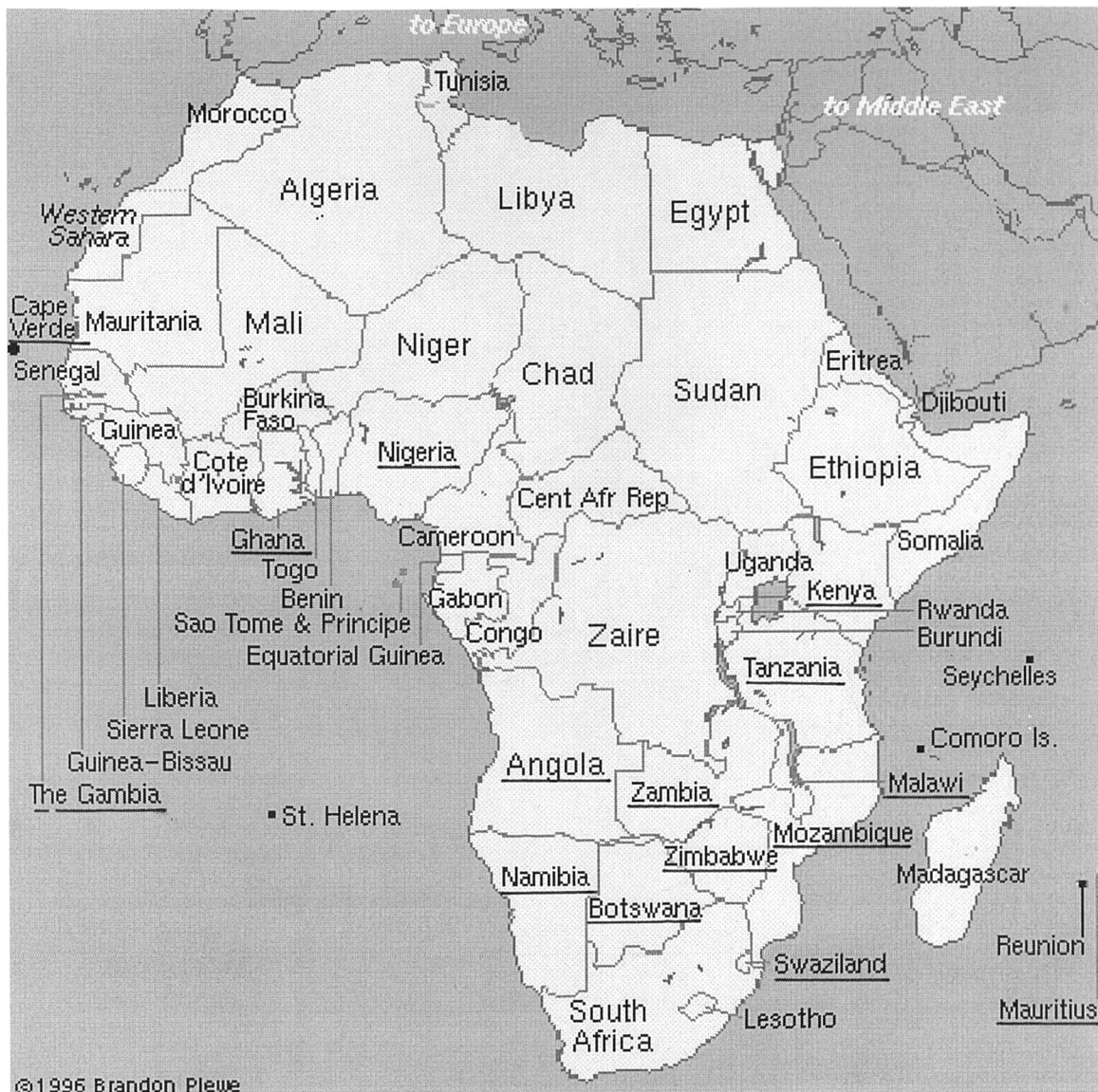
The choice of a comparative analysis of national time series instead of a cross-sectional study deserves a special note. Cross-sectional studies were used at a time

(see e.g. Turin, 1973; Moavenzadeh and Koch Rossow, 1976) when time series data were scarcer and less reliable, particularly in less developed countries. Countries were arranged according to their level of income per capita in U.S. dollars as of a particular year, and GDP per capita or GNP per capita were used as independent variables to explore differences in the pattern of the indicators of construction industry activity. However, conversion of national currencies to US\$ equivalents do not reveal the distortions of a country's economy nor the comparative levels of prices in non-tradable goods and services (as are the case of most construction services). Further, cross-section analysis at a single point in time cannot reproduce the richness of events over time. It cannot answer such questions as why some countries grow faster than others, nor can illuminate the qualitative changes in political and economic institutions that typically accompany economic growth (Reynolds, 1985: p.14).

A longitudinal study spanning the period 1980-most recent estimates, using data drawn from 15 developing countries of Sub-Saharan Africa, is developed. The countries were split in two groups: one in which GDP per capita was increasing in the period 1980-most recent estimates; other in which GDP per capita was falling in the same period.

The countries used in this study are: Angola, Botswana, Cape Verde Islands, Ghana, The Gambia, Kenya, Malawi, Mauritius, Mozambique, Namibia, Nigeria, Swaziland, Tanzania, Zambia and Zimbabwe. As can be seen in Fig. I, most of these countries are located in the Southern sub-region of Africa and constitute, added to S. Africa and Lesotho, the regional grouping- SADC (Southern African Development Community).

Fig. I Map of Africa



Notes:

underlined: countries covered in this study

Cape Verde Islands and Mauritius not to scale

However, the sample selection was a question of inevitability. The countries used in this study are those in which most set of data for the period referred to were available. In nine countries of this sample, data are also available for the period 1970-1980. Unfortunately, in some of these countries data, particularly data on the construction industry, are not strictly comparable with those of the period 1980-most recent estimates.

Although data on the construction industry of Angola and Mozambique are not consistently available in the international bodies' publications, it was found useful to include these countries in the sample used in this study. Thus, a fieldwork was carried out in Angola and Mozambique to collect quantitative and qualitative data on the construction industry and related sectors. The fieldwork was comprised of: interviews with key representatives of the Government and industrial and economic sectors, whom one can see as opinion-makers in terms of development strategy for these countries; collection of secondary data existing in government departments; and administration of a questionnaire survey conducted on the same representatives. These issues are described in greater detail in Chapter VII.

The reason for the choice of Angola and Mozambique is partly of an academic interest. These countries practically "do not exist" in academic literature. As far the construction sector is concerned, this study is, to the best of my knowledge, the first attempt to review and systematise the dispersed country material and fit it into a systematic framework consistent with comparative analysis. Thus it is possible to compare the performance of the construction sector in Angola and Mozambique with their counterparts in Sub-Saharan Africa. The other reason, besides the interests of the sponsor of this research project and of my own, was a practical one. It was easier to contact representatives of countries with whom I share the same language.

Apart from the collection of data and information, some insights concerning the functioning of economic institutions, particularly policy changes in the area of economic policy were obtained. The role of institutions in the process of economic growth has been emphasised by several writers (such as Reynolds, 1985; Solow, 1988; Knight, 1991). This way, besides time-series analysis, I hope to include "the

sort of information that is encapsulated in the qualitative inferences made by expert observers, as well as a direct knowledge of the functioning of economic institutions” (Solow, 1988: pp. 310-311).

However, in order to maintain some degree of consistency throughout this study, a literature based approach was the predominant method for data collection.

1.4 Structure of the Thesis

The plan of the thesis follows a logical order, thereby suggesting a sequence for achieving the objectives of the study. The structure of the thesis is thus as follows:-

Chapter II discusses the concepts of development and economic development, and explores the roads to the areas of development economics and growth theory. A literature review on the structure and interrelated processes of economic growth and development is undertaken, and the main approaches in growth theory are presented and commented on.

Chapter III discusses and analyses the role of construction in economic development. A review of the literature pertaining to the macro-level of the construction industry, particularly those focusing on international comparisons, is presented and discussed. A longitudinal-time study relating construction to other sectors of the national economy is presented and analysed for the period 1970-most recent estimates. Data used in this analysis are drawn from United Nations and World Bank publications, and the observation stem from a sample of 15 countries representing all stages of economic development: advanced industrial countries- AICs; newly industrialised countries- NICs; and less developed countries- LDCs. The results of this analysis are compared with the assumptions of previous works.

In Chapter IV, specific issues on the macroeconomy relevant to Sub- Saharan Africa are presented. The economic and social development in this sub-region is broadly reviewed for the period from 1970 onwards. Related issues regarding the changing

process in the economic and social structure, and significant events that have had a great impact in Sub-Saharan Africa, in this period, are presented and discussed.

In Chapter V, a model of interdependence between the construction sector and the general economy for developing countries of Africa is established. Data and economic indicators constructed from the data stem from a sample of 15 countries representing the development pattern of this region of Africa. The period of analysis is 1980-most recent estimates. The results of the analysis are tested against the hypothesis and their implications are discussed.

Chapter VI analyses the relationship between the construction sector and general economy in Angola and Mozambique within the context of the general model developed in Chapter V. The methodology for the presentation of data regarding different measures of the construction industry and national output is described and commented. A comparison between Angola and Mozambique to show how they fit in the context of the general model is established.

Chapter VII discusses the methodology used, and the results of a two country survey. The survey used both questionnaire, interview and secondary data as means of data collection. The relevant features of the economic development in Angola and Mozambique are presented and discussed, focusing on the post-independence period. Additionally, an opinion survey conducted on the representatives of the economic agents of Angola and Mozambique is presented and analysed.

In conclusion, Chapter VIII summarises the thesis, highlighting the areas where a contribution to existing knowledge has been made. The research process is discussed, and the areas in which further work may be pursued are presented.

CHAPTER II

Economic Growth and Development

II.1 Introduction

This study, it has been said, concerns the research area of construction macroeconomics. Specifically, it investigates the role the construction industry plays in the process of economic growth and development. It is not surprising that the fundamentals of this research project take us to the areas of the changing structure and processes of economic development of the nations.

Economic development and economic growth are terms often used interchangeably in many economics literature (Pheng, 1994). However, economic growth can be defined as the steady process by which the productive capacity of the economy is increased over time to bring about high levels of national income (Todaro, 1992). In his interesting study *-Economic Growth in the Third World*, Reynolds (1986: pp 7-8), suggests that the process of economic growth comprises generally two phases both of them deserving special study: 1) A period of *extensive growth*, a situation in which population and output are growing at roughly the same rate, with no secular rise of per capita output; 2) A period of *intensive growth* in which after a certain point in time, a sustained rise in a country's per capita income occurs. The beginning of this sustained rise in per capita income is called the *turning point*. It should be noted that the reach of the turning point is not a guarantee for growth for all future time, and there are cases in which growth has changed to stagnation or decline (ibid., p. 8). There is an interesting

appeal for this concept of economic growth, which seems also to be shared by Kuznets (1968), so that it has the merit of placing population analysis to a more prominent place in the development process. With respect to the turning point, the development pattern of most Sub-Saharan African Countries since the early 1980s (see section IV.2.2) appears to have added value to Reynolds' development paradigm.

Development, and to a certain extent economic development, is a more ambiguous concept among policy-makers and social scientists. World Bank (1989a), refers to "sustainable development" i.e. a strategy of development in which growth in real output must be accompanied by measures that address the poverty alleviation, and does not compromise the welfare of the next generations. Goulet (1971, cited in Thirlwall, 1994: p. 8) distinguishes three components in his wider view of development, which he calls life-sustenance, self-esteem and freedom. It follows that, in this view, development is a process that pursues the continuous improvement in those issues. In a similar vein, Todaro (1992: p. 487) defines development as the process of improving the quality of human lives through three equally important aspects: 1) raising people's incomes and consumption levels of food, medical services, education, etc. 2) creating conditions conducive to the growth of people's self-esteem through the establishment of social, political and economic systems and institutions that promote human dignity; 3) increasing people's freedom to choose by enlarging the range of their choice in consumer goods and services. Bon (1992), analysing the relationship between construction industry and economic development, defines economic development as an entire historical process in which a less developed country (LDC) becomes a newly industrialised country (NIC) and ultimately an advanced industrialised country (AIC). Mabogunge (1989), adopting a multidimensional perspective in the concept of development points out that any theory of development will ultimately reflect the social, historical and national background of its author.

The issue of economic development not only connotes different implications for different people but also defies exact measurement. (Pheng. 1994). However, there is an increasing consensus among academic writers concerned with the issue of development that any notion of strictly economic progress must, at a minimum, look beyond growth in per capita incomes to the reduction of poverty and greater equity, to

progress in education, health, and nutrition, and to the protection of the environment (WB, 1991a). From this definition, it is clear that the issues of poverty, growth and the protection of the environment underlie the development agenda.

This chapter, is divided into four parts. Part 1 presents the measures of economic growth and development, and specifically those that are most commonly used in United Nations and World Bank publications. Part 2 presents a historical review on the structure and processes of economic growth of nations. Much of this information is based on Kuznets (1966, 1968, 1976) and Maddison (1987). Next, the dominant paradigms on the growth theory are presented and discussed. Finally, a concluding remark summarises this chapter.

II.2 The Measurement and Comparability of Economic Growth and Development

The main indicators of the national output of a nation are gross national product (GNP) and gross domestic product (GDP). Basically, the latter indicator measures what is produced within a country's border, and is a better measure of growth in productive capacity. GNP, which measures how much of what is produced belongs to residents of the country, and is more closely related to changes in welfare. In the UN Systems of National Accounts (SNA), GNP is derived from the GDP adjusted to the net factor incomes (labour and capital) with the rest of the world.

Alternatively one can look at GNP per capita and GDP per capita when the variable population is introduced. In the modern history since the Second World War, the later indicator, generally, run 0.5 - 1.5 percent below the former in developed countries, and 2 - 3 percent in developing countries, so that population growth rate is typically in those ranges for developed and developing countries respectively (UN- *Demographic Yearbook*, various years).

GNP per capita has been utilised by institutional bodies (such as the World Bank and OECD) to compare living standards between their member countries. In order to facilitate international comparisons, a common currency is used, usually the U.S.

dollar. The World Bank publishes annually the *World Development Indicators* in which member countries are ranked and classified according to GNP per capita measured in US dollars. The income groups are as follows: low-income economies (LIE); middle-income economies (MIE); and high -income economies (HIE). The middle-income group is further divided into two subgroups: lower-middle-income and upper-middle-income. The value limits for each group tends to vary annually upwards, for the world economy tends to generally increase.

From the discussion above, it is suggested that the development process is not merely an increase in the national output per capita. Furthermore, the weighted average of the growth of income of different groups of people pays no regard to the distribution of income. One of the measures to express income inequality in any economy is through the *Gini coefficient of distribution* (for the calculation of this index, see, for example, Thirlwall, 1994) which varies from 0 (complete equality) to 1 (complete inequality). The result plotted in a chart showing the relationship between the share of income group to the lowest economic quintile in countries and the income level of the country is often called the *Kuznets curve*. According to Kuznets (1965, cited in Thirlwall, 1994: pp. 13-14) the gap between rich and poor would initially increase in less developed countries, and only in the later stages of industrialisation the degree of inequality tends to decrease as industrialisation proceeds. Recently, Deininger and Squire (1996) examined the relationship between growth and inequality in all regional groups. Their findings seem to contradict Kuznets'. They calculate the average Gini coefficients for all regional groups for the 1960s and 1990s, and their main results show that although differences in inequality among regions are very large (from around 0.5 in Latin America, and slightly less than 0.5 in Sub-Saharan Africa to a value of about 0.35 in high-income countries), they have changed little over time. Since in the past 30 years, different regions of the world have experienced varied growth rates (an upswing in East Asia and a stagnation in Sub-Saharan Africa), the stability of the Gini coefficient suggests that economic growth does not necessarily increase inequality.

The issue of poverty alleviation has been meriting a great deal of concern for the part of national governments in different continents of the developing world as well as institutional bodies; such as the World Bank and the United Nations. In *the Structural*

Adjustment Programmes (SAPs) for Africa supported by the World Bank and the International Monetary Fund (IMF), specific policies that aim at improving the well-being of the poor strata of the population has been implemented (WB, 1994a; 1994b). If in the high-income countries there is too little inequality to make much difference to growth, in the developing world there is a wide range of economic policies which governments can implement to aimed at a better distribution of income. One can argue that instead of high marginal taxes on the better off, governments should concentrate on policies, such as improving access to education, which do not simply reduce inequality but boost growth more directly as well (The Economist, October 19th - 25th 1996: p. 132).

Other measures of the welfare of a nation are health- related and education indicators. In the former, the most used indicators to find out the stage of development of a nation are the number of population per doctor, life expectancy at birth, infant mortality rate and the percentage of people with access to safe water and sewerage. With regard to education, the most common measures used in education statistics are the percentage of age group enrolled in primary, secondary and tertiary education.

Since 1990, the United Nations Development Programme (UNDP) publishes annually the *Human Development Report*. This publication gives alternative measures of the welfare of nations that do not necessarily accord to the standard measure of the level of income per capita. Thus, the UNDP constructs a *Human Development Index* (HDI) which takes into account the measures of income per head (adjusted for international comparisons) combined with measures of life expectancy and literacy. Countries are then ranked by the index (from lowest to highest) and compared to the ranking of per capita income. In the low-to middle-income range, some countries rank low by per capita income and high (relatively) by the HDI, and vice versa. In the high-income economies, although may have relative variations in a country's two indices ranking, a high income per capita tends to generally correspond to a high HDI.

Another attempted improvement in comparing living standards of different economies is through the *purchasing power parity (PPP)* between countries, especially between countries at different stages of development. It is well known that the exchange rates

are, in the main, determined by the demand and supply of goods and services which are traded in the international market. The rationale for the determination of the purchasing power parity is that the national output of a country comprises not only traded goods but also non-traded goods (and also government services) in which prices are determined by unit labour costs which tend to be lower the poorer the country.

There are several methods for determining purchasing power parity ratios and prices (see UN, 1985; Summers and Heston, 1988) to make international comparisons in which the currency of a country (usually international dollars- I\$) or a group of countries act as unit of account without altering the ratios of living standards between countries. This methodology has been utilised by the Organisation for Economic Co-operation and Development (OECD) in the national accounts statistics of its members. Most recent academic writings also adopt this methodology in the study on economic growth using a cross section of countries (Barro, 1991; De Long and Summers, 1991)

Apart from the World Bank classification of the world economy (HIEs, MIEs and LIEs), other country group classifications have been used in much social science literature. The United Nations and its agencies, and also the World Bank use the terminology of Developing countries (DCs) to represent a wide group of countries at varied stages of development, excluding the former USSR and OECD countries. Another criterion for classifying economies is according to their degree of industrialisation. In this view, economies are classified as advanced industrial countries (AICs), newly industrialised countries (NICs), or less developed countries (LDCs). Basically, the HIEs correspond to the AICs, the upper -middle-income economies correspond to the NICs, and lower-income economies added to the lower-middle-income economies represent the LDCs. The use of the term *Third World* which is meant to politically represent countries which are neither part of the OECD nor of the former Council for the Mutual Economic Assistance (CMEA), lost a great deal of its appeal since the change of régimes in the former USSR and Eastern European countries in the early 1990s.

II.3 A Historical Review of the Processes of Economic Growth of Nations

This section presents a review of the historical experience of the economic growth of nations, especially of today's advanced industrial countries, in order to have a whole picture of the nature of the economic factors that are conducive to the long-term economic growth and development. Data presented here cover generally the period between 1870 and 1984, and in some cases go back as far as 1750. Growth accountancy owes much to the work of Simon Kuznets who received the Nobel Prize in economics in 1971 for his pioneering work in the measurement and analyses of the historical process of economic growth in developed countries (Todaro, 1992). Most modern studies on growth accountancy (Denison, 1985; Hickman and Coen, 1987; Chenery et al, 1988, to name but a few) and the modern methodology of national accounts are based on the conceptual framework prepared by Kuznets.

The major determinants (groups of interrelated processes) in economic growth are: 1) growth of population; 2) growth in per capita and global economic product; and 3) external relations among countries. The last item is only briefly discussed in this study, so that most services of the construction industry are not tradable outside a country's boundary, and a careful discussion of the theory of international trade is not the scope of this study. The issues regarding the international trade of goods and services pertaining to construction activity, and especially the role of multi-national firms, are discussed in Moavenzadeh and Koch Rossow (1975), Strassmann and Wells (1988) and Bon (1993, 1994).

II.3.1 Trends in Population Growth

Table II.1 presents the evolution of population in the world, more developed countries (MDCs) and less developed countries (LDCs) in the long period 1750-1975. It should be noted that the division of the world economy presented in this table, taken from Kuznets (1976), does not accord with most recent publications of this kind (see e.g. World Development Report, various years). MDCs, here, include Europe, the former USSR, North America, Argentina, Chile, Uruguay, Australia and New Zealand. The

less developed countries include all others. Thus, the main difference from most recent publications is, basically, that in the former, MDCs do not include Japan and does include temperate South America.

Table II.1 Growth of Population, Economically Less developed (LDC) and More Developed (MDC) Countries, 1750-1975

Years	World	MDCs	LDCs	China	Other LDCs
	(millions)				
1750	791	201	590	200	390
1800	979	248	730	323	407
1850	1,262	347	915	430	485
1900	1,650	573	1,077	436	641
1920	1,860	673	1,187	476	711
1950	2,501	857	1,644	558	1,086
1960	2,986	976	2,010	654	1,356
1975	3,967	1,132	2,835	838	1,997

Source: Kuznets (1976)

The main characteristics of this upsurge in population growth that deserve note are:

Firstly, in a period spanning 225 years the world population had an increase of just over 400%. This widespread increase, particularly since 1850, was unusually high when viewed along the human history.

Second, the rate of growth of the world population was accelerating during this period. It increased from 4.3% per decade in the period 1750-1800, 8.4% per decade in 1900-1950 to 18.6% per decade in 1950-1975. However, The growth rate of population in MDCs decelerated from 10.6% per decade in the period 1850-1900 to 8.1% per decade in 1900-1950.

Third, the acceleration in the population growth rate in the LDCs, and their markedly higher growth rate than MDCs are recent historical trends, particularly since 1920

(Kuznets, 1968). The rate of population growth for, respectively, LDCs and MDCs increased from 10.9% and 8.2% per decade in 1920-1950 to 22% and 11.2% per decade in the period 1950-1975. However, disaggregated data on LDCs (China and other LDCs) also indicates that since, roughly, 1900 the growth rate of population in China has been less than in other LDCs: from 4.9% and 10.4% per decade in 1900-1950 to 16.4 % and 24.7% per decade for, respectively, China and other LDCs.

Fourth, in MDCs there was also a remarkable diversity in the rates of growth of individual countries, particularly in the period 1850-1950. In younger countries, for instance in North America, the rate of population growth was, in this period, about three times as high as in Europe, partly because the migration stream directed at the initially "empty" countries (Kusnets, 1968).

Fifth, the rise in the rate of population growth was due mostly to the reduction in the death rate, rather than to any increase in birth rate (Kuznets, 1976). The reduction of death rate is particularly connected with the improvements in medical practice and sanitary infrastructures, and also the amelioration in material conditions of life.

II.3.2 Trends in the Growth of National Product

II.3.2.1 Changes in Per Capita Income

The national income or total net product of a country is the sum of all goods and services during a given period, usually one year, adjusted for duplications, and net for any commodity consumed in the process of production.

Estimates made by Kuznets (1968) on a sample of countries representing 80% of the world population in 1950 found that over 30% had per capita income of less than \$50 and almost one quarter, between \$50 and \$100 (U.S. dollars, 1949 constant prices). On the top of the income per capita pyramid were the U.S., UK, the Scandinavian countries, The Netherlands, France, Canada, Australia and New Zealand which had a per capita income of \$600 or more. Taking in account that the countries in which data

were not available were former colonies, it is reasonable to assume that more than 60% of the world population had a per capita income of less than \$100 in 1950.

As in 1984, and using the modern division of the world economy (WB- *World Development Report 1986*), the average per capita income (U.S. dollars, 1984 current prices) range varied from \$260 in low-income economies, \$1250 for middle-income economies and around \$2,000 for the former East European (excluding Yugoslavia) non-market economies. Again, on top of the per capita income were the high-income economies of the OECD with an average income per capita of \$11,430. Portugal, Greece and Turkey, which belong to OECD are included in the middle-income economies

As regards the long-run evolution of the national output, data are only available for the most developed countries. Tables II.2 and II.3 present, respectively, the evolution of GDP and GDP per capita (in international dollars) of 4 Western European countries - France, Germany, The Netherlands and U. K., Japan and U.S., in the long-term period 1870-1984. Data are taken from Maddison (1987). It can be seen that the rate of growth throughout the period of analysis was increasing. Particularly striking is the growth process in 1950-1973. During this period, GDP per capita in U.S. had an increase of more than 50% and in U.K. almost 100%. Japan increased its per capita GDP by more than fourfold and the remaining countries more than doubled their 1950 level of GDP per head. The process of convergence by the five countries to the leader country (U.S.) was also accelerating. However, Table II.2 also shows that the rate of growth in all countries started to decelerate since 1973. Average GDP growth for the four European countries and Japan fell from 5.6% per year in 1950-1973 to 2.1% per year thereafter, and for the U.S. from 3.7% to 2.3%.

For the less developed countries, there is no consistent set of data available on the national output prior to 1950. Reynolds (1985) found that 23 out of 41 countries analysed reached the "turning point" at various points in time between 1850 and 1950, most of them between roughly 1890 and 1914, which corresponded to a period of worldwide economic boom. These successful countries experienced, during this period, a sustained rise in their per capita income, and in some of them (e.g. Argentina before

1914), the development pattern was similar to that of the MDCs during the same period. It should be noted that data used by Reynolds (1985) concern agricultural production, exports and population. Another relevant characteristic of the development process pertaining to the LDCs is that some of these countries (e.g. Nigeria, Zambia and Zimbabwe) reached the turning point in the colonial status.

Table II.2 GDP Levels at 1984 International Dollars in Selected Industrial Countries; 1870-1984

	France	Germany	Japan	Netherlands	U.K.	U.S.
Years	(I\$ billion)					
1870	59.27	33.98	19.28	8.26	77.95	78.61
1913	119.99	111.75	54.76	20.33	174.78	454.53
1950	173.49	179.22	124.34	49.40	281.04	1,257.86
1960	271.03	387.21	295.178	76.99	372.80	1,735.86
1973	547.98	675.49	976.50	142.20	556.60	2,911.78
1984	694.70	811.6	1,468.40	168.90	625.20	3,7465

Source: Maddison (1987)

Table II.3 GDP per capita at 1984 International Dollars; 1870-1984

	France	Germany	Japan	Netherlands	U.K.	U.S.
Years	(I\$)					
1870	1,542	1,336	560	2,290	2,671	1,962
1913	2,878	2,737	1,060	3,298	4,101	4,657
1950	4,147	3,600	1,486	4,884	5,000	8,261
1960	5,933	6,985	3,136	6,703	7,093	9,608
1973	10,514	10,899	8,987	10,581	9,902	13,741
1984	12,643	13,235	12,235	11,710	11,068	15,829

Source: Maddison (1987)

From the period 1950 (when the United Nations and the World Bank started to publish national accounts statistics of their member states) onwards, there are a reasonable amount of data on the national output and its components pertaining to the LDCs. In

the post World War II period, the rate of growth of GNP per capita in LDCs has roughly been the same as in MDCs. However, significant differences in the growth process within the LDCs can be observed. In the period 1965-1990, the average annual growth rate of the GNP per capita was 0.2% in Sub-Saharan Africa compared to 5.3% in East Asia & Pacific. In the same period, the average annual growth rate was 2.5% and 2.4% for, respectively, low- and middle income economies and OECD members (*World Development Report- WB, 1992a*).

II.3.2.2 Shifts in Industrial Structure

Changes in industrial structure of economies can be studied through the distribution of the labour force, capital and income originating (Kuznets, 1968). Here, this analysis concerns the changing distribution of the labour force, and applies only to the more developed countries (excluding the former non-market economies).

Table II.4 presents the structure of the labour force in U.S. and the average for 5 countries (the same as in Table II.2) in the period 1870-1984. The first relevant characteristic observed is that the proportion of labour force engaged in agriculture declined and that engaged in non-agricultural activities increased throughout the period referred to. Further, comparing the industrial structure of the U.S. and the average of 5 countries, it can be seen that the rate of decrease of the employment in agriculture in the former was faster than in the latter in the period 1870-1960. This suggests that (see Table II.3) there is a negative correlation between per capita income and the share of the labour force engaged in agriculture.

Regarding non-agricultural activities, there were also observed some significant differences in the trends of non-agricultural sectors. Thus, the share of industry (mining, manufacturing and construction) in the labour force grew significantly but the increase have ceased and even declined in the late stages of the period, unlike the share of services which have experienced an increasing growth throughout the same period

The structural changes in this period were accompanied by a shift towards urbanisation in which a large proportion of labour and population engaged in non-agricultural

activities resulted, for technical reasons, in the concentration of population in large aggregates with significant changes in the mode of life (Kuznets, 1968)

Table II.4 Labour Force Structure in U.S. and the Average for France, Germany, Japan, Netherlands and U.K.; 1870-1984

	Years	Agriculture	Industry	Services
		(% of total employment)		
5 countries average	1870	46.0	27.7	26.4
	1913	34.4	32.3	33.4
	1950	21.8	36.7	41.4
	1960	14.7	38.9	46.4
	1973	7.4	38.7	53.9
	1984	5.5	32.4	62.2
U.S.	1870	50.0	24.4	25.6
	1913	32.3	29.3	38.4
	1950	13.0	33.3	53.7
	1960	8.2	34.3	57.5
	1973	4.1	32.5	63.4
	1984	3.3	28.0	68.7

Source: Maddison (1987)

II.3.2.3 Trends in Capital Formation

Capital formation as one component of the national product is measured by net or gross additions to the stock of construction and of production's equipment and net additions to household inventories. Again, the long-term data concern the present-day more developed countries.

Table II.5 presents the evolution of the gross fixed capital formation in 6 industrial countries , in the period 1913-1984. It is observed that, in line with the growth in GDP and GDP per capita (see Tables II.2 and II.3), gross fixed capita formation increased in

all countries during the period of analysis. It is also shown that the country which experienced the fastest rate of economic growth -either measured in GDP or GDP per capita- during the period of analysis (Japan) was the same in which the growth rate in capital formation was faster. However, as suggested in Table II, the rate of growth in the latter indicator in all countries started to decelerate since 1973, following the pattern of the GDP.

**Table II.5 Total Gross Fixed Capital Stock (Asset Weights) at Midyear;
1913-1984**

	France	Germany	Japan	Netherlands	U.K.	U.S.
Years	1950 = 100					
1913	..	..	56.66	45.99	65.17	51.34
1950	100.00	100.00	100.00	100.00	100.00	100.00
1960	126.62	163.09	156.06	138.46	128.51	137.18
1973	226.56	331.78	584.77	238.85	210.13	214.74
1984	348.67	478.89	1,225.73	344.53	276.06	290.66

Note: .. - not available; Source: Maddison (1987)

The association between capital formation and the evolution of GDP is better understood looking at the Table II.6. As pointed out by Maddison (1987: p. 656), the close correlation between capital and output movements over the long-run is the reason simple regressions find capital such a powerful explanation of growth. As indicated in Table II.6, the average of capital productivity (the difference between the compound rate of increase in output and the rate of increase in capital input) of the 6 countries was 0.20% per year in the period 1913-1984. Further, capital productivity was positive in the period referred to for all countries, except for U.K. However, contrary to labour productivity which seldom declines on a short-run basis, and in the long-run is always positive, capital productivity is moderately positive and can be significantly negative in depressed economic conditions (*ibid.*, p. 657). In the period 1973-1984, capital productivity was negative in all 6 countries and their average was -1.78% per year. This suggests that capital formation is not the only determinant of growth. It is also shown

that the U.S. had among its counterparts the highest capital productivity in the long period 1913-1984 and has been the leader country since 1913. It is not surprising that data based on the growth experience of the U.S. was the basic material used in Solow's (1956) neoclassical model of economic growth.

Table II.6 Capital Productivity Growth; 1913-1984

	1913-1950	1950-1973	1973-1984	1913-1984
(annual average compound growth rates)				
France	0.12	1.50	-1.82	0.23
Germany	0.56	0.57	-1.71	0.20
Japan	0.69	1.39	-3.41	0.28
Netherlands	0.31	0.85	-1.83	0.15
U.K.	0.13	-0.26	-1.45	-0.24
U.S	0.96	0.34	-0.47	0.55
Average	0.46	0.73	-1.78	0.20

Source: Maddison (1987)

II.3.3. External Relations among Countries

The last characteristic of modern economic growth deals with the role of nations in the international arena. Due to increased power of modern technology in the last two centuries, particularly in transport and communications, developed countries were able to reach out to the rest of the world for cheap raw materials and primary products, and also for a lucrative market for their manufacturing products (Todaro, 1992).

The stream of migration from the "old continent" was also a consequence of the process of industrialisation in Western and Central Europe. The significant changes in industrial structure, and also changes in social values, pushed off an increasing part of the unoccupied workforce of the northern hemisphere towards North America and Latin American countries. This, added to the "opening up" of the former colonies of

Africa and a situation of political dominance in certain parts of Asia, had the effect of unifying the globe in ways that were not possible before the nineteenth century (ibid., p. 118). According to data reported in Kuznets (1968), the rate of growth in the international flows of goods increased faster than the rate of the world output in the period from the second half of the nineteenth century to the First World War.

This pattern of development was interrupted in the period between the two World Wars characterised by a clearly inward-looking policy for the part of the developed nations, particularly the U.S. As a consequence, the rate of growth of the world economy, in general, decelerated considerably (Maddison, 1987). The importance of trade of goods and services in the world economy has been recognised by the new political and economic order established after the World War II, which was revealed in the creation of the General Agreement of Tariff and Trade (GATT) in 1947. Increasing flows of goods and services in the international market, and also external aid, have played a significant role in the development process of many developing countries in the post World War II period.

II.4 Growth Theory: A Review

Growth theories have been evolving from a classical approach, focused primarily on physical capital accumulation as the main engine of growth, to one where technology and knowledge play an increasing role in the development process.

The classical approach on growth theory envisaged that output per capita would be stationary as the rate of output declined with diminishing improvements in productivity. Rosenstein-Rodan (1943) postulated the “big push” by which output would grow in proportion with capital and then an economy would propel itself into self-sustaining industrialisation and growth. According to Lewis (1954: p. 150), the central problem in the theory of economic development is to understand the process by which a community which was previously saving 4 or 5 per cent of its income converts itself into an economy where voluntary saving is about 12 to 15 per cent of national income.

Rostow (1960, 1963) envisaged the *theory of stages* by which it is possible to identify stages of development and to classify societies according to those stages. He distinguished five stages: traditional, transitional, take-off, maturity and high mass consumption. Central in Rostow's thesis is the transition from take-off to maturity, i.e. the beginning of industrialisation. According to Rostow (1960), the take-off is a short stage of development during which economic growth becomes self-sustaining. Thus investment must rise to a level of over 10 percent of national output in order for per capita income to rise sufficiently to ensure adequate levels of investment. Other conditions is that one or more "leading growth sectors" must emerge. Investment in transport infrastructures was singled out as an important component for enhancing this successful transition. Rostow's thesis was subject of some criticisms. Kuznets (1963) argued that Rostow's propositions lacked statistical evidence, and the analysis of take off and pre-conditions stages neglected the effect of historical heritage and the time of entry into the process of modern economic growth (Kuznets, 1963: p. 40). Aside these criticisms, Rostow's *pre-conditions for take-off* has highlighted the need for construction investment projects and its role in the development process (Pheng, 1994).

Based on the growth experience of the U.S., Solow (1956, 1957) developed the neoclassical model of economic growth. In this approach, the permanent rate of growth of output per unit of labour input is independent of the investment rate and depends entirely of technological progress.

A couple of figures taken from World Bank (1991a) illustrates Solow's model. The total output of the United States in the first part of this century grew about 3 percent per year. Its capital stock also grew at about 3 percent per year, whereas the labour input grew at only about 1 percent per year. In the capital-labour mix, capital accounts generally for about one-third, and labour, two-thirds. Thus, inputs were rising 1.7 percent per year. The residual to which Solow called "technological progress in the broadest sense" accounted for the major part of the growth in output. However, most of technological progress finds its way into actual production only with the use of new and different capital equipment (Solow, 1988; De Long and Summers, 1991). That is countries would grow only through exogenous technological changes embodied in

machinery and equipment. As an implication of diminishing returns, this model also postulates that growth rates would be expected to converge across countries.

However, the growth rates of developing countries have diverged particularly since the first oil-shock in 1973/1974. This seemed to contradict the expectation of convergence, and has been a major concern among development economists and development-assistance agencies. But in practice, the path of technological change has not been equal nor have been transmitted in most developing countries. It has been argued (e.g. Agargwala, 1983) that excessive industrial protection, tariff and other import restrictions, and market distortions have encouraged an inefficient pattern of production and growth. Development economists, thus have felt the need to go beyond the neoclassical theory to understand the experience of developing countries (Romer 1989: p. 203).

The endogenous economic growth approach (Romer, 1989, 1990; Barro, 1991) envisages the idea that investment in human capital produces increasing externalities in the development process. Romer has been a major contributor to the literature on endogenous economic growth (Barro, 1989). Central in Romer's thesis is the role played by research and innovation in the process of development. In fact, Romer's (1989) model uses a simplified version of the production function, which combines labour input and capital input with a variable that represents technology. However, technology corresponds to the number of intermediate capital inputs for which satisfactory designs have been developed. The model postulates that growth in the variable technology can sustain long-term growth on per capita income and explains why growth rates have been diverging particularly since the post World War II period. Thus, technology and knowledge are taken as factors of production and are not left aside in the peripheral concept of "residual". The role of the government then is to ensure a macroeconomic environment that favours this dynamics of permanent innovation.

Barro (1991), using a cross-sectional study from almost 100 countries in the period 1960-1985, found that the growth rate of GDP per capita was positively related to the initial human capital and negatively related to the initial level of GDP per capita in the

beginning of that period. O'Neil (1995) provides similar results and suggests that the divergence in growth rates is a consequence of different levels of human capital across countries. Jones (1995), using a modified version of the Romer's model suggests that although economic growth is generated endogenously through R & D, the long-run growth rate depends only on parameters that are exogenous, including the rate of growth of population. The spectacular growth process of some Eastern Asian economies in the post W.W.II period offers support to the endogenous economic growth approach.

II.5 Concluding Remarks

The study of modern economic growth can be traced in the literature from 1776 Adam Smith's *Wealth of Nations*. From then on economists have tried to understand what makes economies progress (Todaro, 1992; Thirswall, 1994). For about as long they have analysed how income distribution and growth are connected.

The concept of economic development has been evolving from one in which development equated the increase in national output to the view that any notion of economic progress must, at a minimum, look beyond growth in per capita incomes to the reduction of poverty and greater equity, to progress in education and health, and the protection of the environment.

The measurement and comparability of economic growth and development is also by no means less controversial. GNP (and also GDP) per capita has traditionally been utilised to compare living standards among countries. An increase at a given period of the GNP per capita, using a fixed year constant prices, gives an account of a country's progress over time. However, there has been an attempted improvement to find out the "real" living standards of a country, for the development process is not merely an increase in national income per capita. One of these measures is the *Human Development Index* (HDI) used by the United Nations Development Programme-UNDP. This index takes into account the measures of income per capita (adjusted for

international comparisons) combined with measures of the life expectancy and adult literacy.

The major determinants in the process of economic growth are increase in population, increase in per capita and total national output and external relations among countries. These are the common historical trends in the process of development of nations, particularly of the present-day's advanced industrial countries. (Kuznets, 1968). However, the role of capital formation is central in any discussion of economic growth and development. Indeed, as Maddison (1987: p. 656) pointed out in his study of six advanced industrial countries, the close correlation between capital and output movements over the long-run is the reason simple regressions find capital such a powerful explanation of growth.

The classical approach on growth theory envisaged that output per capita would be stationary as the rate of output declined with diminishing improvements in productivity. The neoclassical theory of growth also envisages the idea of diminishing returns, so that economic growth was possible only through exogenous technical changes. In the latter approach, the growth rate was not only not proportional to the rate of investment but also independent of the rate of investment; and, if countries have access to the same technology, incorporated mainly in machinery and equipment, growth rates would be expected to converge across countries. The experience of the present-day's most advanced industrial countries provides support for the process of convergence (WB, 1991a).

However, the growth rates of developing countries have diverged particularly since the first oil-shock in 1973/1974. The endogenous economic growth approach suggests that even if all economies have access to the same technologies, national growth rates can diverge if human capital (education and knowledge) and incentives to adopt new technologies differ across countries (Romer, 1989, 1990; Barro, 1991). Following this approach, endogenous policy changes (e.g. macroeconomic stability, investment in human capital, improving capacity building) produce positive externalities or increasing returns in the development process. The initial level of literacy has, in this approach, a powerful explanation in economic performance. Furthermore, the initial

level of literacy also helps to explain the subsequent rate of investment, and thereby the subsequent rate of income growth (Romer, 1989: p. 282).

Using a broad concept of human capital, Olson (1996) suggests that economic performance is determined mostly by the structures of incentives- and that it is mainly national borders that mark the boundaries of different structures of incentives. As pointed out by Olsen (1996: p. 20) neither the old (neoclassical) nor the new growth theories predict the relationship that has been observed in the second half of this century: the fastest-growing nations are never the countries with the highest per capita incomes but always a subset of the lower-income economies. In this view, thus, it is better public human capital (economic policies and institutions) that explains better economic performance.

CHAPTER III

The Role of Construction in Economic Growth and Development

III.1 Introduction

Historically, the construction sector has been linked with the process of economic growth and development. Recall that (see section II.2) the economic growth of a nation can be defined as a sustained increase in its population and product per capita. The growth in population requires the necessity for more products “that permit us to feed, clothe, and shelter ourselves- the structures in which our goods are produced and stored, over which goods are shipped to market, and in which goods are consumed” (Lange and Mills, 1979: p. 1). The increase in per capita and global product is related to the construction sector in the sense that various activities of the construction industry provide the facilities indispensable for developing other sectors of the economy, and the construction sector has direct links with the manufacturing industry- the construction sector’s main partner in the process of economic growth and development.

While construction’s direct contribution to economic growth is significant it also contributes to the basic objectives of development including employment creation, income generation and re-distribution. The extent to which growth and employment creation should be balanced depends largely upon technical, economic and social conditions. Construction could play an important role in resolving this conflict because

it is technological flexible, implying that many of its operations can be more or less labour-intensive depending upon technical conditions and available resources in the country at the time (Moavenzadeh and Koch Rossow, 1976).

The role of construction in economic growth and development has been addressed by various writers and international bodies (Turin, 1973; World Bank; 1984, Wells, 1986; Bon, 1992). One of the main features drawn from these works is the common assumption that directly relates the measures of the construction output with a country's stage of economic development. Furthermore, in this view, construction as a major component of a country's capital formation plays a determinant role in the process of economic growth. However, it is needed to distinguish the work of Bon from the work of Turin and Wells. Bon (1991, 1992) envisages that construction output in most advanced industrial countries (AICs) will ultimately decline absolutely, not only relatively, following the general pattern of the manufacturing industry in the development process (see Figs. III.2 to III.4).

De Long and Summers (1991), using data drawn from more than 60 countries of all continents, and for the period 1960-1985, found no significant association between construction investment and economic growth. In a similar line, a recent passage in "The Economist" seems to question the benefits for the economy of an unbalanced allocation of scarce resources, biased favourably towards construction investment projects:

For a rough guide to a country's economic growth rate, you could do worse than count cranes. A look at the skylines of Dublin, Shanghai and Kuala Lumpur, cities which are peppered with them tells you that Ireland, China and Malaysia are doing nicely....Like other ready reckons, however, the craneometre is fallible... For a start, infrastructure may be ineffective. Good transports and communications are little use if the local workforce lacks the education that prospective employers want...(The Economist, October 5th - 11th 1996: p. 132).

The latter view brings about the other side of the construction sector and ancillary industries. Construction works, particularly public infrastructure projects, require a vast

amount of national resources. In less developed countries, quite often, the “real costs” of a major construction work are understated if one looks at the figures presented in the national account tables. Technical assistance (usually paid in foreign currency) and some other unexpected costs can inflate significantly the costs of a construction project. Thus, it could be argued that in the resource-constrained developing countries, part of the scarce resources available devoted to construction investment projects could alternatively be used in other important sectors of the economy (e.g. health, education and agriculture). This argument is in line with the results provided in Chapter V and VI that show that in the less developed countries which experienced an increasing growth in the period 1980-1992 construction output increased absolutely but not relatively. It appears that in these countries, the construction sector is no longer the engine of economic growth and development.

The structural changes in the world political and economic climate throughout the last decade calls for a better understanding of the development process, hence of the role the construction sector plays in national economy. The success of the Uruguay Round in 1994 on trade liberalisation will undoubtedly enhance the flows of trade in construction materials and construction services in the international market. How these new developments will influence the pattern of the construction industry in different regional markets, and to a greater extent of the world construction industry, is a compelling challenge for the research community pertaining to construction economics and related areas.

This chapter is divided into three parts. Firstly, I present a literature review on the role of construction in economic development particularly that one which focuses on international comparisons. Part 2 presents and discusses some statistical trends in the construction industry and related sectors for the period 1970-most recent estimates. This analysis is based on data drawn from 15 countries representing all stages of economic development (advanced industrial countries -AICs, newly industrialised countries- NICs and less developed countries- LDCs). Finally a concluding remark summarises the analysis of this chapter.

III.2 Analysis of Previous works

Turin (1966), was one of the first authors to analyse the relationship between the construction industry and the macroeconomy in economic development. In a further study (Turin, 1973: p. 1), he purposed "to provide guidance to the policy-making bodies responsible for the development of the construction industry by drawing their attention to the nature of the construction process....to the steps that could be taken to remove some of the existing and future constraints in the vital areas of materials, manpower, financial resources, organisation and management, institutional set-up and statutory requirements".

Turin's purpose, thus, covered all levels of economic activity and concerned all vital players in the construction industry. At the macro-level, the sample analysed by Turin (1973) consisted of 85 countries of all continents representing all stages of economic development, in the period 1955-1965. Countries were ranked in 5 groups in decreasing order of average per capita product, from a maximum (at the time) of US\$ 3,130 (North America) to a minimum of US\$ 130 for some countries of Asia and Africa. The statistical sources used in that work are *Yearbook of National Account Statistics* from the United Nations and the *Yearbook of Labour Statistics* from the International Labour Organisation (ILO). The observations made by Turin (1973) can be summarised as follows:

- 1) Value added in construction was 3 - 5% of GDP in developing countries and 5 - 8% in industrialised countries.
- 2) Capital formation in construction was 6 - 9% of GDP in developing countries and 10- 15% in industrialised countries. In all countries construction gross output accounted for 45 - 60% of gross capital formation.
- 3) Using cross-country comparisons, there exists a direct relationship between the level of GDP per capita and the level of the construction industry activity (measured by the share of construction value added in GDP)

4) The construction industry bought between 50 and 60% of its non-primary inputs from other sectors of the economy. The building materials sub-sector accounts for most of these inputs.

5) Developing countries directed 30 - 50% of construction investment to civil engineering whereas the developed nations devoted 25 - 30%.

World Bank (1984), corroborated the study of Turin for the period 1970-1980 and ranked the construction sector in developing countries the fourth out of twenty sectors of the economy in terms of inter-sectoral linkages.

The importance of the construction sector in economic growth in the developing world has long been recognised by the World Bank and its affiliates. This is not surprising due to the nature of the Bank since its conception in the Bretton Woods Conference just before the end of the Second World War. Although with the name of a bank, its original aim was the promotion of economic and financial co-operation among member states. Later, with the upsurge of other international and regional groupings concerning the richer countries of the world (e.g. EU, OECD, G7), the Bank diverted from its original concern and started to address the financing and monitoring of development projects in less developed countries and newly independent states of Africa and Asia. According to its own statistics, 44% of the total cost of projects approved for assistance by the World Bank and its affiliates in the three-year period fiscal 1980-1982 went for construction work. Besides addressing the macro-level of the construction industry, World Bank (1984) went further. It suggested direction emphasis for future actions to promote the development of its member states and proposed a set of measures for all levels of construction industry activity (demand-side, supply-side, institutional set-up and research activities) to improve the efficiency of this important sector of national economy.

It should be noted that earlier and further works promoted by other national or international development-assistance agencies addressed the same issue, with a particular concern on developing economies: Moavenzadeh and Koch Rossow (1976), HABITAT (1982); and UNIDO (1985), among other references. The first two works

address the contribution of construction to socio-economic growth and development, the last-mentioned deals with the role of the building materials sub-sector in enhancing developing country's industrial strategy.

Wells (1987), analysing a sample of more than 100 countries of all continents, and representing all stages of economic development, followed closely the methodology adopted by the previous authors. However, an important contribution of her work was the establishment of a mathematical model relating different measures of construction activity- construction value added (CVA), gross construction output (GCO) and employment in construction- to the level of GDP per capita.

It should be noted that compared with the study of Turin (1973), Wells' work benefited from a longer period of analysis (1960-1980) and the continuous improvement trend in statistical coverage, let alone the number of countries existing to date (1980). Again, the countries were grouped according to the level of income: from group 1 with an average income over US\$ 2000 to group 4 with an average income under US\$ 350 in 1980.

Turning back to the modelling of the indicators of the construction activity, the central point of Wells' work can be stated as follows:

Using cross-sectional data drawn from a variety of countries, the construction output as a percentage of GDP is related to GDP per capita in an increasing form of income level; and, if the relationship between countries at different income levels at a fixed point in time also occur within any country over time, then construction output would constitute an increasing proportion of GDP with increasing per capita GDP in any one country over time. The rate of growth would be faster for countries in the middle- income range.

These mathematical models are stated below:

1) *Relationship between value added in Construction and GDP per capita.*

$$y = 2.32 \log x - 1.39$$

where $x = \text{GDP per capita}$

y = value added as % of GDP

2) *Relationship between Gross Construction Output and GDP per capita.*

$$y = 2.65 \log x + 4.11$$

where

x = GDP per capita

y = gross construction output as % of GDP

3) *Relationship between Employment in Construction and GDP per capita.*

$$y = 3.69 \log x - 5.69$$

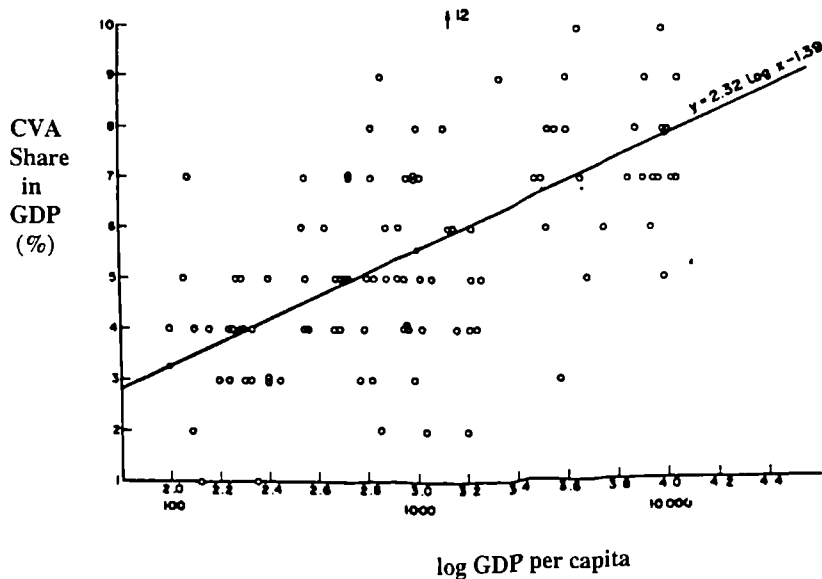
where

x = GDP per capita

y = employment in construction as a % of EAP.

The relationship between the share of construction value added in GDP and the level of per capita income, and the pattern presented by the underlying data, can be more clearly understood looking at the Fig. III.1. It should be noted that GDP per capita is measured in current US dollars, and no adjustment is made to iron out the relative difference in price levels between countries.

Fig. III.1 The Relationship between Value Added in Construction and GDP per capita



Source: Wells (1986)

Bon (1990), analysing the relationship between the construction sector and the national economy, presented an overview of several global trends concerning the changes in construction employment and sectoral share in gross domestic product over six continents for the period 1970-1985.

The analyses on the changing role of the construction sector at various stage of economic development, and the development pattern of the construction industry within the historical processes of industrialisation and urbanisation were further developed in Bon (1992).

The main findings presented in Bon (1990, 1992) regarding the underlying development patterns can be summarised as follows:

- 1) The pattern of the construction industry has been intimately related to the processes of urbanisation and industrialisation, particularly to that of the manufacturing sector- the construction sector's main partner in the process of development. The construction sector follows the long-term pattern of growth and decline characteristic of manufacturing.
- 2) In the first stages of economic development the share of construction in GDP increases and after decreases in last stages of economic development. This also holds for the employment trends in construction related to global employment.
- 3) In most advanced industrial countries, construction volume will ultimately decline not only relatively but also absolutely.

The diagrams depicted in the Figs. III.2 to III.4 add in visualising the above statements. As Bon (1992) states, these diagrams do not represent any mathematical relationship between different measures of economic activity, rather they are visual aids showing general and long-term trends of different sectors of the economy. Furthermore, LDCs, NICs and AICs represented a particular country's status at that date (1992). The analyses of the results of the questionnaire-surveys of Angola and Mozambique (sections VII.3 to VII.5) discusses some of these issues within the perspective of the ECERU Opinion Surveys (Bon, 1993, 1994, 1994a).

Fig. III.2 Employment Share over Time

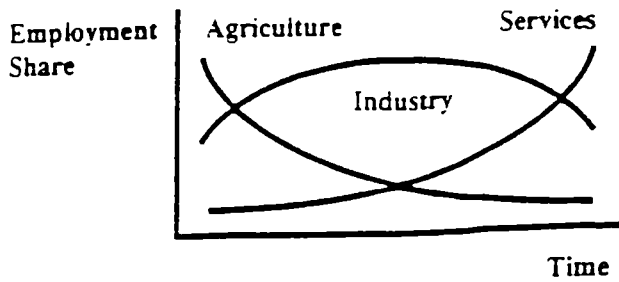


Fig. III.3 Construction Volume over Time and Level of Economic Development

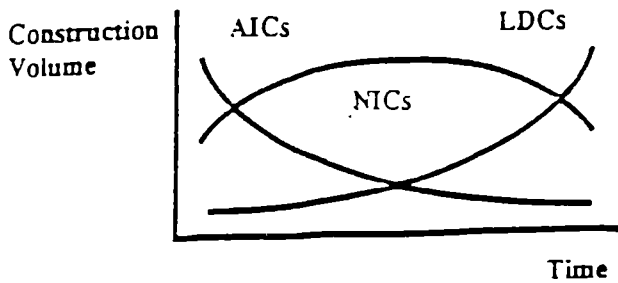
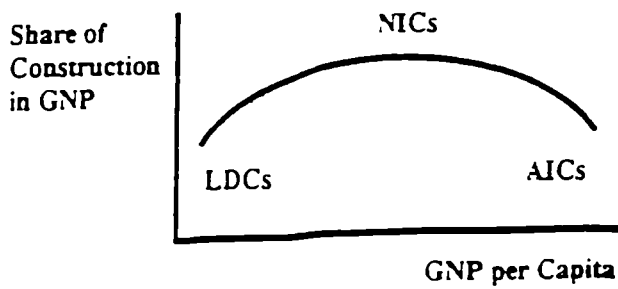


Fig. III.4 Share of Construction in GNP versus GNP per capita



Sources for Figs. III.2, III.3 and III.4: Bon (1992)

The assembly character of the construction industry activity has been explored by several writers through the use of input-output tools. Because of its double accounting framework, input-output tables is well suited for the analysis of the interdependence between the construction industry and other industries forming the national economy. Some of these works (Bon, 1991; Bon and Prietroforte, 1993, among other references). have focused on the changes in sectoral shares, and also in the study of the direct and indirect resource utilisation by the construction sector, both at country level and in comparative historical analysis across advanced industrial countries. According to Bon (1991), the backward linkage indicator of the construction industry tends to be among the largest in a national economy, thus indicating the great demand for construction's intermediate inputs provided by other industries, particularly inputs from the building materials industry. However, in advanced industrial countries, there is a gradual shift of construction purchases from manufacturing to services- the old and new engines of economic growth and development (Bon 1991, 1992).

Other writers on the development process, although may put particular emphasis on the expansion of other sectors of the economy on their perceptions of the most appropriate strategy for development, they tend to generally agree on the need for the construction sector to grow (Ofori, 1990). Some focus on the issue of employment creation (Ganesan, 1979, 1994), others emphasise the multiplier effect on other sectors of the economy (Currie, 1974). With respect to the latter, Currie (1974) proposed a developing country's development strategy based on the "leading sectors" by which an export-led promotion strategy added to an expansion on the building sector would lead a country to a sustained economic growth and development. In this view, a sector to qualify as "leader" should have two characteristics: an unexplored or latent demand that can be actualised, and a sufficiently large demand as to cause its satisfaction to have a significant impact on the whole economy; another qualification is that an increase in the sector's growth can be exogenous and occur independently of the current overall rate of the economy (Currie, 1974: p. 6). In a similar vein, Pheng (1994) proposes a strategy that focuses on the roles construction and marketing have in the development process, and argue strongly for the need of these two factors to be

balanced and synchronised for economic development to proceed effectively (Pheng, 1994: p. 7).

III.3. Recent Statistical Trends in Construction Industry and Related Sectors

III.3.1 Introduction

This section presents an analysis of the relationship between the construction sector and other sectors forming the national economy, using inter-country comparisons from selected countries representing different stages of economic development. Data used in this analysis are the most recent ones available, and are drawn from United Nations, World Bank and International Labour Organisation (ILO) publications.

As referred to in the preceding section, several writers have emphasised the direct relationship between different measures of the construction industry activity and GDP per capita in an increasing form of income level. However, with respect to the most advanced industrial countries (AICs), Bon (1992) envisaged that the construction volume will ultimately decline not only relatively but also absolutely, following the general pattern (in relative terms) of the manufacturing industry.

As pointed out earlier, the structural changes throughout the 1980s in a worldwide scale calls attention to the need for a better comprehension of the development process, and hence of the role the construction sector plays in national economy. This argument is consistent with the view that one must begin looking at the most recent data and observation, analyse them (even in a simple form as presented here) to have a whole picture on the most recent development trends in the construction industry, and ultimately for a better understanding of the interdependence between the construction sector and the general economy.

A longitudinal study on the construction industry and related sectors spanning the period 1970 -most recent estimates is used to test existing assumptions of previous

works. The sample of countries (see Table III.1) used in this analysis was chosen according to the following criteria:

- 1) It should represent all stages of economic development (AICs, NICs and LDCs) and include countries from all continents (Latin America is not represented due to the changes in the price structure that prevailed from the early 1970s up to the late 1980s in many of the middle- income countries of this region, see the 1985 and 1988 eds. of the *Yearbook of the National Accounts Statistics* of the UN);
- 2) Most data for the period between 1970 and 1992/1993, particularly those pertaining to the measures of the construction output should be available.
- 3) The selection of countries from the AICs, NICs and LDCs should provide a representative picture of each country group during the period of analysis.

Regarding the AICs, the choice of the US and UK is somewhat uncontroversial. The former has been since the early 1900s the leading country of the globe- what happens in the US economy impacts the world economy; the latter for its importance in Western Europe economy, the fact that it is the oldest industrial country of the world, and the availability and reliability of its statistical data at all levels of economic activity. The criteria for selecting the remaining three representatives of AICs were: a country with an economy closely linked to the US economy, represented by Canada; a large country from the South hemisphere, represented by Australia; and a small country, represented by Finland.

The criterion for selecting the countries from NICS was, again, to cover a representative spectrum of this group: “old” middle income economies- Portugal and Hungary. The former is a Western European country which has been successfully benefiting from the structural funds of the European Union since the mid 1980s. The latter had been a stagnant centrally planed economy throughout the 1980s but appears to have reversed this growth pattern after the introduction of market-based policy reforms in the early 1990s. Malaysia and Republic of Korea represent the fastest growing economies of Asia, which had belonged until the early 1970s to the group of less developed countries. Finally S. Africa, the unique “real” NIC of Sub-Saharan

Africa. The industrial structure, particularly of its manufacturing sub-sector, makes it unrivalled in all Sub-Saharan African region. Further, with the recent changes in the economic and political environment in Southern and South-eastern Africa, S. Africa became the economic pole of these African sub-regions (see sections IV.2 and IV.4).

The LDCs should represent the status of the period covered: countries with increasing growth in GDP per capita throughout the period (Botswana and Kenya); countries in which an increasing growth in 1970-1980 preceded a decreasing growth in the period 1980-most recent estimates (Nigeria); and finally, countries with a decreasing growth in GDP per capita throughout the period (Zambia and Zimbabwe).

III.3.2 Data and Statistical Sources

The main sources of data used in this analysis are: *Demographic Yearbook* (various years), *Yearbook of National Accounts Statistics* (1985, 1988 and 1995 eds.), and the 1992 edition of *Yearbook of National Accounts Statistics: Main Aggregates and Detailed Tables*, both published by the United Nations; *World Development Report* (WB, 1995a .) and *African Development Indicators 1994-1995* (WB, 1995b) both published by the World Bank; and *Yearbook of Labour Statistics* (1988 and 1994 and 1995 eds.) published by the International Labour Organisation (ILO).

The first volume of the UN provides data on population and urban population for the years period 1970-1993, and the remaining UN publications provide data on the construction industry activity (CVA and GFCFC), GDP and other sectoral value added for generally the period 1970-1992. *The World Development Indicators* (WB, 1995a) provides data on GNP per capita in 1993 (US\$), manufacturing value added for the periods 1970-1980 and 1980-1993. Data on GNP per capita pertaining to African countries are drawn from *African Development Indicators* (WB, 1995b). The ILO publications provides data on construction employment and economically active population (EAP) for 1993 or the most recent year in which data are available. The data used in this analysis are stated below:

- Population and Urban Population
- Gross domestic Product (GDP) and gross national product (GNP) per capita
- Construction value added (CVA)
- Gross fixed capital formation in construction (GFCFC)
- Manufacturing value added (MVA)
- Employment in construction and Economically Active Population (EAP)

Tables III.1 presents data on GNP per capita, CVA as a share of GDP, the contribution of GFCFC to GDP, CVA/GFCFC ratio and employment in construction over EAP for 1993 or most recent estimates (most recent). The countries are ranked in a decreasing form of their GNP per capita in 1993, measured in US\$, current prices. Table III.2 presents the share of CVA in GDP and the contribution of GFCFC to GDP for selected years in the period of reference. Table III.3 presents the average annual growth rate of GDP, CVA, MVA, population and urban population for the periods 1970- 1980 and 1980- most recent. Data on manufacturing and urban population are presented only for illustrative purposes to compare the trends in CVA with the evolution of manufacturing and urban population during the reference period.

A couple of methodological issues is in order to clarify some points pertaining to the data and indicators presented in tables below. Firstly, as data are drawn from various sources, there may be no consistency between data, or their disaggregation, that stem from different sources. It should also be noted that the United Nations is forbidden by protocol to revise data provided by the Statistical Offices of its member states, unlike the World Bank which is more free to do some adjustments. Whenever possible, I use data on GDP and MVA drawn from World Bank publications instead of United Nations ones. However, data on construction sector are drawn from the Yearbook of National Account Statistics of the UN, for this organisation is the only one that publishes these data on a comparative format for all its members and according to the SNA conventions.

Another warning pertaining to the data presented in the tables below concerns the indicators of the construction industry activity (CVA as a share of GDP and the contribution of GFCFC to GDP). As it was expected, these data do not cover, for some countries, all the reference period. Most recent estimates for these indicators presented in Table III.1 may not correspond to those presented in Table III.2. In the former most recent estimates refer to the most recent year in which both data on CVA and GFCFC are available. In the latter, I use the most recent estimates irrespective the most recent years pertaining to these data coincide or not. Taking in account that the construction industry activity is characterised by high annual fluctuations, a great deal of caution is needed when comparing those measures between countries in a particular year. It goes without saying that to calculate the share of CVA in GDP and the contribution of GFCF to GDP, the value of GDP is calculated using data drawn from the *Yearbook of National Accounts Statistics* of the United Nations.

Table III.1 GNP per capita (1993) and Measures of Construction Activity for Selected Countries (most recent estimates)

Countries	GNP per capita (US\$ 1993)	CVA as a share of GDP (%)	Contribution of GFCFC to GDP (%)	CVA / GFCFC Ratio (%)	Employment in Construction (as a % of EAP)
U.S.	24,740	4.0	8.3	48.4	6.3
Canada	19,970	6.2	14.3	43.2	6.4
Finland	19,300	5.5	11.6	47.4	6.8
U.K.	18,060	5.4	8.4	64.3	5.9
Australia	17,500	6.9	10.5	66.0	7.0
Portugal	9,130	6.9	13.2	52.0	8.1
Korea, Rep.	7,660	15.2	22.7	66.9	8.5
Hungary	3,350	5.6	13.3	41.9	7.0
Malaysia	3,140	5.5	18.3	30.0	6.3
S. Africa	2,902	2.7	7.7	35.0	4.2
Botswana	2,590	4.7	19.3	24.6	12.9
Zimbabwe	540	2.6	7.5	33.9	1.6
Zambia	370	4.6	6.8	68.1	2.0
Nigeria	310	1.5	3.5	42.8	1.8
Kenya	270	5.0	7.4	67.3	n.a.

Note: n.a. - not available; Sources: Demographic Yearbook (UN, various years); Yearbook of National Accounts Statistics (UN, 1985, 1988, 1995); World Development Report (WB, 1995a); Yearbook of Labour Statistics (1988, 1994 and 1995 eds.); African Development Indicators (WB, 1995b.)

Table III.2 Share of CVA in GDP and Contribution of GFCFC to GDP for Selected years

Countries	CVA as a Share of GDP (%)						Contribution of GFCFC to GDP (%)					
	Year											
	1970	1975	1980	1985	1992	1970	1975	1980	1985	1992		
A	U.S.	5.1	6.7	4.8	4.5	4.0	10.5	9.9	11.6	11.1	8.4	
	Canada	6.2	7.6	6.6	5.5	5.2	14.4	16.5	15.3	13.2	13.9	
	Finland	8.8	10.0	7.2	7.0	5.5	16.5	19.6	16.2	14.8	11.6	
I	U.K.	5.6	5.9	5.3	5.2	5.4	9.9	11.6	9.5	8.5	8.4	
	Australia	8.6	8.7	8.1	7.8	6.9	13.8	13.6	13.7	13.0	10.5	
Cs	Portugal	4.6	6.0	7.1	5.7	6.9	9.5	12.7	15.2	12.4	13.2	
	Korea, Rep.	5.2	4.7	8.4	7.7	15.1	17.1	13.9	17.9	16.2	22.7	
N	Hungary	n.a.	n.a.	7.4	7.2	5.2	n.a.	n.a.	18.9	17.0	12.6	
	Malaysia	3.7	4.1	4.6	4.8	3.9 φ	8.7	13.2	n.a.	18.3 *	n.a.	
I	S. Africa	3.9	4.9	3.0	3.4	2.7	14.1	16.0	13.4	11.1	7.7	
	Botswana	10.2	7.2	7.9	4.0	5.9 ♣	26.0	18.6	20.4	9.2	19.3 ♣	
L	Zimbabwe	5.1	4.7	2.7	2.3	1.9	9.8	14.5	7.7	6.7	7.5 **	
	Zambia	7.1	6.4	5.4	4.0	4.7 ♣	18.9	15.6	7.7	5.5	6.8 ♣	
D	Nigeria	5.4	8.3	7.6	2.1	1.5 ♣	9.4	15.3	15.5	4.4	3.5 ♣	
	Kenya	4.6	5.3	5.5	4.7	5.0	9.7	11.4	11.9	8.6	7.3	

Notes: n.a. - not available; * - 1983; φ - 1987; ** - 1988; ♣ - 1991; Sources: Yearbook of National Accounts Statistics (UN, 1985, 1988, 1993)

Table III.3 Average annual growth rate of GDP, CVA, MVA, Population and Urban Population

Countries	GDP		CVA		MVA		Population		Urban Population		
	Average annual growth rate (%)										
	70 -- 80	80 - most recent	70 - 80	80 - most recent	70 - 80	80 - most recent	70 - 80	80 - most recent	70 - 80	80 - most recent	
A I Cs	U.S.	2.8	2.7	0.2	0.3	3.0	2.1	1.1	1.0	1.1	1.2
	Canada	4.6	2.6	4.4	1.5	3.5	2.3	1.4	1.2	1.4	1.3
I Cs	Finland	3.0	2.0	1.4	0.0	3.0	2.3	0.4	0.4	2.1	0.8
	U.K.	2.0	2.5	-0.4	1.1	-0.5	n.a.	0.1	0.2	0.2	0.3
N I Cs	Australia	3.0	3.1	2.0	-0.1	1.6	1.4	1.5	1.5	1.6	1.4
	Portugal	4.3	3.0	-0.4	2.0	n.a.	2.2	0.8	0.1	2.0	1.3
I Cs	Korea, Rep.	10.1	9.1	13.8	9.8	17.7	12.3	1.8	1.1	1.9	1.4
	Hungary	4.6	-0.1	5.9	-1.8	n.a.	0.6	0.4	-0.4	1.9	0.5
L D Cs	Malaysia	7.9	6.2	9.5	4.7	11.7	10.3	2.4	2.5	4.6	4.2
	S. Africa	3.2	0.9	1.2	-1.9	2.7	-0.2	2.6	2.2	2.7	2.7
L D Cs	Botswana	14.5	9.6	0.0*	5.6	22.9	8.6	3.5	3.4	9.4	7.6
	Zimbabwe	1.6	2.7	-4.2	-5.8	2.8	2.2	3.0	3.2	5.8	5.6
D Cs	Zambia	1.4	0.9	-1.7	-3.4	2.4	4.2	3.1	3.4	5.9	3.8
	Nigeria	4.6	2.7	8.9	-8.2	5.2	n.a.	2.7	2.9	5.7	5.5
	Kenya	6.4	3.8	2.7	1.0	9.9	4.7	3.6	3.3	8.1	7.0

Notes: n.a. - not available; * - 1973-1980; Sources: The same as in Table III.1; Yearbook of National Accounts Statistics: Main Aggregates and Detailed Tables (UN, 1992.)

III.3.2 Analysis and Discussions

Table III.1 presents GNP per capita in 1993 for 15 countries grouped according to their stages of economic development (AICs, NICs and LDCs), and measures of construction industry activity for 1992 or the most recent estimates. Beginning with CVA, it can be seen that the share of CVA in GDP varies widely across the countries sampled. From 15.1% in Rep. of Korea to 1.5% in Nigeria. Looking at countries grouped according to their development status, that variation is less pronounced in the AICs but still noticeable in the NICs and the LDCs. In the former the percentage of CVA in GDP varies from 4.4 in U.S. to 6.9 in Australia. In the NICs from 2.7 in S. Africa to a spectacular 15.1 in Rep. of Korea. In the LDCs, CVA varies from 1.5 in Nigeria to 5.0 in Kenya (also as a percentage of GDP). Now looking at the evolution of CVA during the reference period, Table III.2 shows a somewhat erratic behaviour of the share of CVA in GDP but a trend of decline is evident in all income groups, particularly from 1980 onwards. The exceptions are the top countries in tier 2 - Portugal and Rep. of Korea. It also can be seen that, in the LDCs, Botswana has throughout the period of analysis a highest share of CVA in GDP than the remaining countries in tier 3. It should be noted, however, that the share of CVA (and also GFCFC) in GDP are presented in current prices, and an increase (decrease) in their share in GDP does not necessarily mean that CVA (or GFCFC) increased (decreased) in real terms. They reveal, nonetheless, the extent to which the construction industry contributed to the national economy at a given point in time.

The pattern described above generally holds for the contribution of GFCFC to GDP. However, in the AICs, Finland changes position with Australia, and has the highest value (19.6% in 1975) in this indicator during the period of reference (except for most recent). Canada ranked second during the period of analysis and first for most recent (11.6% of GDP). In the LDCs, Botswana - the top country in tier 3, ranked first. In the last country, the contribution of GFCF to GDP decreased from 26.0% in 1973 to 9.2% in 1985 followed by an increase to 19.3% of GDP in most recent. In the remaining LDCs, and for the period 1970-1980, GFCFC (as percent of GDP) increased in Nigeria and decreased in Zimbabwe (from 1975) and Zambia. In the period 1980-most recent,

this indicator experienced a marked decline in all LDCs (except Botswana in the period 1985- most recent), following the pattern of CVA in the same period. The analysis of the countries in tier 2 provides mixed results as regards the evolution of the share of GFCF in GDP: an increase in Rep. of Korea throughout the period of analysis; an increase in the remaining countries in the period 1970-1980 was followed by a decrease in the period 1980- most recent (in S. Africa from 1975 onwards).

Now looking at the ratio of CVA over GFCFC, Table III.1 shows that its values across the countries sampled are less skewed when compared with both the percentage of CVA and GFCFC in GDP, a fact observed by Turin (1973). A close observation at Table III.2 shows that this pattern does not significantly vary throughout the reference period. The mean for the whole sample, and within groups, is around 50%.

As regards the employment in construction, Table III.1 indicates that the employment in construction (as a percentage of EAP) is generally higher than the percentage of CVA in GDP. This is consistent with the view (Moavenzadeh and Koch Rossow, 1976; Bon, 1991) that the construction sector is less productive than the rest of the economy (for a dissenting view on this issue, see, for example, Rosefield and Mills, 1979). It could also be said (according to the results shown in the last-mentioned table) that the labour productivity in construction in Rep. of Korea, Zambia and Zimbabwe is higher than in the remainder of the economy. In all likelihood it is the case of Rep. of Korea. Indeed, according to figures taken from Ganesan (1994), the value added in construction per employee (US\$) in 1991 in Rep. of Korea was far ahead of other middle-income economies, and approached the AIC's level. If these figures are adjusted for the comparative levels of GNP per capita, this country has probably the most productive construction industry in the world. However, Table III.2 also suggests that the wages pertaining to the construction industry in R. of Korea has been increasing as indicated by an increasing CVA/GFCFC ratio during the period of analysis. This is consistent with Chang's (1988) finding that construction industry wages in Rep. of Korea are extremely high when compared with other middle- income economies. In the cases of Zimbabwe and Zambia, the low values in employment figures may be attributed to different accounting procedures prevailing in these countries. Indeed, it is well known that data on employment - particularly in less

developed countries - are, apart from their paucity, less reliable when compared with data on other indicators of economic activity (for a better understanding of different accounting procedures pertaining to employment, (see ILO, various years: op. cit.).

Now, let us look at the evolution of CVA and GDP in real terms in different country groups. Beginning with the AICs, Table III.3 indicates that GDP per capita increased in all countries throughout the period of analysis. The annual growth rate of GDP ran generally 2% ahead of the annual growth rate in population. It is also shown that the annual growth rate of CVA was less than the annual growth rate of GDP during the same period. Another important feature worthy of note is that the latter indicator increased absolutely throughout the period, with the exception of U.K. in 1970-1980 (annual growth rate of -0.4%), and Finland and Australia in the period 1980-most recent (annual growth rate of, respectively, 0% and -0.1%).

Again, the analysis of the NICs provides mixed results. In all countries, GDP per capita increased in the period 1970-most recent with the exception of S. Africa which experienced a decreasing growth in 1980-most recent. Regarding the evolution of CVA, and for the period 1970-1980, Table III.3 shows that this indicator increased relatively in Rep. of Korea, Hungary and Malaysia, decreased relatively in S. Africa, and decreased absolutely and relatively in Portugal. A relevant characteristic in the NICs' construction industry development pattern is quite noticeable for the period 1980-most recent: CVA decreased relatively in all countries of this group with the exception of Rep. of Korea. The results shown here for the latter period contradict Wells'(1986) assumption that postulates that the growth rate in CVA would be greater than the growth rate in GDP. In fact, CVA not only did not relatively increase but did just the contrary. Furthermore, the same behaviour was also observed in Portugal and S. Africa in the period 1970-1980. The results from the latter country are consistent with Merrifield's (1994) view that that trend started well before the 1980s which coincided with a period of great political instability in S. Africa.

Now looking at the evolution of CVA and GDP per capita in the LDCs, it can be seen that GDP per capita increased in Botswana and Kenya in the period 1970-most recent and decreased in Zambia and Zimbabwe during the same period. In Nigeria, an

increase in GDP per capita in 1970-1980 was followed by a decrease in the period 1980-most recent. Regarding the evolution of CVA, Table III.3 shows that, in the period 1970- most recent, it decreased relatively in Botswana and Kenya and absolutely and relatively in Zambia and Zimbabwe. Nigeria is a case in point, and is quite often cited in literature (e.g. World Bank, 1994a, 1994b) as an example of a country that pursued an over- expenditure investment programme during the oil boom period (1973-1980). CVA increased relatively (4.3% per annum) in 1970-1980 which corresponded to a period of increasing growth in GDP per capita, and experienced a strongly absolute and relative decline in the period 1980-most recent, -8.2% and -10.9% per annum, respectively. The most relevant characteristic of the behaviour of the CVA in the period 1980- most recent is that it decreased relatively in all LDCs even in those (Botswana and Kenya) in which GDP per capita increased in the same period.

III.4 Concluding Remarks

The role of construction in the process of economic growth and development is by no means clearly understood. Many reasons could be cited, two of them seem particularly relevant: i) the lower attention paid to the construction sector by institutional bodies and other development-assistance agencies since roughly the early 1980s (in comparison, for example, with the manufacturing and transport sectors); ii) the lack of research, as far as low-income economies are concerned, that employs input-output tools in the study of the construction industry and its role in national economy (Bon, 1991). As regards the latter, it is only with the use of that instrument of economic analysis that is possible to have a whole picture on the interdependence between the construction sector and other sectors forming the national economy, particularly the relationship between the construction sector and the sub-sector of the building materials industry. A reasonably disaggregated input-output tables pertaining to the construction sector would enable governments in their national medium- to- long term plans to choose between different alternative strategies for the development of the building materials industry.

The relatively long-run evidence presented here provides no support to existing assumptions that directly relates the measures of construction output with GDP per capita in an increasing form of income per capita level. True, the share of construction in GDP tends to be greater the higher the level of a country's per capita income. However, looking at the evolution of these economic indicators during the period of analysis, and for a given country, the underlying relationship does not generally hold for the period 1980-most recent estimates, particularly in the middle -to- high income range. For the period 1970-1980, the analysis presented here provides mixed results- construction volume decreased relatively in the AICs and increased relatively in the NICs as a whole. These results seem to corroborate Bon's (1992) assumption that predicts a declining share of construction in national output in the last stages of economic development. Indeed, the rate of growth in construction output started to decelerate in the NICs and declined in AICs throughout the period of analysis (see also the discussions of the results of the questionnaire-surveys of Angola and Mozambique in section VII.5). The results from the LDCs are even more impressive. In all countries, the growth rate in construction was less than the growth rate in GDP during the period 1970-most recent estimates (except for Nigeria in the period 1970-1980, in which construction output increased both absolutely and relatively). However, in the countries in which GDP per capita increased in the period of analysis (Botswana and Kenya), there was an absolute increase in construction volume in the same period.

The results pertaining to the LDCs are consistent with the findings provided in Chapters V and VI that postulate a dual pattern of the construction industry in developing countries: in countries which experienced a decreasing growth pattern in the period 1980-1992, both construction volume and its share in growth output declined; in countries which experienced an increasing growth in the same period, the rate of growth in construction output tends to generally follow the rate of growth in GDP.

Although the sample of countries used in this analysis is relatively small, it represents a comprehensive picture of the pattern of the construction industry in the period of analysis, both of the world and of different income groups (see, for example, data on

CVA for the period 1970-1989 presented in *National Account Statistics: Main Aggregate and Detailed Tables*, UN, 1992). The striking results presented here about the underlying development patterns, particularly those pertaining to the period 1980-most recent estimates, call attention for further research into construction macroeconomics, both at country, regional and world levels.

CHAPTER IV

The Macroeconomic Framework in Sub-Saharan Africa Post- 1970

IV.1 Introduction

Africa south of the Sahara has been experiencing a long-term economic crisis, which has no precedent in the modern economic history since the Second World War.

Although exceptions can be pointed out, as in the cases of Botswana and Mauritius which improved steadily their economies with a high growth rate in GDP per capita, Sub-Saharan African countries, in general, suffered an economic stagnation in 1970s and a strong decline in the last decade. This is pictured in different economic indicators and the worsening in the standard of living of its population.

Between 1961 and 1987, the annual average growth rate of gross domestic product (GDP), at 1987 constant prices, was 3.4%¹, slightly higher than demographic growth (WB, 1989). However, this increase was not even and three remarkably different periods can be disclosed:

1) 1961-1972, a period of remarkable growth in GDP per capita that coincided with the late stages of the “golden age” of the world economy.

¹ Excluding South Africa

2) 1973-1980, stagnation in national income per capita, increasing external debt and loss in the terms of trade.

3) 1981-1987, strong economic decline, obsolescence and ageing of production equipment, financial and budgetary crisis, and heavy dependence on external aid.

Agriculture, particularly important for Africa's growth, did worse than did other sectors of the economy. Between 1965 and 1980, agricultural growth increased 2% a year, less than population growth, and fell 0.6% a year between 1981 and 1985. Exports of agricultural products (80% of Sub-Saharan Africa's export revenues) became even more concentrated in a few products (WB, 1994a).

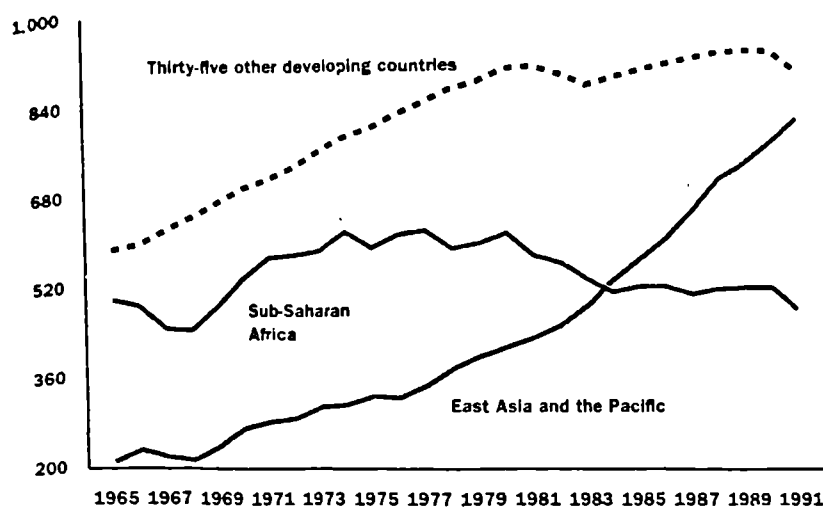
By the mid of 1980s, the symptoms of the crisis were evident in all structure of economic and social activity, in most of the region. The returns on investment projects promoted by international bodies were much lower in Sub-Saharan Africa than in other regions. A study published by the World Bank found that a quarter of the projects financed by this institutional body and its affiliates failed to generate even a positive rate of return (WB, 1994a). Further, foreign private capital shifted away from Africa as investment become less competitive in comparison with other regions, despite cheap labour and abundant raw material. The physical and industrial infrastructure deteriorated from lack of repair and maintenance. Renovation of agricultural crops in order to take advantage of the "green revolution" was systematically postponed. Social indicators (health and education) though better than in the early 1960s (the upsurge in independence of African countries) stagnated in 1980s.

Compared to other developing regions, the economic performance in Sub-Saharan Africa, since 1960s, appears no less than dramatic (Fig. IV).

The causes for this poor performance are not easily explained. Note that this issue fits well in the central insight of the growth theory discussed in Chapter II. Some writers (WB, 1994a, 1994b; IMF, 1994a) find that the main factors behind the economic stagnation and decline in the region were poor government policies - both

macroeconomic and sectoral- emanating from a development paradigm that gave the state a prominent role in production and in regulating economic activity Thus, overvalued exchange rates and large and continuous budget deficits undermined the macroeconomic stability required for long- term economic growth and development. Further, protectionist trade policies, the absence of private financial institutions, government monopolies, reduced the salutary competition in the market.

Fig. IV Evolution of GDP per capita in Developing Countries
(US dollars, 1987 constant prices)



Source: World Bank (1994a)

Industrialisation (see Chapter II) was believed to be the key determinant for rapid economic growth. It is worth noting that many sub-sectors of the manufacturing industry in Sub-Saharan Africa rely heavily on import content (equipment and intermediate products). Often, especially in more intensive capital industry, national value added had been negative (UNIDO, 1987). Agriculture was heavily taxed to provide the resources to build a modern industrial sector. This added to an overvalued exchanged rate caused a disincentive for the part of the private sector of the economy in increasing and exporting agricultural products.

Since the publication of the *Brandt Report*² in 1980 (named after the late Chancellor of the former West Germany) there has been an increasing concern, mainly for the part of institutional bodies (United Nations special agencies and Bretton Woods institutions) and other international development-assistance agencies, in tackling the worrying situation in almost one continent. Based on the successful experience of Eastern Asian economies, the *Structural Adjustment Programmes (SAPs)* for Africa, with the support and guidance of the WB and IMF have been implemented, throughout the 1980s and particularly since 1987³, in most Sub-Saharan African countries. The phrase “structural adjustment” is a nebulous concept used by many as a synonym for appropriate development policy and treated as a good and necessary thing in itself (Mosley, 1991: p. 223). However, structural adjustment is a development policy which aims at achieving a boost in the supply side of an economy by the removal of market imperfections, usually through the reduction of state intervention. It is distinct from, and in Sub-Saharan Africa commonly preceded by, *stabilisation* which seeks to control the demand-side of the economy. These policies have produced mixed results according to a World Bank (1994a) study on 29 Sub-Saharan African countries that have implemented the SAPs. However, in some countries (e.g. in Mozambique) some remarkable successes have been achieved. (WB, 1993)

This chapter is divided in 4 parts. Part I presents most recent demographic and macroeconomic trends in Sub-Saharan Africa. In part 2, a brief comment on inter-African co-operation is presented. Next, important world events that have had a great impact in Sub-Saharan Africa are outlined. Finally, a concluding remark summarises the analysis of this chapter.

² Thirlwall, op. cit., p. 7

³ Several African countries had already, by then, started adjustment programmes under the guidance of the IMF and the WB (WB, 1994a).

IV.2 Demographic and Economic Indicators of Sub-Saharan Africa

This section presents most recent macroeconomic and demographic trends of the Sub-Saharan Africa region. Data are presented in a disaggregated form, as follows: Sub-Saharan Africa (SSA); Nigeria; South Africa; and Sub-Saharan Africa excluding S. Africa and Nigeria- SSA (exc. SA and Nig.). This methodology is similar to that adopted in *African Development Indicators* published by the World Bank (1989b, 1992b, 1995b). As can be seen in tables below, Nigeria and South Africa have a highly significant weight in Sub-Saharan Africa, either in terms of their share of total output and in total population of this region. It is worth noting that S. Africa was not, until recently, included in the regional group (Sub-Saharan Africa) of the institutional bodies (United Nations and World Bank) grouping of economic development. Data are based on *World Development Report* (WB, 1986), *African Development Indicators* (WB, 1995b) and OECD (1994).

IV.2.1 Demographic and Social Trends

Tables IV.1 to IV.4 present demographic and social indicators for the Sub-Saharan African region in the period 1980- most recent. One must begin stressing that although Nigeria and South Africa are not the largest countries in Sub-Saharan Africa, they have (as shown in Table IV.1) a highly significant weight in terms of total population in this region, ranking first and third respectively. Added together these countries accounted for just above 26% of total population of SSA in 1992. The rate of increase in population in SSA, and also in Nigeria and S. Africa, shows a trend of stagnation throughout the period 1980-1992. As can be seen in Table IV.3, the crude birth rate and the crude birth rate present a similar trend of decline in all the aforementioned sub-groups. The annual average growth rate in the whole region was just over 3% compared with an annual average rate of 2.3% in the low- and middle-income economies. As regards the percentage of urban population in total population, S. Africa and Nigeria also are far ahead of SSA, particularly S. Africa in which this indicator reached about 50% in 1992 compared with 29% in SSA and 36.8% in Nigeria. However, using data back to 1965 (WB, 1986) we find that the

percentage of urban population in total population in SSA varied from 15% in 1965 to about 29% in 1992, almost doubling in 27 years time. This increase was unusually high when viewed in the context of the history of today's more advanced economies. As Berry (1973: pp. 74-75) writes.

*In the west, urbanisation involved gradual innovation and interdependent economic and social change spanning more than a century. Contemporary Third World urbanisation involves greater numbers of people than it did in the west. Migration is greater in volume, and more rapid. Industrialisation lags far behind the rate of urbanisation*⁴...

The high increase (even far higher in the largest cities) in urban population has not been accompanied by a comparative level of growth in the industrial sector and an upgrading in urban facilities. This put a strain in existing urban infrastructure which, added to the lack of repair and maintenance, led to its under-capacity and deterioration.

Another consequence of this peculiar process of urbanisation, and to a greater extent, of the entire process of development is revealed in the pattern of employment. As suggested in Table IV.2, the rate of increase in the labour force in the period 1980-1990 was about 2.5% per year in SSA and Nigeria, less than the rate of increase in total population. Table IV.2 also shows that the percentage of population of working age in total population decreased from 43.6% in 1980 to 41% in 1990. These trends indicate that the percentage of inactive persons (particularly persons aged 10 years or less) have been increasing and may suggest that some of the labour force decided (in the statistical sense) to be inactive. It appears that the latter see no point in looking for employment, or have been engaged in the subsistence sector of the economy.

As regards the trends in the education sector, Table IV.4 shows that number of persons enrolled in primary education as percentage of age group decreased throughout the period 1980-1992, from 70% and 104% in 1980 to 65% and 72% for respectively SSA (exc. SA and Nig.) and Nigeria. The huge decline of this indicator

⁴ As cited in Bon, 1992: p. 121)

in Nigeria, may be overestimated as suggested by its value of more than 100% in 1980. It can be derived from technicalities of statistical measurement, e.g. the age group band adopted by the official authorities in 1992 may have been larger (more realistic) than that used in 1980. Alternatively, it could be seen as a dramatic fall that followed a period of heavy investment in education, for that indicator increased from 32% in 1965 to 104% in 1980, compared to a general increase in SSA (exc. S. A. and Nig.) from 40% to 70% in the same period (WB, 1986). The evolution of persons engaged in secondary school follows, in the two above-mentioned sub-groups, a similar trend in the period 1980-1992. An increase from 14% and 15% in 1980 to 17% and 20% in 1992 respectively for SSA (exc. SA and Nig.) and Nigeria. These values are remarkably low when compared with the average of the low-income economies. Nevertheless, contrary to primary school enrolment, the percentage of people enrolled in secondary education did not decrease in the period referred to, not least because secondary school enrolment has the cost advantage of being concentrated in towns and cities.

Table IV.1 Area and Population

	Area (000's square Km)	Total Population (millions)			Urban Population (% of total population)		
		1980	1986	1992	1980	1986	1992
SSA	23,632	380.1	453.3	541.4	23.4	26.2	29.4
Nigeria	911	71.1	85.7	101.9	27.1	31.9	36.8
South Africa	1,221	29.5	34.4	39.8	48.1	48.5	49.8
SSA. exc. SA. and Nig.	21,500	279.4	333.2	398.9	22.4	22.4	25.4

Note: SSA - Sub-Saharan Africa; SSA exc. SA and Nig. - Sub-Saharan Africa excluding South Africa and Nigeria. Sources: WB (1995 b)

Table IV. 2 Labour Force

	Total labour force (000's)			Percentage of population of all ages in the labour force		
	1980	1985	1990	1980	1985	1990
SSA *	154,506	173,382	195,463	43.6	42.3	41.0
Nigeria	31,200	35,300	40,100	39.8	39.8	36.9
South Africa	..	..	..	..	..	..
SSA exc. SA and Nig.	123,306	138,082	155,365	43.7	43.7	41.1

Note: .. - not available; * - excluding South Africa; Sources: WB (1995 b)

Table IV.3 Components of Population Change

	Crude birth rate (per thousand)			Crude death rate (per thousand)		
	1980	1986	1992	1980	1986	1992
SSA	47	46	44	17	16	15
Nigeria	50	45	43	17	15	14
South Africa	33	36	31	11	10	9
SSA exc. SA and Nig.	48	47	45	18	16	16

Source: WB (1995 b)

Table IV.4 School Enrolment Ratios

	Primary school (percent)			Secondary school (percent)		
	1980	1986	1992	1980	1986	1992
SSA *	77	66 ♣	66	15	17 ♣	18
Nigeria	104	..	72	19	..	20
South Africa	..	..	..	..	..	..
SSA exc. SA and Nig.	70	66	65	14	17	17

Notes: .. - not available; * - excluding S. Africa; ♣ - excluding Nigeria; Source: WB (1995 b)

IV.2.2 Macroeconomic Trends

This section presents some macroeconomic indicators for all the four sub-groups of Sub-Saharan Africa described above. The period of analysis is the period between 1975 and 1992/1993. Apart from data on net ODA which are drawn from OECD (1994), all data and indicators presented in tables below are, for reasons of uniformity, based on *African Development Indicators* (WB, 1995b).

The first relevant characteristic observed in Table IV.5 is the huge difference between the level of GNP per capita in S. Africa and the remaining three other sub-groups of Sub-Saharan Africa. The GNP per capita of the former is more than five times as high as that of SSA and about eight times as high as of SSA (exc. SA and Nig.) and Nigeria. Indeed, in Sub-Saharan Africa, only Botswana, Gabon and Mauritius, apart from the tiny islands of Seychelles, approaches the level of per capita income of South Africa.

Regarding external aid, net ODA (grants and concessional financial flows) represented, in 1992, about 13% of the GNP of SSA (exc. SA and Nig.), and was insignificant in Nigeria. It is assumed that owing to the development status of S. Africa, this country has not been eligible for that kind of external financing. As the case of Nigeria suggests, the flows of ODA in Sub-Saharan Africa have not to do with the level of per capita income of a particular country, and varied widely (as can be seen in Table V.1, Chapter V) throughout the region.

Table IV.5 GNP per capita and External Transactions

	GNP per capita (US\$) 1992	Net ODA p. c. (US\$) 1992	External Debt p. c. (US\$) 1992
SSA	530	36*	363*
Nigeria	330	3	319
S. Africa	2,828	..	..
SSA exc. SA and Nig.	352	45	371

Notes: * - excluding S. Africa; Sources: WB (1995 b); OECD (1994)

This heavy dependence on external aid (excluding S. Africa and Nigeria, total external debt reached, in 1992, 105% of GNP) is better understood looking at the evolution of the terms of trade. As shown in Table IV.6, all the four sub-groups have faced significant losses in the terms of trade in the period 1980-1992. Taking the year 1987 as base, these indices varied in SSA from 147 in 1980 to 88 in 1992, and for Nigeria and S. Africa, the variation was respectively from 186 and 140 in 1980 to 84 and 104 in 1992. In Nigeria the loss was particularly striking, for this country relies much on the export of oil which was a very volatile product in the international market throughout the last decade.

According to WB (1994a), total official development assistance (ODA) directed at Sub-Sub-Saharan Africa in the period 1980-1991 was less than the loss faced by the region due to the decrease in the terms of trade during the same period. Moreover, foreign currency derived from ODA and trade does not say the same thing, so that the use of the former is subject to varied conditionalities of each lender country or institutional body.

Table IV.6 Evolution of the Terms of Trade

	Index 1987 = 100					
	1980	1984	1985	1987	1989	1992
SSA.	147	128	120	100	100	88
Nigeria	186	185	167	100	85	84
S. Africa	140	114	105	100	111	104
SSA. exc. SA. and Nig.	128	120	115	100	95	79

Source: WB (1995 b)

The evolution of gross domestic product (GDP) and its structure for the period 1975- most recent estimates are presented in Tables IV.7 to IV.10. Agriculture comprises agriculture proper, fishing and livestock. Industry comprises mining, manufacturing,

construction, electricity and water. The services sector is a residual that includes government services.

Beginning with GDP, Table IV.7 shows that the economic performance in SSA present two distinct patterns in the period 1975-1993. An increasing growth in the period 1975-1979 in which the growth rate of GDP was roughly the same of population; the period 1980-1993 which corresponds to a decreasing growth in GDP per capita, despite an insignificant recovery of 0.5% per year in the rate of growth of GDP from 1986 onwards. The remaining three sub-groups performed differently throughout the latter period. In Nigeria, the rate of growth of GDP was -2.7% per year in 1980-1985 followed by a remarkable growth in the period 1986-1993 in which GDP increased 5% per year. For S. Africa and SSA (exc. SA and Nig.), the rate of growth of GDP declined throughout the period 1980-1993. From 1.9% and 2% in 1980-1985 to 0.9% in the period 1986-1993, for respectively S. Africa and SSA (exc. SA and Nig.).

Table IV.7 Change in Gross Domestic Product

	Millions of US\$ 1987 constant prices			Average annual percentage growth		
	1980	1985	1993	1975-79	1980-85	1986-93
S.S.A.	211,420	223,763	256,154	2.9	1.3	1.8
Nigeria	30,336	26,704	37,743	2.7	- 2.7	5.0
S. Africa	74,142	79,241	84,642	2.0	1.9	0.9
SSA. exc. SA and Nig.	106,327	117,794	133,576	3.6	2.0	1.6

Source: WB (1995 b)

Now looking at the sectoral division of the economy, it can be seen in Tables IV.8 to IV.10 that agriculture performed, in all sub-groups, worse than did the other sectors in the period 1975-1993. Indeed, even in the period 1975-79 where industry and services performed relatively well in all sub-groups, the rate of growth in agriculture varied from -2.7% per year in Nigeria to 2.2% per year in SSA (exc. SA and Nig.).

Further, in the period 1975-1985, the growth in agriculture declined not only relatively in SSA, Nigeria and S. Africa but also stagnated in SSA and declined absolutely in the latter two in the period 1980-1985. The recovery that took place in the period 1986-1993 did not match (except in Nigeria) the rate of growth in population.

In industry, a different evolution was observed during the period of analysis. The average rate of growth in the industrial sector in SSA and Nigeria varied respectively from 3.0% and 5.8% in 1975-79, 0.5% and -5.8% in 1980-1985 to 1.3% and 4.2% in the period 1986- 1992. The recovery in the latter period in Nigeria was due to an increase in oil production, which have a huge impact both in the services sector and GDP. In S. Africa, the rate of growth in industry decreased continuously throughout the reference period, from 2.2% per year in 1975-79 to 0.1% in 1986-1992. Industry deserves a special note so that data are not disaggregated in its different components. As shown in Table IV.9, industry value added in South Africa was higher than in SSA (exc. SA and Nig.) for all the benchmark years and contributed about 44% to the total value added in industry of the region in 1992. Further, in Sub-Saharan Africa, only S. Africa and Zimbabwe have a real manufacturing industry - the noble component of the industrial sector. In 1989, the value added in manufacturing of, respectively, S. Africa and Zimbabwe, represented 24% and 25% of the GDP and contributed 55% and 64% to the total value added of the industrial sector. In the remaining Sub-Saharan African countries, the mining sub-sector dominates the industrial sector or the share of industry in GDP is not significant- about 23% in SSA (exc. SA and Nig.). Apart from the weak industrial structure prevailing in Sub-Saharan Africa, the fact that remains of the behaviour of the industrial sector in the period of reference is an increase in 1975-1979, in which this sector grew roughly with the same rate of GDP, followed by a relative decline from the period between 1980 and 1992.

The services sector has a development pattern similar to that of the industry. In all sub-groups, the rate of growth in services increased in the period 1975-79. In this period which coincided with the latest period of heavy investment in health and

education (WB, 1994a), the rate of growth was 4%, 7.2%, and 2.2% in respectively SSA, Nigeria and S. Africa. From the period 1980-1992, the rate of growth experienced a relative decrease in all sub-groups except in Nigeria. In the latter, the rate of growth was from 1.4% per year in 1980-1985 to a remarkable 6.3% per year in the period 1986-1992. It is important to note the association between the rate of growth of the industrial sector in Nigeria and the rate of growth of the services sector. Like in many mineral-dependent economies (see also the case of Angola in Chapter VII), the oil sector has had a huge impact on the Nigerian economy not only for foreign currency earnings but also on the level of taxes and duties, and consequently on government services.

Table IV.8 Change in Agriculture

	Millions of US\$ 1987 constant prices			Average annual percentage growth		
	1980	1985	1992	1975-79	1980-85	1986-92
SSA.	47,103	47,211	54,493	0.9	0.0	2.2
Nigeria	9,726	9,232	12,637	-2.7	-1.4	4.5
S. Africa	4,222	4,237	3,817	1.6	-1.5	0.0
SSA. exc. SA. and Nig.	33,011	33,822	38,135	2.2	0.7	1.7

Source: WB (1995 b)

Table IV.9 Change in Industry

	Millions of US\$ 1987 constant prices			Average annual percentage growth		
	1980	1985	1992	1975-79	1980-85	1986-92
SSA.	69,877	70,495	76,026	3.0	0.5	1.3
Nigeria	12,581	9,685	11,885	5.8	-5.8	4.2
S. Africa	33,436	33,545	33,158	2.1	0.6	0.1
SSA. exc. SA. and Nig.	23,214	27,138	30,977	2.7	3.8	2.0

Source: WB (1995 b)

Table IV.10 Change in Services

	Millions of US\$ 1987 constant prices			Average annual percentage growth		
	1980	1985	1992	1975-79	1980-85	1986-92
SSA.	80,417	92,720	107,039	4.0	3.0	2.0
Nigeria	6,948	7,402	10,973	7.2	1.4	6.3
S. Africa	30,037	34,730	38,560	2.2	3.5	1.4
SSA exc. SA and Nig.	43,384	50,558	57,588	4.9	2.9	1.9

Source: WB (1995 b)

Table IV.11 Change in Gross Domestic Investment

	Percentage of GDP			Annual average (% of GDP)		
	1980	1985	1993	1975-79	1980-85	1986-93
SSA.	23.8	14.9	15.7	24.6	20.1	17.4
Nigeria	22.2	9.0	18.2	26.9	16.5	15.1
S. Africa	30.8	20.3	15.1	27.9	26.7	18.3
SSA exc. SA and Nig.	19.9	16.8	16.6	20.9	18.1	17.5

Note: Mr - most recent estimates. Source: WB (1995 b)

Regarding the evolution of gross domestic investment (GDI), Table IV.11 shows that the evolution of this indicator in the reference period follows, in the main, a pattern similar to GDP and industry. In SSA, the annual average of GDI (as a share of GDP) was 24.6% in 1975-1979, 20.1% in 1980-1985 and 17.4% in the period 1980-1993. In Nigeria and S. Africa, and for the same periods, the annual average of GDI was, respectively, 26.9% and 27.9%, 16.5% and 26.7%, and 15.1% and 18.3%. Particularly striking are the cases of Nigeria and S. Africa, where the decline in industrial production was more significant. In the former, GDI (as a share of GDP)

decreased from 22.2% in 1980 to 9% in 1985 followed by an increase to 18.2% in 1993. In the latter, GDI declined continuously from 30.8% in 1980 to 15.1% in 1993.

Once more, the weight of Nigeria in Sub-Saharan African economy is noticeably exposed. Excluding these two countries, the annual average of GDI in Sub-Saharan Africa was 20.9% in 19875-1979, 18.1% in 1980-1985 and 17.5% in 1986-1993.

IV. 3 Inter -African Co-operation

The association between various national economies has been increasing since the Second World War, with the defeat of nationalism which were in its genesis. The ease and speed of transport and communications have, also, universalised problems and events, previously considered as a national matter of concern.

Neighbourhood among countries was no longer a threat, rather it is being considered a possible partnership in co-operation projects. Thus, gains of scale could be achieved in order to improve competitiveness in a more and more global market. However, it was the success of the European Economic Community that consolidated this trend and spread it to other continents.

Africa is a continent of artificial frontiers which were fixed in the 1885 Berlin Conference, according to the interests of European powers. This partition (Africa is a continent that has many countries without access to the sea), without any connection with nations, ethnic groups and African cultures, is quite often an obstacle to development, if not a source of tension between neighbouring countries.

Sub-Saharan Africa can, in general, be divided into three great regions: West Africa which extends to the limits of the Sahara; Central Africa which groups the states in the vicinity of the river Zaire basin; and East and Southern Africa which extend from the Cape of Good Hope in South Africa up to Eritreia.

Following these natural divisions that had differentiated people and culture, four great groupings of nations have been formed since the 1960s.

ECOWAS - Economic Community of West African States which includes CEAO (Communauté Economique de L'Afrique Occidentale- Economic Community of West Africa) comprised mainly of French-speaking countries.

UDEAC- Union des États de l'Afrique Central (Union of Central African States).

COMESA- Community of East and Southern Africa. This regional group, formerly PTA- Preferential Trade Area for East and Southern Africa, includes East Africa and most Southern African countries.

SADC- Southern African Development Community, which comprises all 11 countries of Southern Africa and the Indian ocean islands of Mauritius. It is worth noting that, all countries forming SADC, with the exception of Botswana and South Africa, belong to COMESA.

These economic associations which aimed at leading to the integration of different regional markets and ultimately towards a total economic unification, have been, in the main, unsuccessful. Three phases were envisaged in the initial project: free trade areas towards a customs union and ultimately to an economic community.

Proposals and negotiations for the establishment of free trade areas have encountered serious difficulties, whereas the others phases of economic integration are systematically postponed. Apart from the political and administrative difficulties, there are also several economic objections to a union (Meier, 1984: p.563). He observed:

...To begin with, it may be argued that the case for an economic union is in reality weak when the constituent countries have not yet established many industries. Limitations on the supply side may be more of a deterrent to the creation of an industry than is the narrow market on the side of demand. If production conditions do not also improve, the mere extension of the common market will be not sufficient to create new industries.

Due to these difficulties, an other co-operation strategy has been devised. It envisages greater flexibility to the integration process without turning away its aims. It will begin with bilateral or multilateral agreements in specific projects concerning two or more countries (e.g. in the area of scientific research, transport and energy, as it is happening in the SADC region or monetary arrangements in Franc CFA area). These agreements might be broadened, but in any case may affect economic interests of other countries, rather they should be integrated in the economic strategy of the whole region (Oliveira, 1992). The creation of CPLP (Community of Portuguese-speaking countries) in 1996, which comprises 5 Portuguese-speaking countries, Portugal and Brazil can be seen as a case in point that embodies the above strategy. Thus, these African countries can benefit as a group (hence achieving gains of scale) from the co-operation with most advanced economies of Portugal and Brazil, particularly in the areas of education and transfer of technology.

IV. 4 Significant Events

In this section, significant world events, since 1973, that have had a great impact in Sub-Saharan Africa are presented. Other political events pertaining to this region, particularly the Southern Africa sub-region, are outlined.

1973/1974 - First Oil Shock

The Organisation of Petroleum Exporting Countries (OPEC) enforced in 1973-1974 a large rise in the world price of oil. This event was in its genesis of a political nature. It began with an oil embargo imposed by the Middle East States on countries supporting Israel in the Yon Kippur War. Economic reasons also play an important role. At the time, OPEC was dominant in the world market of oil and found that they had not had value for money for their important asset. Indeed, the real prices of oil in the international market had been continuously decreasing since the World War II.

The immediate effect of this rise in oil prices was a worldwide fall in output in 1973-1975, a slowdown in the rate of growth that world economy had been experiencing

since 1945 (Maddison, 1987; World Bank, 1991a), and the beginning of economic stagnation in Sub-Saharan Africa

1974/1975 - Independence of Five Portuguese-speaking Countries of Africa.

After a coup d'état in Portugal in 1974, Guinea-Bissau became self-ruled in 1974, followed by Angola, Cape Verde Islands, Mozambique and São Tomé and Príncipe in 1975. These events marked the end of the European colonial rule in Africa.

1975 - Lomé Convention

The European Union (formerly European Economic Community) and developing countries of Africa, Caribbean and Pacific (ACP) signed an agreement in 1975 on a preferential system of tariff and trade. The base of this agreement called for an introduction of the so-called generalised system of preferences (GSPs) on manufacturing products of the ACP countries. Although, this group is not, at present, an important trading partner of the European Union anymore, some experts in development policies find that without Lomé Convention the development pattern of Africa might have been much worse.

1979-1981 - Second Oil Shock and International Debt Crisis

After a stabilisation in the real price of oil in the period 1975-1978, OPEC brought a second large rise in world oil prices, this time from about US\$ 13/barrel to about US\$ 30/barrel. As in the first case, political factors play a major role in this event (Grimwade, 1989). The revolution in Iran threatened an interruption in world oil supplies, and fear for another shortage caused oil consumers to increase their stocks of oil.

This time, the rise in the world oil prices caused a devastating effect in Sub-Saharan African countries. In the aftermath of the first oil crisis, developing countries were able to continue to borrow in the international banking system due to the "recycling" of the petro-dollars. Some, particularly in Latin America, had borrowed heavily and failed to comply with their debt services. The international banking system suffered a

rude shock and private capital flows directed at developing economies decreased dramatically (WB, 1991a).

Moreover, due to high inflation that followed the rise in oil prices, Western countries started to implement tight fiscal and monetary policies. World aggregate demand declined abruptly and primary commodity prices fell in the world market. Many African countries were hard hit by that recessive international economy, most of them have not yet reversed the path of economic stagnation or decline. Ironically, important oil exporters of Sub-Saharan Africa - Angola, Gabon and Nigeria, did not take advantage of the windfall gains in world oil prices.

1980 - Independence of Zimbabwe

Whereas some writers (such as Reynolds, 1985) find this event as a change of régime, 1980 is quite often referred to as the real date of the independence of Zimbabwe, formerly Southern Rhodesia.

Be that as it may, after the Unilateral Declaration of Independence (UDI), a white-minority government ruled the then Southern Rhodesia from 1964 to 1979. After a seven year civil war, a negotiated peace was achieved in 1979. Following elections, a new African-controlled government was installed in 1980.

This event went beyond the legitimate aspirations of self-governance for the majority of people of Zimbabwe. Neighbouring countries, namely Mozambique (see Chapter VI) and Zambia, could afford to lift the costly economic sanctions imposed on Southern Rhodesia, in accordance with a United Nations General Assembly resolution. In 1980, nine countries of Southern Africa, with the leadership of Zimbabwe, formed a regional block- Southern African Development Community (SADC), formerly Southern African Development Co-ordination Conference (SADCC), the main objectives of which were to foster economic co-operation among member states and tackle the burden of “economic and political dependence from South Africa”.

1986- United Nations General Assembly: Special Session

In June 1986 the United Nations General Assembly, in a special session, adopted a “Programme of Action for African Economic Recovery and Development”. This action taken by the General Assembly was in response to the situation in Africa, widely perceived in and out of Africa as a deepening crisis (WB, 1992b).

Since then, there has been an increasing interest, mainly for the part of the Bretton Woods institutions and United Nations agencies, in tackling and implementing that UN resolution. In 1989, the United Nations Development Programme (UNDP) and World Bank started to jointly publish the *African Development Indicators*. This publication, the most comprehensive set of data of the Sub-Saharan African economy, is intended to monitor development programmes and aid flows in this region of Africa. The *Structural Adjustment Programmes (SAP)* for Africa, earlier referred to, supported by the World Bank and International Monetary Fund have been implemented in most of Sub-Saharan African countries.

1994 - Change of Régime in South Africa

The change of régime in South Africa is undoubtedly a regional event in its own right. After long years of internal and international pressures (economic and political sanctions), the minority white-led government started, in the early 1990s, to negotiate with political representatives of the black majority. After the release from prison of the then vice-president of the African National Congress (ANC), a political agreement was concluded in 1993 and non-racial elections were summoned for 1994. A government of National Unity was formed in 1994 with the leadership of the ANC.

South Africa entered into a new era of its long and troubled history- “new South Africa”. Now, it is a full member of the United Nations Organisation, the Organisation of African Unity (OAU) and other international bodies. Furthermore, this country is an influential member of SADC and can be considered an “economic pole” of the Southern and South-eastern regions of the African continent.

IV.5 Concluding Remarks

The economic growth in Sub-Saharan Africa, although had never been spectacular, has increasingly been lagging behind, particularly since the early 1980s, the growth of other developing regions. Measured in terms of per capita GDP, the whole region had an annual average growth rate of 0% in 1975-1979, 1.7% in 1980-1985 and 1.3% in 1986- 1993. S. Africa and Nigeria have a highly significant weight in Sub-Saharan Africa economy. Excluding these two countries, the above figures change to 0.7%, -1.0% and -1.3% for, respectively, the same periods.

The decline in GDP per capita has been accompanied by a sharp decrease in the level of investment. From an annual average (as a share of GDP) of 24.6% in the period 1975-1979 to an annual average of 20.1% in 1980-1985 and 17.4% in the period 1986- 1993, in the whole region. Again, excluding S. Africa and Nigeria, the fall in the level of investment appears less dramatic: from an annual average of 20.9% in 1975-1979, 18.1% the period 1980-1985 to 17.1% in 1986- 1993, measured in terms of its share in GDP.

The sharp decrease in, practically, all levels of economic activity has been accompanied by a stagnation or decline in many indicators of welfare. The latter issue, particularly, has been a great concern of the institutional bodies and other international development-assistance agencies.

The two world oil shocks in 1973-1974 and 1979-1980 have had a great impact in Sub-Saharan economy: a continuous fall in the level of investment and a loss in the terms of trade. It is likely that the latter situation will remain for the near future.

The implementation of the *Structural Adjustment Programmes (SAP)* for Africa supported by the World Bank and International Monetary Fund have produced mixed results. Significant differences in the rates of growth within regions figure prominently in discussions of developing country growth (IMF, 1994b: p. 254). This also holds for Sub-Saharan Africa. Nevertheless, the general picture that emerges from this region is the persistence of an economic stagnation and decline, which has

no precedent in any region in the modern era. The drought in the early 1990s (the worst drought in Southern African history according to SADC, 1994) that affected the region, and political events of varied nature have added to the situation.

The spectacular growth in urban population has not been accompanied by a comparative level of growth in the industrial sector and urban facilities. Rapid urbanisation in Africa has strained the public sector's ability to provide essential infrastructure services, which have caused grave consequences in the mode of life, and decreasing productivity in the industrial sector. A passage in Lee and Anas (1988) gives an acute account of the extent of the problem in Nigeria.

....A survey of 179 firms showed that while all were connected to the power grid , every one with more than 20 employees had its own standby generators and invested, on average \$130,000 in generators. On the other hand, only a third of small firms can generate their own power. Similar patterns are observed in water supply, communications and transport...The situation is particularly problematic for small firms, which are least able to gain any economies of scale when providing their own infrastructure...(as cited in Malpezzi, 1990: p. 1000)

There has been a growing consensus among opinion-makers worldwide (including representatives of the institutional financial bodies) that the key factor for economic growth and development in Africa, in the near future, is increasing external aid (particularly debt relief) and strengthened inter-regional and international co-operation. Recent news (The Guardian, June 28 1996, p. 18) refer to the possibility of G7 assembling a rescue package to write off up to 80% of the external debt of the poorer nations of the world (mostly African countries), in a time-scale of six years. However, the Paris Club of rich-country creditors is unwilling to provide more debt relief until the IMF and the WB (the main creditors) make a big contribution themselves. It is also expected that Uganda will be the first country to benefit from the WB/IMF debt relief package (The Economist, September 28th - October 4th 1996, p. 127). As Snowden (1991) pointed out, several benefits to both creditors and debtors could be achieved through voluntary debt reduction. A reduction in the debt

burden releases resources for investment. In the medium and long-term, the world economy, in general, would benefit from the improvement in the economic situation on that region. Indeed, it is hard to envisage any long-term development strategy in a country which spends on debt repayment per annum five times what it spends in health care (as in the case of Uganda). Or, in a country in which average earnings are about a quarter of the average debt per capita (the case of Mozambique).

CHAPTER V

A Model of Interdependence between the Construction Sector and the General Economy for Developing Countries of Africa

V.1 Introduction

In this section, the aim is to establish a model of interdependence between the share of construction in GDP and GDP per capita, in a long- term trend, for developing countries of Sub- Saharan Africa.

Data on construction and economic related sectors are taken from 15 countries of Sub- Saharan Africa which represent the most recent development pattern of this regional group. Indeed, when viewed within a world-wide scale, all this sub- region (excluding Gabon, Mauritius, Seychelles and South Africa) falls, according to most recent statistics (World Bank, 1996), in the two lowest stages of the Word Bank's ranking of economic development- low income economies and low- middle income economies. Another particular feature that characterises the countries which have been referred to, is the multi-varied growth pattern occurred in the period of reference (1970- most recent estimates) used for this analysis:

- a) Countries that experienced an increasing growth throughout the entire reference period;

- b) Countries in which an increasing growth in the period 1970-1980 was followed by a decreasing growth after 1980;
- c) Countries that experienced a decreasing growth throughout the entire period of reference;
- d) The case of Mozambique which presented a markedly three period pattern of growth- a sustained economic growth between 1975 and 1980, a dramatic decreasing growth in 1980-1986 and an increasing growth from 1986 up to most recent estimates.

The sample used in this analysis comprises the following countries: Angola, Botswana, Malawi, Mozambique, Mauritius, Namibia, Swaziland, Tanzania, Zambia and Zimbabwe (all belonging to SADC- Southern African Development Community), Kenya from Eastern Africa, and four Western African countries- Cape Verde Islands, The Gambia, Ghana and Nigeria.

Previous writers (such as Turin, 1973; Wells, 1987) have investigated the relationship between construction and economic development and found a positive correlation between the share of construction in GDP and the level of per capita income. That finding was consistent with the broadest view, that was popular among growth theorists (until the early 1980s) in which industrialisation, and most especially its import- substitution policy was the main engine of economic growth and development (Roseinstein-Rodan, 1943; Lewis, 1954, 1955). The construction sector, through its backward and forward linkage with other sectors of the economy, would play a determinant role in the development process. Another view (Lucas, 1988; Romer, 1990; Barro, 1991) suggests that endogenous policy changes (e.g. macroeconomic stability, investment in human capital) play an increasing role in economic growth and development. The World Bank and its affiliates seem to follow this approach in the *Structural Adjustment Programmes - SAPs* for Africa. It appears that in this view, the construction sector does not lead but rather should accompany economic growth.

As noted in section I.3.2, the central hypothesis of this study is stated as follows:

There is a minimum level achieved by the construction output in developing countries, measured in terms of construction value added (CVA) as a share of gross domestic product, in order to achieve, in the long-term, sustainable growth in the economy.

To put it differently, a long-term decrease in gross domestic product per capita corresponds directly to a relative decrease in construction volume (also measured in terms of construction value added as a share of GDP). The converse is not true. That is a sustained or increasing growth in GDP per capita may not correspond to a relative increase in construction volume. By sustained economic growth I mean that despite small annual fluctuations in GDP per capita, the value of GDP per capita at the end of the reference period does not fall back to the value at the beginning of the period.

Two important points concerning the main indicators of economic activity used in this model need to be explained:

1) Two reasons are worthy of being mentioned concerning the choice, in this analysis, of construction value added (CVA) as the main indicator of the construction industry activity rather than gross fixed capital formation in construction (GFCFC) or gross construction output (GCO): i) the production approach (value added components) has generally been utilised by international bodies as a more reliable way to compound a country's national aggregate; b) as far as this sample of countries are concerned (and for the period of reference analysed), data on construction value added are more consistent than data on the other indicators of the construction industry, let alone data on construction employment.

With regard to GFCFC, it is, as already mentioned, a component of a country's gross capital formation. The gross output of repair and maintenance in construction works is not included in GFCFC. Often, it is difficult to distinguish a minor from a major rehabilitation work. Then bias can occur looking at the rough figures (gross fixed

capital formation in construction) of a country's national accounts tables. It is, also, worth noting that maintenance and repair construction works may concern input from all sectors of the economy. Thus, it appears to be less difficult to discover the aggregate value added component in this sub-sector of the construction industry (work done, mostly, by construction enterprises) than the aggregate gross output of construction repair and maintenance by other sectors of the economy, which may account either as investment or current expenditure of these sectors.

2) The other main indicator of economic activity used in this model is gross domestic product (GDP) per capita. It introduces the variable population into the aggregate domestic product of a nation. In this sense, it appears to be a better indicator of a country's welfare than GDP. Gross national product (GNP) per capita could, also, be used in this correlational model. Nevertheless, data on GDP are more consistent than data on GNP for the majority of countries. It is important to note that the latter can be easily constructed for a country with a reasonably reliable set of statistics on external transactions. Furthermore, as Bon (1992) put it, construction goods, strictly speaking, are not tradable outside a country's boundary, thus the results do not vary whatever indicator (GDP per capita or GNP per capita) is chosen.

V.2 Statistical Sources

The main statistical sources used in this analysis are the three volumes of the *Yearbook of National Account Statistics* from the United Nations (1985, 1988 & 1995 editions) and *African Development Indicators* (WB, 1992a, 1995a). Additional sources are drawn from secondary data collected in the fieldwork carried out in Angola and Mozambique. Regarding the data provided by the UN publications, I follow the methodology used in similar works (see e.g. Bon, 1990). The first volume presents a set of data for the period 1970-1982, and the second volume presents data for the years 1970 and 1975-1985. The third volume provides data for the period 1980- most recent estimates. Whenever exists divergence in these sets of data in the years they overlap, I choose the data from the most recent edition.

V.3 Data

The data collected and indicators of economic activity constructed from the data are stated below:

GDP - gross domestic product, in current and constant prices

CVA - construction valued added, in current and constant prices

GFCFC - gross fixed capital formation in construction, in current and constant prices

GFCF - gross fixed capital formation, in current and constant prices.

Icva - CVA/GDP ratio in current and constant prices

Igfcfc - GFCFC/GDP ratio in current prices

$\$87GDP_{pc}$ - GDP per capita (US dollars, 1987 constant prices)

$87Icva$ - CVA/GDP ratio (1987 constant prices)

Data used in this analysis comprise, as has been referred to, two sets of economic series: the period 1970-1980 and 1980- most recent estimates. It is worth noting that data for the period 1970-1980 are not, consistently, available for 6 countries of the sample. Furthermore, viewed in terms of constant prices, the base years used for the two periods are not the same in the majority of those countries. As data for the period 1970-1980 have not been generally revised, they are not strictly comparable with those from the period 1980-most recent estimates. For this reason, the model used in this study is based on data from the latter period. Nevertheless, it was found useful to analyse the period 1970-1980, which is characterised as two oil shocks and the ensuing adjustment process that faced the world economy.

In order to statistically test the hypothesis, two separate groups were established:

Group 1 - corresponding to the group of countries in which GDP per capita increased in the period 1980- most recent estimates (Botswana, Cape Verde Islands, The Gambia, Kenya, Mauritius and Swaziland).

Group 2 - corresponding to the group of countries in which GDP per capita experienced a decreasing growth in the same period (Angola, Ghana, Malawi, Mozambique, Namibia, Nigeria, Tanzania, Zambia and Zimbabwe).

Table V.1 presents the most recent basic indicators for all countries of the sample. Tables V.2 to V.5 present the evolution of GDP per capita (US dollars, 1987 constant prices) and CVA as a share of GDP (measured in 1987 constant prices) for countries grouped according to the pattern of economic growth in the period 1980-most recent estimates. The remaining data and indicators constructed from the data for this period are presented in Appendix A.1.2, with the exception of data from Angola and Mozambique which are presented in Chapter VI.

Data pertaining to the period 1970-1980 are presented in graphical form in Appendix A.1.1 (Indices of GDP per capita and construction value added as a share of GDP, both measured in constant prices).

Table V.1 Basic Indicators from the Countries of the Sample

Country	Population mid-1992 million	GNP per cap. (Atlas dollars) 1992	Life Expect. at Birth (years) 1992	Primary School Enrolment (%)		Net ODA p c (US\$) 1992
				1975	1990	
Angola	9.7	(<i>d</i>) 970	46	n.a.	91	36
Botswana	1.4	2,450	68	72	117	85
Cape Verde	0.4	840	68	145	n.a.	318
Gambia	1.0	370	45	33	n.a.	116
Ghana	15.8	460	56	71	77	39
Kenya	24.7	330	59	95	95	36
Malawi	9.1	230	44	n.a.	66	64
Mauritius	1.1	2,800	70	107	106	42
Mozambique	16.5	80	44	n.a.	64	89
Namibia	1.5	1,670	59	n.a.	119	94
Nigeria	101.9	330	52	51	72	3
Swaziland	0.9	1,080	57	n.a.	108	63
Tanzania	25.9	110	51	53	69	52
Zambia	8.3	370	48	97	92	125
Zimbabwe	10.4	580	60	73	117	77

Note: (d) - 1990; n.a. - not available; Source: African Development Indicators (WB, 1995 b)

Table V.2. GDP per capita (US\$, 1987 constant prices) in Group 1

Country	Year												
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Botswana	909.2	924.0	1056.0	1137.0	1176.0	1220.0	1285.0	1427.0	1568.0	1603.0	1687.0	1737.0	1725.0
Cape Verde	572.0	595.3	603.2	644.6	653.8	694.3	695.1	728.8	764.6	791.1	785.9	784.2	792.6
Gambia, The	268.9	283.0	316.0	304.9	298.9	299.8	297.3	291.6	293.4	299.0	294.8	296.7	290.1
Kenya	366.4	366.0	365.2	357.3	350.3	352.0	367.7	373.2	384.8	391.1	395.6	389.8	379.1
Mauritius	1243.0	1301.0	1356.0	1345.0	1471.0	1471.0	1597.0	1761.0	1859.0	1924.0	2038.0	2107.0	2215.0
Swaziland	580.3	6336.6	614.9	625.5	633.3	626.3	611.6	640.8	671.2	682.3	645.0	666.6	674.0

Sources: Appendix A.1.2; African Development Indicators (WB, 1992b, 1995b)

Table V.3 GDP per capita (US\$, 1987 constant prices) in Group 2

Country	Year												
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Angola	879.3	813.4	749.4	753.3	744.1	768.7	771.9	804.6	827.0	808.4	782.1	760.1	758.9
Ghana	460.0	436.4	439.8	478.9	449.7	443.2	420.7	383.1	355.1	360.7	379.0	384.2	371.1
Malawi	171.3	158.3	155.0	157.6	160.5	162.7	156.5	153.8	153.1	155.8	157.5	162.2	144.8
@													
Mozambique	199.0	195.2	183.6	155.7	153.2	136.2	133.9	136.2	139.8	143.6	141.7	145.0	143.8
Namibia	1640.0	1621.0	1566.0	1430.0	1388.0	1355.0	1359.0	1354.0	1397.0	1351.0	1351.0	1377.0	1423.0
Nigeria	390.9	370.0	356.4	328.8	302.7	321.8	319.7	307.6	327.6	339.7	356.7	362.3	366.5
Tanzania	173.5	167.2	163.2	154.3	154.3	153.8	154.0	157.0	158.7	159.1	159.9	161.1	163.0
Zambia	342.7	349.2	325.8	324.3	311.8	301.5	299.4	297.6	293.8	287.9	281.4	268.2	253.4
Zimbabwe	621.0	649.3	643.9	600.3	591.8	615.6	609.2	579.1	610.7	614.9	607.3	614.3	552.2

Note: @ - US\$, 1980 constant prices; Sources: The same as in Table V.2; Chapter VI

Table V.4. CVA as Share of GDP (percent) in Group 1

Country	Year												
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Botswana	8.38	5.72	3.94	5.44	5.22	4.31	4.71	4.71	5.42	5.63	5.56	5.46	5.42
Cape Verde	10.30	11.73	10.61	10.89	10.51	10.19	10.35	10.46	11.32	10.88	10.99	9.88	10.20
Gambia, The	5.17	3.81	4.55	4.95	5.53	4.85	5.61	3.91	4.76	5.04	5.33	5.36	5.53
Kenya	5.40	5.50	5.31	4.79	4.56	4.78	4.41	4.33	4.21	4.23	4.22	4.26	3.93
Mauritius	5.53	4.97	4.51	4.55	4.47	4.49	4.50	4.43	4.86	5.15	5.41	5.60	5.83
Swaziland	3.44	6.28	5.67	4.67	4.12	3.22	4.55	3.74	3.09	2.88	2.78	2.74	2.92

Source: Appendix A.1.2

Table V.5 CVA as Share of GDP (percent) in Group 2

Country	Year												
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Angola	8.02	5.91	3.94	4.16	4.11	6.07	4.60	5.16	3.66	3.09	3.06	2.80	2.39
Ghana	4.89	5.13	5.67	4.30	3.93	4.07	3.77	3.32	2.98	2.80	2.72	2.53	2.41
Malawi	5.18	4.55	4.43	3.90	3.43	4.16	3.58	3.37	3.80	3.85	3.67	3.78	3.76
Mozambique @	4.83	4.58	4.59	5.41	4.92	4.96	6.09	4.78	5.00	5.00	4.67	4.65	4.46
Namibia	3.60	3.60	3.83	3.24	2.85	2.85	2.38	2.32	2.23	2.10	1.84	1.79	1.65
Nigeria	6.26	5.69	3.74	3.46	2.97	1.86	1.81	2.00	2.00	1.95	1.89	1.87	1.84
Tanzania	2.91	2.79	2.89	1.75	2.04	1.81	2.05	2.91	3.13	2.21	2.33	2.30	2.35
Zambia	5.66	4.11	4.53	4.28	4.51	4.15	4.25	4.09	3.94	3.84	3.77	3.46	3.18
Zimbabwe	4.77	5.08	4.76	4.55	4.12	2.85	2.92	2.71	2.50	2.47	2.20	2.18	1.77

Note: @ - 1980 constant prices; Sources: Appendix A1.2; Chapter VI

V.4 The Model

V.4.1. Introduction

As stated in section V.1, the purpose of the model is to specify, for the developing countries, the relationship between the share of construction in GDP and GDP per capita according to a country's development pattern. The model postulates that a direct relationship is consistent only with a pattern of decreasing growth; in an increasing growth pattern, the share of construction in GDP tends to generally follow a trend of stagnation. As the model is not used for forecasting purposes but rather to show the relevant features of the underlying relationship, a correlational model was chosen for this study. Of course further descriptive studies are needed to test the applicability of the model developed here.

As mentioned in section V.3, two separate groups of countries were established: one in which GDP per capita increased in the period 1980-most recent estimates (Group 1); the other in which GDP per capita fell in the same period (Group 2). The variables used in this model are the share of construction value added in GDP, 1987 constant prices (*87Icva*) and gross domestic product per capita measured at US dollars, 1987 constant prices (*\$87GDPpc*). These data stem from the two volumes of the *Yearbook of National Account Statistics* from the United Nations (1988 & 1995 editions) and *African Development Indicators* (WB, 1995a). Because of data consistency, data on CVA and GDP are drawn from the UN publications. The World Bank publication provides data on population and the conversion of national currencies to US dollars. As the United Nations Development Programme and the World Bank choose 1987 as the base year in a wide sample of economics literature, and for comparative analysis, pertaining to developing countries, the 1987 constant price series are used for measuring the above mentioned economic indicators. It goes without saying that other constant price series could be used for any country of those groups, for the computation of the correlation coefficient of any country and respective group would not vary.

V.4.2 Statistical Method

The model is tested using a statistical test for the equality of two correlations.

Let $i = 1, 2$ corresponding to the two groups the correlations of which are being compared in this study.

Sample correlations R_{ij} were observed based on n_{ij} observations for $i = 1, 2$ and $j = 1, \dots, n_i$. In the situation it has been discussed, n_{ij} is typically about 13, n_1 is 6 and n_2 is 9, so I have observed $R_{11}, \dots, \dots, R_{16}$ and $R_{21}, \dots, \dots, R_{29}$

Recall that the coefficient of correlation formula is:

$$R = \frac{\left(\frac{1}{n-1}\right) \sum_{i=1}^n (X_i - \bar{X})(Y_i - \bar{Y})}{\sqrt{\left(\frac{1}{n-1}\right) \sum_{i=1}^n (X_i - \bar{X})^2} \sqrt{\left(\frac{1}{n-1}\right) \sum_{i=1}^n (Y_i - \bar{Y})^2}}$$

For each sample correlation, it is necessary to evaluate

$$W_{ij} = \frac{1}{2} \ln \frac{1 + R_{ij}}{1 - R_{ij}}$$

and let $W_i = \frac{1}{n_i} \sum_{j=1}^{n_i} W_{ij}$ be the averages of the W_{ij} in the 2 groups.

Also let us define

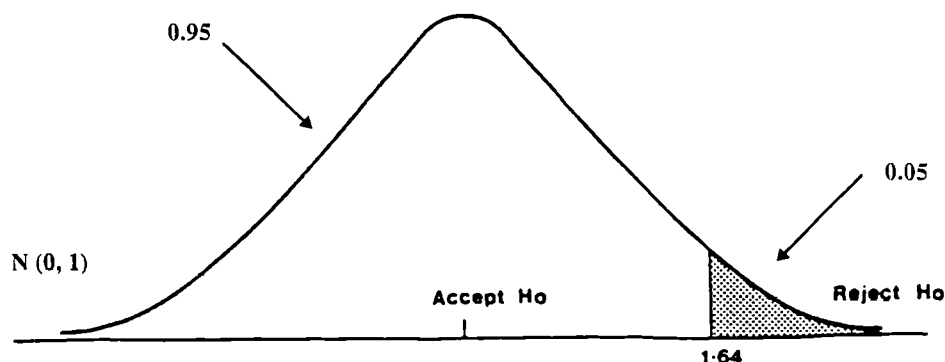
$$v = \frac{1}{n_1^2} \times \sum_{i=1}^{n_1} \frac{1}{n_{1j}-3} + \frac{1}{n_2^2} \times \sum_{i=1}^{n_2} \frac{1}{n_{2j}-3}$$

Then a $100_{\alpha\%}$ test of the null hypothesis $H_0: \rho_1 = \rho_2$ against the alternative hypothesis $H_1: \rho_1 < \rho_2$ is obtained by comparing the test statistic

$$Z = (W_1 - W_2) / \sqrt{v}$$

with the lower $N(0, 1)$ critical value - z_{α} , e.g. for a 5% test $z_{\alpha} = 1.645$

Fig. V.1 One-tail Significance Test (0.05 level)



Proof

According to Hogg & Tanis (1988), it is possible to obtain an approximate test of size α by using the fact that

$$W_{ij} = \frac{1}{2} \ln \frac{1+R_{ij}}{1-R_{ij}} \sim N \left(\frac{1}{2} \ln \frac{1+\rho_i}{1-\rho_i}, \frac{1}{n_i-3} \right)$$

that is W_{ij} is asymptotically normal distributed with

$$\text{mean } \frac{1}{2} \times \ln \left(\frac{1+\rho_i}{1-\rho_i} \right); \quad \text{and variance } \frac{1}{n_{ij}-3}$$

Assuming the W_{ij} are independent, it follows that

$$W_i = \sim N \left(\frac{1}{2} \ln \frac{1+\rho_i}{1-\rho_i}, \frac{1}{n_i^2} \sum_{j=1}^{n_i} \frac{1}{n_{ij}-3} \right)$$

for $i=1,2$ hence

$$W_1 - W_2 \sim N \left\{ \left[\frac{1}{2} \times \frac{(1+\rho_1) \times (1-\rho_2)}{(1-\rho_1) \times (1+\rho_2)} \right]; \frac{1}{n_1^2} \sum_{j=1}^{n_1} \frac{1}{n_{1j}-3} + \frac{1}{n_2^2} \sum_{j=1}^{n_2} \frac{1}{n_{2j}-3} \right\}$$

so, under $H_0 : \rho_1 = \rho_2$

$$Z = \frac{W_1 - W_2}{\sqrt{v}}; \quad v = \frac{1}{n_1^2} \times \sum_{j=1}^{n_1} \frac{1}{n_{1j}-3} + \frac{1}{n_2^2} \times \sum_{j=1}^{n_2} \frac{1}{n_{2j}-3}, \text{ as required}$$

V.4.3 Analysis of Results

In this analysis, the hypothesis $H_0: \rho_1 = \rho_2$ is tested against the alternative hypothesis $H_1: \rho_1 < \rho_2$ at an $\alpha = 0.05$ significance level. The groups corresponding to these correlation coefficients (Group 1 and Group 2) were earlier defined.

Thus, for Group 1

$n_1 = 6$ (the sample correlations R_{1j} are based on 6 observations)

n_j is typically 13 (time series data from the period 1980-1992)

$$W_{1j} = \frac{1}{2} \ln \frac{1 + R_{1j}}{1 - R_{1j}}; \quad W_1 = \frac{1}{n_1} \sum_{j=1}^{n_1} W_{1j}$$

R_{1j} - Correlation between $87Icva$ and $\$87GDPpc$ in Group 1, for $j=1, \dots, 6$

To illustrate the calculation of the values of the R_{1j} in Group 1 data pertaining to Cape Verde Islands are used

$$R = \frac{\left(\frac{1}{n-1}\right) \sum_{i=1}^n (X_i - \bar{X})(Y_i - \bar{Y})}{\sqrt{\left(\frac{1}{n-1}\right) \sum_{i=1}^n (X_i - \bar{X})^2} \sqrt{\left(\frac{1}{n-1}\right) \sum_{i=1}^n (Y_i - \bar{Y})^2}} = -0.170$$

where

X_i - the $87Icva$ value for year i (period between 1980 and 1992, see Table V.4)

Y_i - the $\$87GDPpc$ value for year i (period between 1980 and 1992, see Table V.2)

$\bar{X} = 0.107$ (the $87Icva$ mean value in the period 1980-1992)

$\bar{Y} = 700.4$ (the $\$87GDPpc$ mean value in the period 1980-1992)

Thus the value of the correlation coefficient between $87Icva$ and $\$87GDPpc$ pertaining to Cape Verde Islands indicates a negative (close to zero) correlation between the two variables.

The remaining R_{1j} values for Group 1 are calculated in the same manner

Botswana; $R = -0.211$
 Kenya; $R = -0.560$
 Swaziland $R = -0.417$

The Gambia; $R = 0.111$
 Mauritius; $R = 0.436$

$$W_1 = \frac{1}{n_1} \sum_{j=1}^{n_1} W_{1j}; \quad W_1 = -0.1480689$$

for Group 2

$n_2 = 9$ (the sample correlations R_{2j} are based on 9 observations)

n_{ij} is typically 13 (time series data from the period 1980-1992)

$$W_{2j} = \frac{1}{2} \times \ln \frac{1 + R_{2j}}{1 - R_{2j}},$$

$$W_2 = \frac{1}{n_2} \times \sum_{j=1}^{n_2} W_{2j}$$

R_{2j} - Correlation between $87Icva$ and $87GDPpc$ in Group 2, for $j = 1, \dots, 9$

To illustrate the computation of the R_{2j} , data pertaining to Namibia are used

$$R = \frac{\left(\frac{1}{n-1}\right) \sum_{i=1}^n (X_i - \bar{X})(Y_i - \bar{Y})}{\sqrt{\left(\frac{1}{n-1}\right) \sum_{i=1}^n (X_i - \bar{X})^2} \sqrt{\left(\frac{1}{n-1}\right) \sum_{i=1}^n (Y_i - \bar{Y})^2}} = 0.778$$

where

X_i - the $87Icva$ value for year i (period between 1980 and 1992, see Table V.5)

Y_i - the $87GDPpc$ value for year i (period between 1980 and 1992, see Table V.3)

$\bar{X} = 0.0264$ (the $87Icva$ mean value in the period 1980-1992)

$\bar{Y} = 1431.7$ (the $87GDPpc$ mean value in the period 1980-1992)

Thus the value of the correlation coefficient between $87Icva$ and $87GDPpc$ pertaining to Namibia indicates a strong positive correlation between the two variables.

The remaining R_{1j} values for Group 2 are calculated in the same manner

Angola	$R = 0.668;$	Ghana	$R = 0.764$
Malawi	$R = 0.628;$	Mozambique	$R = -0.355$
Nigeria	$R = 0.648;$	Tanzania	$R = 0.647$
Zambia	$R = 0.734;$	Zimbabwe	$R = 0.584$

$$W_2 = 0.73052$$

Testing the Null Hypotheses

under $H_o : \rho_1 = \rho_2$; the null hypothesis

$$Z = \frac{W_1 - W_2}{\sqrt{v}} \quad N(0,1),$$

and at an $\alpha = 0.05$ significance level

$$Z = \frac{-0.1480689 - 0.73052}{0.16763584} = -5.241 < -1.645$$

Therefore the null hypothesis H_o is rejected in favour of the alternative hypothesis H_1 which means that the coefficients of correlation between $87Icva$ and $\$87GDPpc$ in the overall Group 1 and Group 2 are not equal.

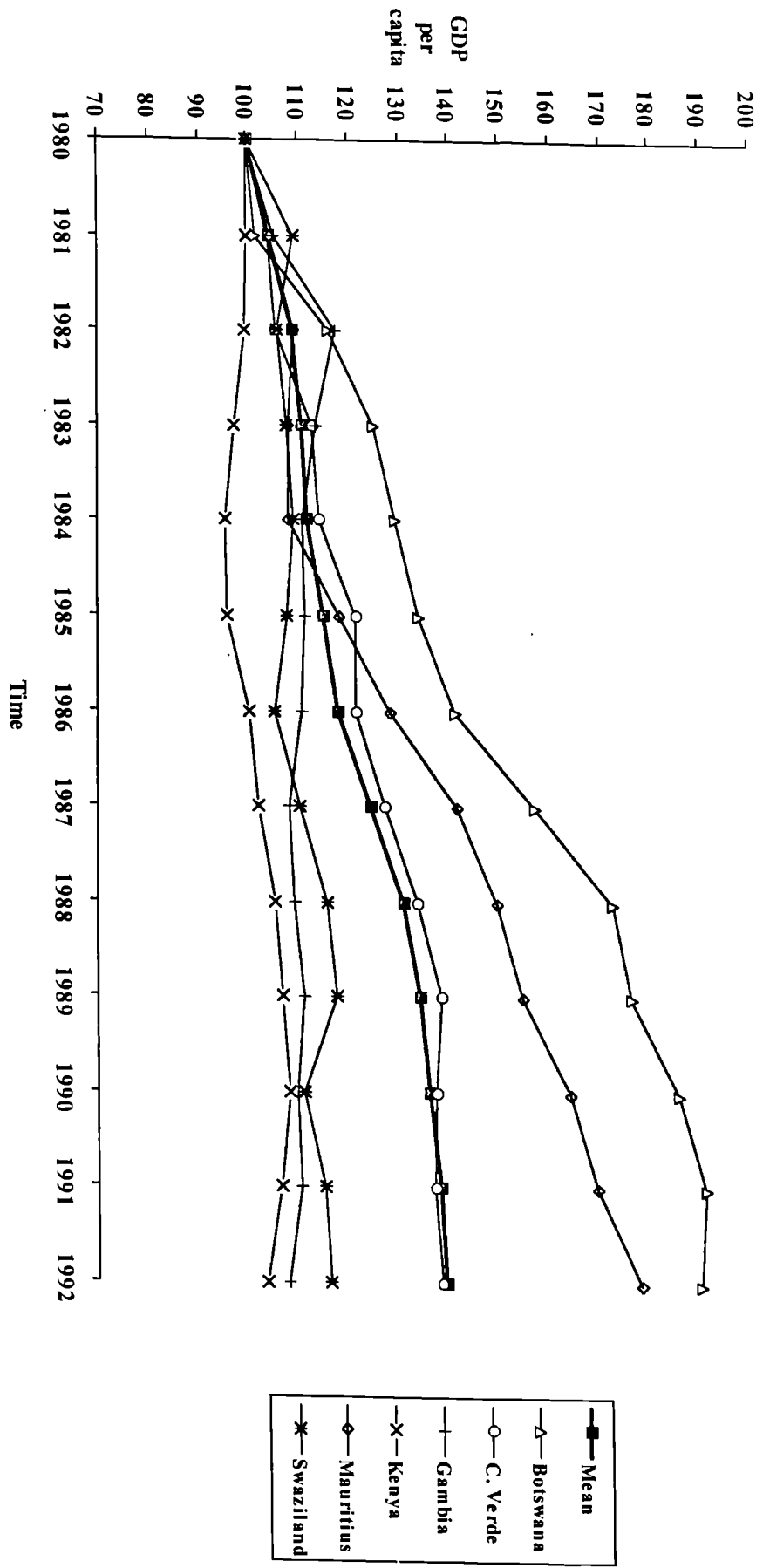
The results of the above statistical test show that the pattern of the construction industry in the two groups present distinct developments during the period 1980-most recent estimates. These development patterns are better understood looking at the illustrations presented in Figs. V.2 to V.5, which show the evolution of GDP per capita and CVA as a share of GDP in Group 1 and Group 2 during this period. The thicker lines in the diagrams stress the representation of the means of Group 1 and Group 2, for both those economic indicators.

Tables V.2 and V.4 and Fig. V.2 and V.4 indicate that in the countries in which gross domestic product per capita ($\$87GDPpc$) increased in the period 1980-most recent estimates (Group 1), the share of CVA in GDP ($87Icva$) remained, for the group average, practically constant during the same period. The construction volume

increased, in general, absolutely but not relatively. The exception is the case of Swaziland in which a slight trend of decline in construction volume (both in absolute and relative terms) is evident. The other side of the picture (Tables V.3 and V.5, and Figs. V.3 and V.5) shows that for the group of countries in which gross domestic product per capita experienced a decreasing growth in the period 1980-most recent estimates (Group 2), the share of CVA in GDP decreased as well during the same period. The construction volume decreased relatively, not only absolutely. The exception in this group is Mozambique which showed an absolute increase in construction volume from 1987 onwards but not an increase in the share of construction value added in gross domestic product, a pattern similar to that of Group 1 during the period of analysis (see Chapter VI). As can be seen in Chapter VII, Mozambique has benefited from substantial financial funds channelled by the institutional bodies since the implementation of the Structural Adjustment Programme in 1987. However, the growth rate in GDP has been slightly higher than the rate of growth in construction volume.

As suggested by the data presented in Appendix A.1.2 (and also the results regarding the LDCs in Chapter III), the development patterns underlined above do not significantly change if the gross fixed capital formation in construction -*GFCFC*- and the share of gross fixed capital formation in construction in GDP- *Igfcfc* are used as indicators of the construction industry activity. A close observation to the data pertaining to period 1970-1980 (Appendix A.1.1) also suggests that in the countries in which GDP per capita experienced an increasing growth, the share of CVA in GDP (*Icva*, in constant prices) does not reveal a marked trend of increase, particularly in the second half of the 1970s. As already mentioned, data for this period are generally less reliable and not strictly comparable with those pertaining to the period 1980- most recent estimates. Furthermore, as Summers and Heston (1988) pointed out, the evolution over time of the nominal ratios of investment pertaining to developing countries overstate the real resources devoted to investment, the discrepancy being greatest for the lowest-income economies. Nevertheless, the pattern of the construction industry in the period 1970-1980 seems to provide some support for the hypothesis stated in this study.

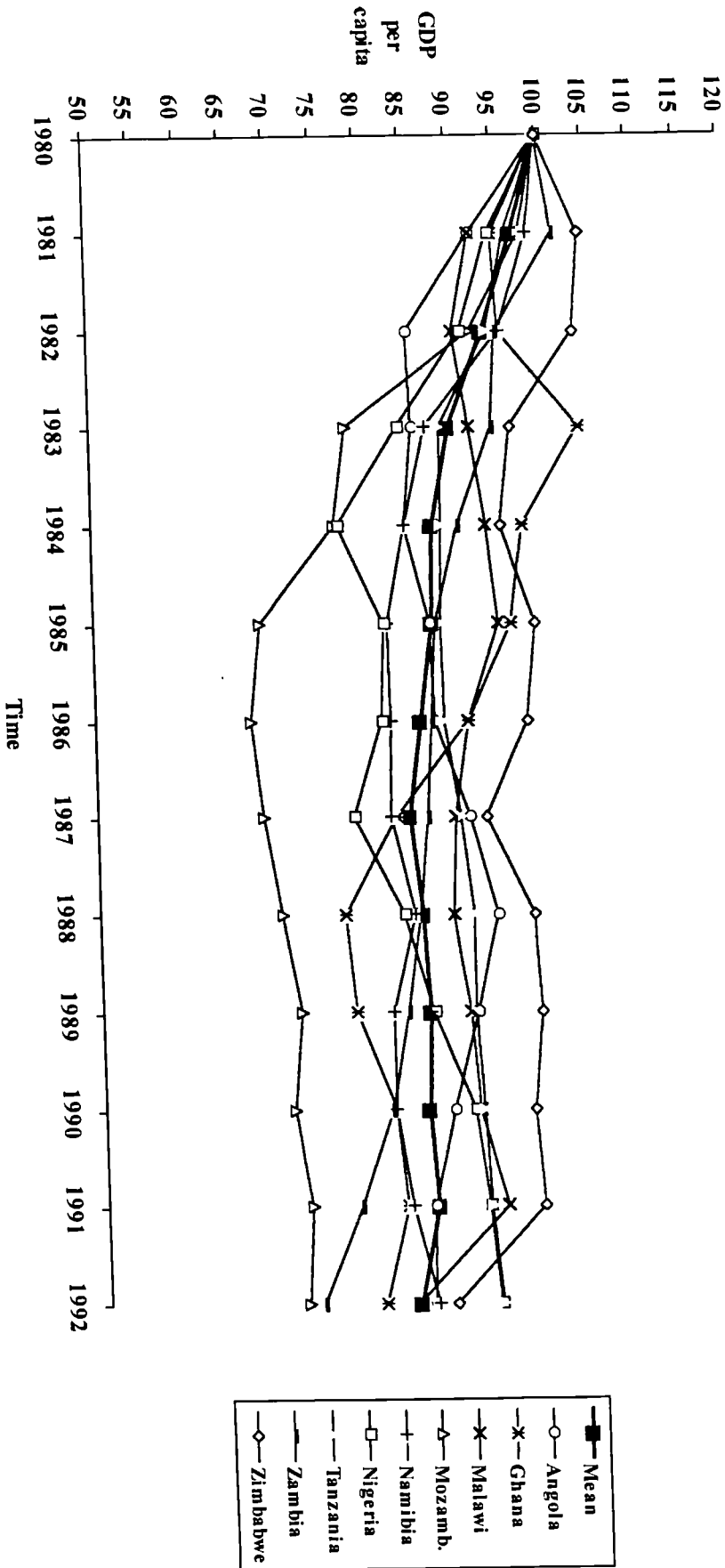
Fig. V.2 Indices of Gross Domestic Product per capita: Group I
1980 = 100



Source: Constructed from Table V.2

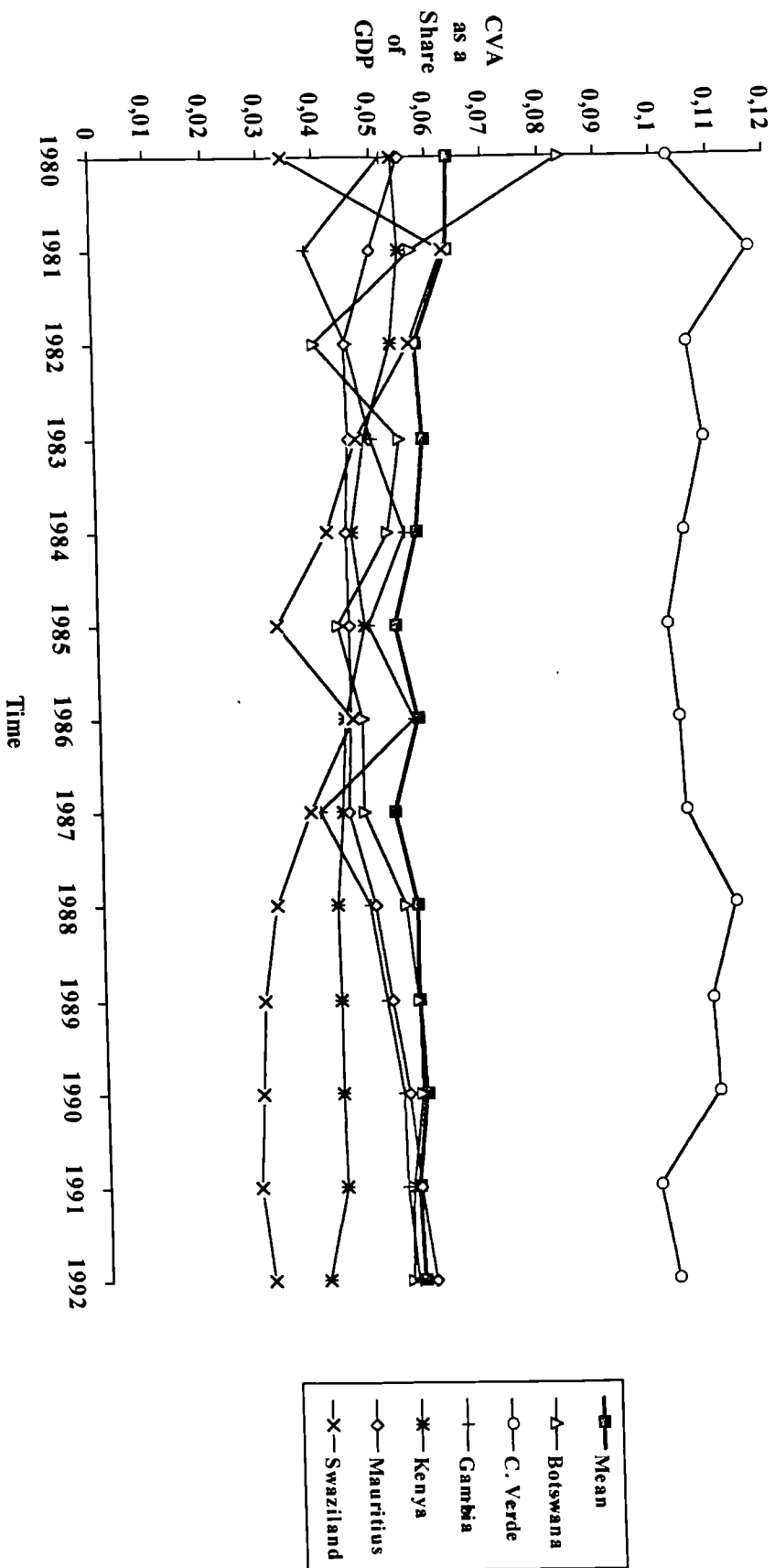
Fig. V.3 Indices of GDP per capita: Group 2

1980 = 100



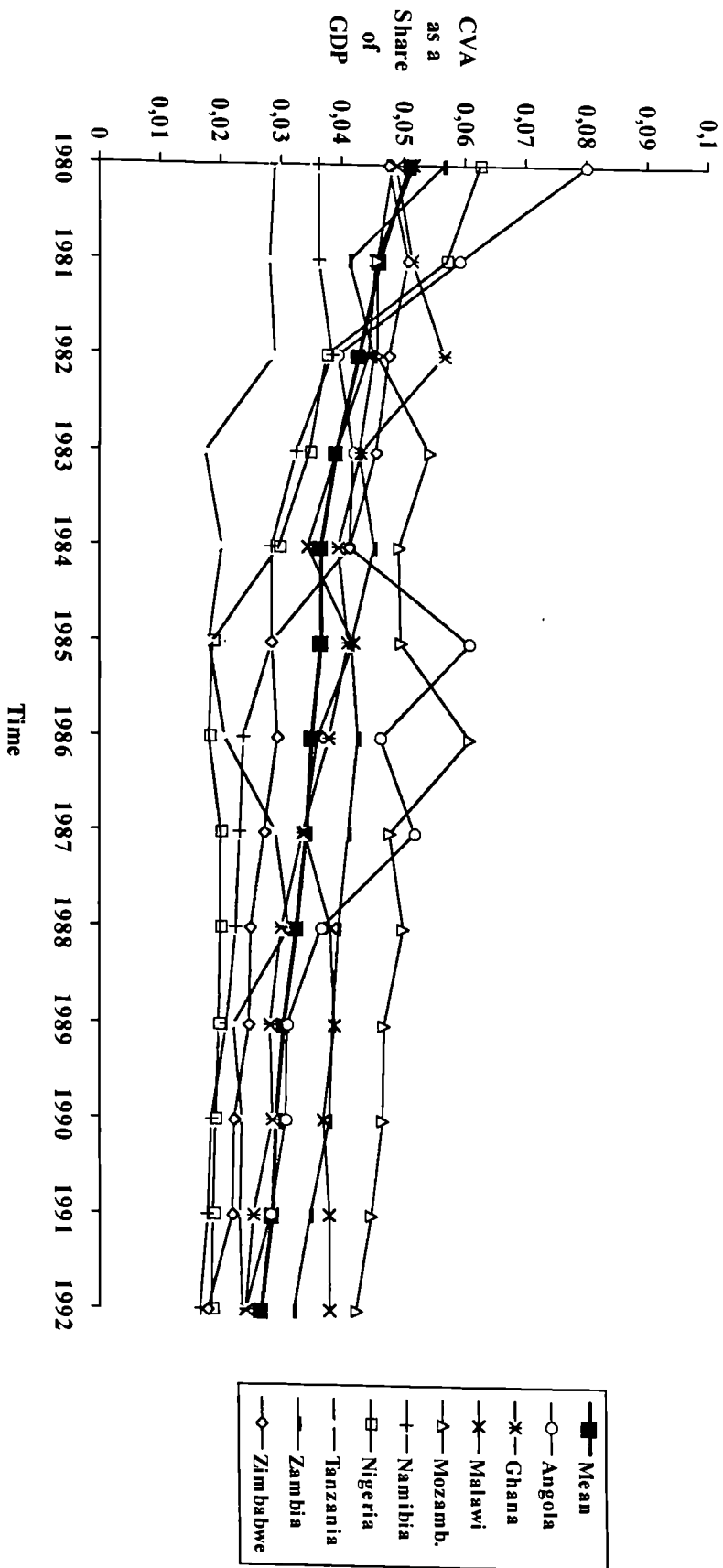
Sources: Table VI.2.2 and Table VI.3.2

Fig. V.4 Construction Value Added as a Share of GDP: Group I



Source: Constructed from Table V.4

Fig. V.5 CVA as a Share of GDP: Group 2



Sources: Table VI.2.2 and Table VI.3.2

V.5 Concluding Remarks

The picture that emerges from the analysis above depicted, and also from the results of the statistical test, shows that the direct relationship between the share of construction in gross output and economic growth is only consistent with a downturn economy. This suggests that since countries reverse the path of economic stagnation or decline, the construction output will grow faster than the gross domestic product in the first stages of their recovery. Thus, it is reasonable to assume that when a certain level is achieved (say the share of CVA in GDP around 4 - 5%, it depends upon the year taken as base) and countries enter into a period of sustained economic growth and development, the construction output tends to grow, in general, with the same rate of growth of the GDP. It is worth noting that the above value is consistent with Syrquin's and Chenery's (1989) value pertaining to the construction sector, in their study of norms for structural change and per capita income.

It is well known that statistical association does not reveal causation. Moreover, what is offered here is not a prediction but a prospect of the development pattern of the construction industry in Sub-Saharan African countries for the near future (say the next 10 years) This is based on the assumption that the general macroeconomic framework prevailing in these countries will not significantly differ from that of the period of analysis (1980-1992).

Although data used in this analysis are, to my understanding, the best ones available in terms of coverage and uniformity of data, the sample of this study must be broadened and the period of reference should go back as far as possible. Descriptive and predictive studies, at country or regional level, are also needed to develop and test the applicability of the model presented in this study. The results provided in Chapter VI as regards the development pattern of the construction industry in Angola and Mozambique in the period of analysis is a promising start for further development.

The construction sector plays an important role in the development strategy of any country that goes beyond its share in national output (see the results of the questionnaire -surveys of Angola and Mozambique in Chapter VII). Many writers have referred to its effect on employment creation, others to its multiplier effects in the national economy. To my understanding, however, another relevant feature should be added: it is the great flexibility of the construction industry activity in adjusting to different framework conditions that makes, particularly, this sector of the economy a major contributor to the process of economic growth and development.

CHAPTER VI

The Relationship between the Construction Sector and the General Economy in Angola and Mozambique within a Sub-Saharan African Perspective

VI.1 Introduction

This chapter analyses the interdependence between the construction sector and the general economy in Angola and Mozambique, within the context of the general model developed in Chapter V. It should be recalled that Angola and Mozambique are part of the sample of countries that constitute Group 2 which was analysed in Chapter V. Thus, the methodology adopted in this chapter as regards the main economic indicators used in this analysis (CVA as a share of GDP and GDP per capita) follows the same methodology adopted in Chapter V. The period of analysis is 1980- 1993.

Other economic indicators presented and analysed here are gross fixed capital formation (GFCF) and gross fixed capital formation in construction (GFCFC). These two indicators can provide insights for the real behaviour of an economy, particularly for the role of investment in the economic performance. Both indicators as well as CVA are presented in constant and current prices, in order to have a whole picture of their evolution throughout the reference period, and also to show the sectoral allocation of investment at a given point in time. This methodology is particularly suitable in the study of countries like Angola and Mozambique (see Chapter VII)

where the price structure in different sectors of the economy varied significantly and unevenly during the period of analysis (World Bank, 1995b).

The sources of data used in this chapter are different from those used in Chapter V. In the latter, the main sources of data are the *Yearbook of National Accounts Statistics* (1988 & 1995 eds.) of the United Nations, and *African Development Indicators* (WB, 1992b, 1995b.) published by the World Bank. In the former, data were collected through the fieldwork carried out in Angola and Mozambique, and drawn from different national and international publications which will be referred to later on in this text. As no consistent set of data is available for the entire period of reference, a great deal of effort was made to carefully relate each different set of data to one another. In this respect, in order to have a better understanding of the methodology of data collection, the systems of national accounts of Angola and Mozambique are comprehensively reviewed and commented on.

This chapter is divided into four parts. Parts 1 and 2 analyse and discuss the relationship between the construction sector and general economy of, respectively, Angola and Mozambique in the period 1980-1993. Part 3 draws a comparison between the development patterns of the construction industry of Angola and Mozambique, and discusses the way they fit in the context developed in the general model. Finally, a concluding remark summarises the results of this chapter.

VI.2 The Interdependence between the Construction Sector and General Economy in Angola

VI.2.1 The System of National Accounts of Angola

GDP Estimates Using the Factor Income Approach

The factor income approach was the first methodology used by the Angolan authorities to estimate the national output and the components of domestic expenditure. In this approach, gross domestic product at factor cost (GDP fc) refers

only to official transactions, and consists of total factor income as presented in the various ministries' reports on financial executions of the National Plans. The quality of the calculations is constrained by the enterprises' accounting capability and owing to the fact that the organ responsible for the preparation of the national accounts (Department of National Accounts) had, at the time, no access to the enterprise's balance sheets (WB, 1991b). It should be noted, however, that information by enterprises is furnished in the reports on industry and fishing sectors. Other sectoral reports provide only aggregates with varying degree of reliability. Another limitation is that the sectoral division by supervisory ministries does not accord with the standard UN economic classification for output by sector. The scope of the calculations of value added for the sectors of construction and oil are presented below. Other sectors do not, here, deserve note apart from the fact that their components are aggregated according to the supervisory ministries to which they report.

a) Construction

The accounts for this sector include state and private enterprises pertaining to building, engineering, the manufacture of construction materials, and the Angolan engineering laboratory. It excludes self-construction, and non-Angolan enterprise operating in the oil sector, and in the energy sector. Drilling activities are regarded as part of the oil sector, but the accounts for the construction of houses and other building are not reported anywhere (MC, *Annual Report 1989*)

b) Oil

The accounts for this sector include: indirect taxes, profits, payroll, and depreciation (from the national enterprise- SONANGOL); and direct taxes from non-Angolan enterprises, and refinery profits. They exclude payroll, profits, rentals, depreciation, interest from non-Angolan enterprises, and SONANGOL rentals and interest. Although statistics for this sector are reasonably reliable (fieldwork interview), the different components of the gross fixed capital formation (GFCF) in this sector are not separately reported.

GDP Estimates Using the Production Approach

In 1986 the Angolan authorities began preparing estimates of GDP based on the value added production approach, using 1980 official prices. This project was undertaken with the technical assistance of the UNDP (Project Ang. /84/ 001). The estimates for the period 1980-1987 use data mostly from the enterprise level and are complemented by ministries reports to check the reliability of the aggregates. The sectors of the economy, in this approach, accord with the standard UN classification of economic activities. These estimates represent an improvement over those calculated from the factor income approach, mainly for the following sectors:

a) Agriculture, Forestry and Fishing.

It includes self-consumption as well as production for the market by state enterprises and small producers. The self-consumption estimate is based on the size of the farming areas, average productivity and population growth.

b) Construction.

This includes the construction activity proper of the state enterprises (under the Ministries of Construction, Energy and Petroleum), private firms and self-construction. The estimates of the self-construction market segment are based on population growth, size of a standard house, cement consumption, and international indicators for this sector.

c) Commerce. The improvement in the estimates of the valued added of this sector over those derived from the factor income approach, is that they include commercial margins rather than fixed official margins used in factor income approach. Moreover, commercialisation margins for trade in rural areas are also included.

Disregarding the limitations that stem from the specifications of classifications, statistical concepts, survey methodologies, and statistical coverage, the choice of the base year -1980 - used in this approach to compound the constant price series deserves a special note. As has been mentioned (see section IV.3), 1980 coincided with the second oil crisis, an all-time high in the world price of oil (matched only in

the brief period that preceded the Gulf War in 1991). As the oil sector is practically the only source of Angola's foreign exchange earnings and the main source for the government revenues, the fluctuations in oil prices have a profound implication in the Angolan economy. It should also be noted that the foreign exchange rate of the national currency had remained unchanged and pegged to the US dollar from 1976 up to 1991 (see section VII.3). As Angola's imports are also traded in other foreign currencies besides the US dollar, bias can occur when analysing data on external transactions. The problems arise more clearly if it is to estimate GDP in US dollars. As the official exchange rate was assumed to be overvalued, it seemed reasonable not to convert the 1980 Kwanza value added of non-oil production in US dollars. at official exchange rate. A depreciation of 23% (a proxy of the Angolan inflation in the period 1976-1980 compared to the U.S. GDP deflator) was used for the 1980 purchasing power parity exchange rate for officially priced goods (World Bank, 1991b). Assuming that the dollar price of non-oil production grows at the same rate as the U.S. GDP deflator, then non-oil production is estimate in nominal US dollars for a given year.

Integrated System of National Accounts

In 1993, the Instituto Nacional de Estatística - INE (National Institute of Statistics) published the *National Accounts of Angola*, the most comprehensive set of data on the different components of the national output of Angola. Data has been prepared in the Department of National Accounts, a department of Ministry of Planning and Economic Co-operation. This publication is the result of the improvement process in estimating the national accounts of Angola, which started in 1986 with the technical assistance of the UNDP. Data cover the period 1985 onwards, and the base year to compound the constant price series is 1987. For the first time, the three common approaches are used with special relevance to the production approach and the expenditure approach. The sectoral division also conforms with the UN standard classification. Although with limitations, a first attempt is made to include transactions in the parallel markets into national accounts. As INE (1993a: p. 9) writes:

...Although with limitations, often serious ones, the transactions in the official market are reasonably known as far as the statistical point of view is concerned. On the contrary, the knowledge of the parallel markets is far from satisfactory, so that the activities of statistical observation only recently took place.....To overcome some of these constraints, the scarce statistical data available are complemented by information provided by the *Polícia Económica* (Police for Economic Affairs), departments of the Ministry of Planning and the national press. (author's translation).

The calculations of the aggregate representing the whole national economy is the sum of the estimations in both markets. The common *currency* used to represent overall transactions, in whichever the market they take place, is the official market prices.

VI.2.2 Data and Statistical Sources

As already mentioned, there is no consistent set of data concerning construction and related sectors of Angola for the entire reference period. The main sources of data are the *National Accounts of Angola* published by the National Institute of Statistics (INE, 1993a) for data pertaining the period from 1985 onwards, and *Angola: An Introductory Economic Review* published by the World Bank (1991b) for data prior to 1985. Data on population are drawn from other INE publications, which will be referred to in this section. Data presented here are gross domestic product (GDP), construction value added (CVA), gross fixed capital formation in construction (GFCFC), gross fixed capital formation (GFCF), the share of CVA in GDP, both presented in current and constant prices, and GDP per capita (US dollars, 1987 constant prices). The period of analysis is between 1980 and 1993. In addition, CVA/GFCFC and GFCFF/GFCF ratios, for selected years and in current prices, are also presented.

Table VI.2.1 Evolution of GDP, CVA, GFCFC and GFCF; Period 1980-1993
(Current and 1987 constant prices; billion of Kwanzas)

Year	GDP		CVA		GFCFC		GFCF	
	Current	Const.	Current	Const.	Current	Const.	Current	Const.
1980	167.60	201.32	10.70	16.14	17.26	26.06	n.a.	n.a.
1981	167.36	191.25	7.87	11.30	12.69	18.23	n.a.	n.a.
1982	166.89	180.96	5.23	7.13	8.44	11.50	28.54	34.91
1983	175.63	186.81	5.82	7.77	9.39	12.53	28.28	33.92
1984	181.58	189.53	6.04	7.79	9.74	12.56	30.87	36.00
1985	205.40	201.06	9.77	12.20	14.22	18.20	35.15	40.20
1986	192.76	207.45	9.24	9.55	14.57	14.77	33.72	34.56
1987	221.97	221.97	11.45	11.45	17.38	17.38	38.31	38.31
1988	239.64	234.34	9.70	8.57	16.09	13.91	34.87	31.28
1989	278.87	235.25	8.99	7.27	15.67	12.75	31.35	25.88
1990	308.06	234.20	9.00	7.17	15.89	12.81	34.17	27.91
1991	801.60	234.17	25.97	6.56	44.13	11.13	94.77	25.93
1992	3974.30	240.56	160.30	5.75	339.76	9.76	849.40	25.63
1993	29585.8	180.37	838.20	2.61	1970.00	4.43	4925.00	11.90

Note: n.a. - not available. Sources: INE (Statistical Information, various years); INE (1993a); INE (1993b); MPCE (1994); MC (Annual Report, various years); World Bank (1991b); author's estimates for GFCFC for 1980 -1984 and 1992-1993; all indicators in 1987 constant prices for the period 1980-1984, author's estimates based on World Bank (1991b) and INE (1993a).

Table VI.2.2 CVA as a share of GDP and GDP per capita; Period 1980-1993

Year	CVA as a Share of GDP		GDP per capita (US dollars, 1987 const. prices)
	current prices	1987 const. prices	
1980	0.06384	0.08017	879.3
1981	0.04702	0.05908	813.4
1982	0.03133	0.03939	749.4
1983	0.03314	0.04161	753.3
1984	0.03326	0.04108	744.2
1985	0.04757	0.06070	768.7
1986	0.04794	0.04603	771.9
1987	0.05158	0.05158	804.6
1988	0.04048	0.03656	827.0
1989	0.03223	0.03091	808.4
1990	0.02922	0.03061	782.1
1991	0.03240	0.02800	760.1
1992	0.04033	0.02390	758.9
1993	0.02833	0.01445	552.7

Sources: Table VII.2.1; INE (1993a), INE (1993b), MPCE (1994)

**Table VI.2.3 CVA/GFCFC and GFCFC/GFCF Ratios in Selected Years
(current prices)**

Ratio	Year					
	1980	1982	1985	1987	1991	1993
CVA/GFCFC	0.620	0.620	0.687	0.659	0.588	0.425
GFCFC/GFCF	n.a.	0.296	0.404	0.454	0.466	0.400

Note: n.a. - not available; Source: Constructed from Table VI.2.1

VI.2.3 Analysis and Discussions

Tables VI.2.1 and VI.2.2 show that the GDP and GDP per capita present clearly three patterns of development during the period of analysis: a period of decline both in GDP and GDP per capita in 1980-1984; a period of economic recovery in 1985 - 1988 in which GDP increased about 5.5% per annum, and GDP per capita about 2.7 % per annum; and from 1988 onwards, a pattern of economic decline followed by a dramatic fall of about 25% of GDP in 1992-1993. The construction value added (CVA) and gross fixed capital in construction (GFCFC) showed a development pattern dissimilar to that of the GDP during the period of analysis. Measured in constant prices, the former two indicators experienced, in general, a continuous decline in 1980-1993, despite a recovery in 1984-1985 and 1986-1987. In the period 1980-1984, CVA and GFCFC decreased even in current prices. In the period 1990-1993 the fall was more dramatic: CVA varied from Kz 7.17 billion in 1990 to Kz 2.16 billion in 1993, in 1987 constant prices; and GFCFC from Kz 12.81 billion in 1990 to Kz 4.43 billion in 1993, also measured in 1987 constant prices. Regarding gross fixed capital formation (GFCF), Table VI.2.1 shows that this indicator presented a development pattern similar to CVA and GFCFC. Two distinct, though erratic, development patterns can be disclosed during the period of analysis: an increasing growth in GFCF in the period 1982-1985, and a decreasing growth from 1985 onwards. The increasing growth in 1982-1985 coincided with, according to World Bank (1991b), the period of heavy investment of the foreign companies engaged in oil exploitation. As a result, oil production increased significantly from 1985 onwards and has been from then on the paymaster of the Angolan economy.

Now, let us look at the sectoral allocation of investment. It can be seen in Table VI.2.3 that the ratio of construction investment (GFCFC) over total investment is consistently less than 50% throughout the period of analysis. This pattern is also observed if this ratio is calculated in constant prices. This suggests that construction investment has not been playing a significant role in the Angolan economy. Further, the period of economic recovery in 1985-1988 did not correspond to an increase in the measures of construction output and in GFCF as well. In part this may be

explained, as can be seen in section VII.2, by macroeconomic mismanagement, the wage and price policies which caused no incentive for production and productivity in the construction enterprises, and the civil war which hard hit the country, particularly from 1981 onwards. Or may this also suggest that the allocation of investment in the Angolan economy was dependent upon the strategy for oil production. However, it is worth noting that the sharp fall in the world price of oil in 1985/1986 was accompanied by a decline of the US dollar (the currency in which oil is usually traded) in the international market in the same period (WB, 1991b). The consequent decrease in foreign exchange earnings and government revenues have also contributed to the poor performance of the construction industry.

Regarding the share of construction value added in the gross fixed capital formation in construction, Table VI.2.3 shows that CVA/GFCFC ratio is more than 50% in the period 1980-1991, and declining thereafter to a value of about 43% in 1993. It should be recalled that the period from 1991 onwards is characterised by a change in the framework of price formation within the reform of economic policies envisaged in the Economic and Financial Restructuring in 1988 (see section VII.3). Thus, the evolution of this ratio in the period 1980-1991 (a value between 59% and 69%) might either reflect the low technological level of the Angolan construction industry and/or an unrealistic price policy which undervalued the products of the building materials industry- the major supplier of the construction sector.

It is appropriate to look at sectoral data provided by the *Annual Report* published by the Ministry of Construction. According to this publication, public works (the state as a client) accounted, as in 1989, for just over 80% of total construction works. Regarding construction works under the jurisdiction of the MC (public enterprises sector), they accounted for more than 50% of the value of total construction, for the period 1983-1989 in which data are available. If we take data on construction works under the jurisdiction of the Ministry of Construction as a proxy of the country's total construction output, some general trends can be established as regards the structure component of the gross construction output. The cost structure of wages and salaries accounted for roughly between 45% and 55 % of the value of the

construction gross output (planned and extra-plan works) executed under the jurisdiction of the MC. Regarding the planned construction works (in the annual programmes of the MC), the cost structure of the wages were estimated to represent about 25% of the value of total output. This suggests that the Angolan construction sector was characterised by a low level of labour productivity, in which wages represented about 75% of the value added and between 45% and 55% of the gross construction output (MC, *Annual Report*, various years).

Now looking closely at the Table VI.2.2, it can be seen that whereas GDP per capita presents three distinct development patterns in the period of analysis, the share of CVA in GDP (measured in constant prices) experienced a continuous decline in the same period. The increase in the value of the latter indicator from 0.041 in 1984 to 0.061 in 1985 is somewhat misleading. As shown in Table VI.2.1, comparing the values in current prices and in 1987 constant prices of the GDP in 1985, the former is higher than the latter. This was due to the fall in the world price of oil which caused a strong deflation in the value added of the oil sector and a small deflation in GDP. On the contrary, the CVA deflator for that year followed the standard pattern, i.e. the 1985 value of this indicator computed in 1987 constant prices is higher than the value computed in current prices.

Concluding, the measures of construction industry activity (CVA and GFCFC) in Angola decreased, in general, relatively, not only absolutely in the period 1980-1993. The evolution of the share of construction in GDP and its relationship with GDP per capita compared to that observed in Mozambique in the same period is discussed in section VI.4.

VI.3 Interdependence between the Construction Sector and General Economy in Mozambique

VI.3.1 The System of National Accounts of Mozambique

The Material Product System

Like other countries that established an economic system based on central planning, the Republic of Mozambique adopted after the independence the accountancy of the Material Product System (MPS). The main indicator in this system is the Global Social Product (GSP), which is the algebraic sum of the material gross output of different sectors of economic activity (see UN, 1989). Thus, GSP is the aggregate gross value of production as distinct from the aggregate gross value added. The Net Social Product, which is the GSP netted out of the value of intermediate consumption, has not been compounded in Mozambique's national accounts tables, therefore national income in this system can not be known.

Apart from this limitation, the GSP, in case of significant alterations in the productive structure, is not a suitable indicator for the understanding the real behaviour of the economy, owing to duplication of various items in the national accounts estimates (UNIDO, 1987). Thus, the National Directorate of Statistics (DNE) computes separately, in 1980 constant prices and from the period 1980 onwards, the main components of the national expenditure using the standard SNA of the United Nations. Using data available on the balance of payments, the state budget and other indicators, the DNE estimates public consumption, gross fixed capital formation and depreciation. Private consumption in which is included self-consumption is estimated through surveys. Thus, the gross domestic product (GDP) at factor cost as well as the national income can be obtained in the concept of a market-oriented economy. The main limitation of the MPS is that the contribution of different sectors (value added) of the economy to the national output cannot be obtained. So, the capital/output ratio, an important economic instrument for

analysing the productivity of different sectoral investment cannot also be disclosed. Another limitation, in the case of Mozambique, is that government services (either value added or gross production) were not reported, until 1987, in the national accounts tables. The sectoral division of the economy which accords to sectoral ministries to which they report rather than to the standard classification of the SNA adds to the confusion.

The Revision of the Methodology of the National Accounts

In 1987, coinciding with the ERP, the methodology of the national accounts were revised in order to incorporate a more realistic component of the services sectors, especially government services and community services, into national accounts data (CNP, 1992). Since then, there has been a continuous improvement in the country's basic statistics within a project involving the DNE, the CNP and the United Nations Development Programme (UNDP). In this revised methodology, the basic data to calculate national output is sectoral production data, but there is no information on important technical coefficients (e.g. the relationship between value added and value of gross output) and only limited information on the services sector (WB, 1993). Thus, the estimate of GDP continues to be constructed from the aggregation of the national expenditures. However, there are still gaps regarding the accuracy of information on the size of the subsistence agricultural consumption and private investment (fieldwork interview).

In 1990, the Mozambican authorities revised the methodology for estimating the public sector investment, and private investment was estimated to be 10% of total investment (DNP, 1991). I do not take in account this revised methodology as far the expenditure side is concerned. Firstly, national accounts data in this revised methodology cover the period from 1987 onwards and are not consistent with data prior to 1987. Secondly, the size of public sector investment seems to be greatly overestimated, by a value around 35-40%, a fact commonly reported in different works even in the CNP publications. As far as the production approach is concerned, the CNP and not the DNE (the organ responsible for the publication of official

statistics) has been estimating, from the period 1990 onwards, the GDP using sectoral value added production. Nevertheless, the methodology for the calculation of the technical coefficients is not, to the best of my knowledge, explicit anywhere.

VI.3.2 Data and Statistical Sources

The main statistical sources used in this analysis are two editions of the *Statistical Yearbook* (1991 & 1994 eds.) and the 1986 edition of *Statistical Information*, both published by the DNE, *Economic and Social Programme* (1992 & 1994 eds.) published by the CNP and *Mozambique: II Public Expenditure Review- PER* published by the World Bank (1993). Additional sources will be referred to in tables below. Data and indicators constructed from the data presented and analysed here are the same of those used in section VI.2.

Table VI.3.1 Evolution of GDP, CVA, GFCFC and GFCF; Period 1980-1993
(Current and 1980 constant prices; billion of MzM)

Year	GDP		CVA		GFCFC		GFCF	
	Current	Const.	Current	Const.	Current	Const.	Current	Const.
1980	78.00	78.00	3.38	3.38	4.80	4.80	14.80	14.80
1981	81.00	78.60	3.47	3.25	5.00	4.75	16.30	15.40
1982	93.00	75.93	3.86	3.16	5.65	4.89	17.90	14.70
1983	92.00	66.13	3.98	3.23	6.25	5.03	9.11	7.40
1984	108.00	66.73	4.06	3.01	6.02	4.51	11.40	8.50
1985	147.00	60.86	4.04	2.88	6.18	4.31	10.10	7.20
1986	166.80	61.44	5.51	3.74	9.62	6.25	16.20	11.10
1987	423.60	64.11	28.03	3.06	58.04	5.60	101.90	12.80
1988	631.20	67.57	47.61	3.38	101.08	5.64	214.20	15.20
1989	990.70	71.22	69.61	3.56	147.80	5.83	318.78	16.3
1990	1340.70	72.14	97.83	3.37	207.70	5.90	510.54	17.6
1991	2056.30	75.68	155.05	3.52	329.20	6.08	797.96	18.5
1992	3126.20	75.07	248.36	3.35	527.30	5.97	1290.24	17.4
1993	5462.90	89.49	399.69	3.76	848.60	6.43	2180.51	20.2

Note: For the period 1980-1985, CVA and GFCFC are in factor costs; Sources: CNP (1992, 1994); DNE (1986); DNE (1991, 1994a.); MC (Construction Sector: Annual Report, various years); World Bank (1993); CVA for 1980-1986, author's estimates based on DNE (1986) and MC (various years); CVA for 1980-1993 in constant prices, author's estimates using the GFCF deflator.

Table VI.3.2 CVA as a Share of GDP and GDP per capita; Period 1980-1993

Year	CVA as a Share of GDP		GDP per capita (US dollars, 1980 constant prices)
	current prices	1980 constant prices	
1980	0.04827	0.04827	199.0
1981	0.04756	0.04579	195.2
1982	0.04578	0.04590	183.6
1983	0.04793	0.05412	155.7
1984	0.04104	0.04924	153.2
1985	0.02880	0.04959	136.2
1986	0.03303	0.06087	133.9
1987	0.06681	0.04773	136.2
1988	0.07543	0.05002	139.8
1989	0.07026	0.04999	143.6
1990	0.07297	0.04671	141.7
1991	0.07540	0.04651	145.0
1992	0.07944	0.04462	143.8
1993	0.07316	0.04202	163.2

Note: for the period 1980-1985, CVA as a share of GDP (in current and constant prices) is calculated using factor cost prices. Sources: Table VI.3.1; DNE (1994b), WB (1993), CNP (1994)

**Table VI.3.3 CVA/GFCFC and GFCFC/ GFCF Ratios for Selected Years
(current prices)**

Ratio	Year					
	1980	1982	1985	1987	1991	1993
CVA/GFCFC	0.704	0.683	0.653	0.483	0.471	0.471
GFCFC/GFCF	0.324	0.316	0.612	0.570	0.413	0.389

Source: Constructed from Table VI.3.1

VII.3.3 Analysis and Discussions

Table VI.3.1 shows the evolution of the gross domestic product (GDP), of the measures of the construction industry activity (CVA and GFCFC) and of the gross fixed capital formation (GFCF), both measured in current and 1980 constant prices for the period 1980-1993. The evolution of the GDP per capita (US dollars, 1980 constant prices) and the share of construction in GDP (in current and 1980 constant prices) are presented in Table VI.3.2.

It can be seen in Tables VI.3.1 and VI.3.2 that both GDP and GDP per capita present two distinct development patterns during the period of analysis: a period of dramatic decreasing growth in 1980-1986 in which GDP fell by about 21% and GDP per capita by about 33%; and the period 1986-1993 in which GDP increase about 5.5% per annum, and GDP per capita growth rate was about 2.8 percent per annum. Throughout the latter period, GDP and GDP per capita experienced an overall increase of, respectively, 45.7 % and 21.9%. This increase was unusually high when viewed in the context of the recent growth process of Sub-Saharan Africa. On the other hand, as Table VI.3.1 shows, it took 13 years for the gross domestic product of Mozambique (measured in constant prices) to reach the level of 1980.

Regarding the measures of the construction output, a more careful analysis is needed when looking at the evolution of these economic indicators in current or in constant price series. For the period 1980-1985, Table VI.3.1 indicates that CVA, measured in constant prices, decreased from MzM 3.38 billion in 1980 to MzM 2.88 billion in 1985. The GFCFC, in the same period, decreased from MzM 4.80 billion in 1980 to MzM 4.31 billion in 1985. Now, looking closely at he Table VI.3.2, it can be seen that CVA as a share of GDP presents different patterns when viewed in current or, alternatively in constant prices. Viewed in constant prices, the share of CVA in GDP presents, in general, a pattern of slight increase (a value between 0.046 and 0.054) and a significant increase in 1982-1983 in which CVA increased in real terms. When the analysis is made in current prices, the evolution of CVA as share of GDP in the period 1980-1985 shows a continuous decline, also with the exception of the period

1982-1983. How to interpret these figures in the context of the general economy? In Chapter VII, the mechanisms of the price formation within the framework of the economic system of Mozambique is described in great detail. What is important to note here is that Table VI.3.1 shows that, during the period 1980-1985, the increase in prices in the overall economy (GDP deflator) was consistently higher than those pertaining to the construction industry. In 1984-1985, particularly, the difference is striking: An overall inflation of about 50% compared to an inflation of around 10% in CVA and GFCFC.

For the period 1986-1993, the evolution of the indicators of the construction industry activity appears to follow that of GDP. Indeed, both CVA and GFCFC present generally a pattern of increasing growth throughout this period. The relatively high increase in the values of the two latter indicators in 1985-1986, in which GDP per capita did not increase, deserves a brief note. The last year coincided with the completion of the “Pequenos Libombos” dam, the largest civil engineering work in the post-independence Mozambique. It is also worthy of note that this project was financed by the Italian co-operation in concessional terms, at a time in which the country’s external deficit reached an all-time low (fieldwork interview). These high annual fluctuations are a much common phenomenon in low-income economies, in which a value in one or both indicators of the construction industry as of a particular year can be as much as twice (in real terms) as those of the preceding year (Hillebrandt, 1985). Now, looking back at Tables VI.3.1 and VI.3.2, it can be seen that the construction value added (CVA) and gross fixed capital formation in construction (GFCFC) increased, in general, absolutely but not relatively in the period 1986-1993. Measured in 1980 constant prices, these increases, for respectively CVA and GFCFC, were from MzM 3.06 billion and MzM 5.06 billion in 1987 to MzM 3.76 billion and MzM 6.43 billion in 1993. The share of CVA in GDP measured in 1980 constant prices (a value between 0.042 and 0.05 in the period 1987-1993) presented, in general, a pattern of slight decline from the beginning of the ERP in 1987 onwards. As suggested in Table VI.3.1, the evolution of the share of GFCFC in GDP follows a similar pattern.

It is important to contrast the evolution of the CVA and GFCFC with the evolution of GFCF in the period of analysis. The latter indicator decreased from MzM 14.8 billion (1980 constant prices) in 1980 to MzM 7.20 billion in 1985, an overall fall of more than 50%. The indicators of the construction output (CVA and GFCF), decreased less than 15% in the same period. In the period 1985-1993, GFCF increased by almost 200% from 1985 to 1993 in comparison with an overall increase of about 49% (GFCFC) or about 30% (CVA). In 1993, the contribution of GFCF to GDP was 22.6% measured in 1980 constant prices, or 40% of GDP if it is measured in current prices. These values show clearly the high level of investment, particularly of non-construction investment, in the Mozambican economy since the implementation of the ERP.

Now, looking at the sectoral allocation of the investment, Table VI.3.3 shows that the share of investment in construction in total investment (GFCFC/GFCF ratio) increased from 32.4% in 1980 to 61.2% in 1985, followed by a decline to 38.9% in 1993, and the contribution of CVA to total investment was about 40% in 1985. This relatively good performance of the construction industry activity in the period 1980-1985 (in contrast, for example, with that of Angola) offers empirical evidence that, even in a depressed economy, the construction sector, particularly when it is based on national resources, can and should play an important role in economic growth.

However, the above values reflect another important feature of the Mozambican construction industry. The CVA/GFCFC ratio was consistently more than 65% in the period 1980-1985 and decreased thereafter to a value of around 50% in the most recent estimates. As can be seen in section VII.4, one of the key characteristics of the formal sector of the Mozambican economy was a policy of fixed price regime in most goods and services. Wages were also administratively fixed and remained practically unchanged during the period 1980-1987. The value of planned construction work in the public sector was consistently less than executed work, and wages and salaries represented, at least until 1987 in which data on the cost structure of the gross construction output are available, more than 50% of the value of total

construction output (MC, various years). This suggests that, apart from the constraints on demand-side, a low level of labour productivity was a dominant characteristic of the Mozambican construction sector. There is no reliable data on the cost structure of the construction output from the period 1988 onwards even for the state-owned construction enterprises. The only data on wage published by the Ministry of Labour (Ministério do Trabalho, 1994) refer to the whole economy, which have been increasing, in real terms, less than the growth of GDP since the implementation of the Economic Rehabilitation Programme (see Chapter VII). It should also be noted that a significant part of the construction work in Mozambique financed by external aid has been undertaken by foreign construction companies, in which the average wage is much higher than in national construction enterprises (fieldwork interview). Thus, assuming that the technological level of the construction industry in this country has not significantly changed since 1987, it is not possible to disclose that the decrease in the CVA/GFCFC ratio from 1987 onwards was due to either an increase in the level of labour productivity, a relative increase in price of construction materials and components, or both.

Summarising, the share of construction value added in gross domestic product (measured in constant prices) in Mozambique followed generally a pattern of stagnation during the period 1980-1993. However, a trend of slight decline was observed in the evolution of this economic indicator in the late years of this period. The growth of GDP tends to be slightly higher than the growth of CVA, both measured in constant prices.

VI.4 Comparisons of the Results of Angola and Mozambique within the Context of the General Model

The relationship between the construction sector and national economy in specific less developed countries of Africa was analysed in Chapter V. Recall that the main results of that chapter indicates that the direct relationship between the share of CVA in GDP and GDP per capita is only consistent with a downturn development pattern.

The comparison between the development pattern of the construction industry of Angola and Mozambique, within the broad context of Group 2 (countries in which GDP per capita decreased in the period 1980- most recent estimates), will shed more light on the main findings of Chapter V.

Table VI.4.1 CVA as a share of GDP and Indices of GDP per capita in Group 2 (mean), Angola and Mozambique; Period 1980 -1992

Year	CVA as a share of GDP (constant prices)			Indices of GDP per capita (1980=100)		
	Group 2 (mean)	Angola	Mozamb.	Group 2 (mean)	Angola	Mozamb.
1980	0.051	0.0801	0.0483	100	100	100
1981	0.046	0.0591	0.0458	97.13	92.51	98.09
1982	0.043	0.0394	0.0459	93.63	85.23	92.96
1983	0.039	0.0416	0.0541	89.87	85.67	78.24
1984	0.037	0.0411	0.0492	87.76	84.64	76.98
1985	0.036	0.0607	0.0496	87.50	87.42	68.44
1986	0.035	0.0460	0.0609	86.13	87.79	67,29
1987	0.034	0.0516	0.0477	87.74	91.50	68.44
1988	0.033	0.0366	0.0500	85.52	94.30	70.30
1989	0.030	0.0309	0.0500	86.46	91.94	72.16
1990	0.029	0.0306	0.0467	86.1	88.95	71.21
1991	0.028	0.0280	0.0465	86.99	86.44	72.86
1992	0.027	0.0239	0.0446	84.78	86.31	72.26

Sources: Table VI.2.2, Table VI.3.2; Chapter V

Table VI.4.1 presents the evolution of GDP per capita and the share of CVA in GDP for the overall group mean- Group 2 (mean), Angola and Mozambique in the period 1980-1992. The evolution of these indicators in this period are also illustrated in the diagrams of, respectively, Figs. V.3 and V.5 in Chapter V.

At first glance, as regards Angola and Mozambique, a relevant characteristic showed in Table VI.4.1 is that of high annual fluctuations in the share of CVA in GDP, particularly in 1980-1981 and 1984-1985 in Angola, and 1985-1986 in Mozambique. As earlier referred to, although not exclusive of the less developed countries, this phenomenon is quite often a much common characteristic of the construction industry in LDCs. Annual fluctuations aside, Table VI.4.1 and Fig. V.5 show that the share of CVA in GDP in Angola and Mozambique presents clearly distinct development patterns in the period of analysis. The evolution of the share of CVA in GDP during this period presents, in general, a pattern of decline in Angola (from 0.08 in 1980 to 0,028 in 1992) and a pattern of stagnation in Mozambique (a value between 0.045 and 0.05). However, in the latter country, from the period 1989 onwards, a trend of slight decline can be observed in the evolution of this indicator. As regards the evolution of GDP per capita, it is observed in Table VI.4.1 that both Angola and Mozambique experienced a decreasing growth in the period 1980-1992, following the general trend of Group 2. Measured in terms of Index of GDP per capita, this indicator varied, in Angola, from 100 in 1980 to 84.78 in 1992. In Mozambique, the same indicator varied from 100 in 1980 to 72.26 in 1992. Again, the development pattern of Angola is different from that of Mozambique. In the former, GDP per capita decreased continuously throughout the period of analysis, with the exception of the years period 1985-1988. In the latter country, a decreasing growth in the period 1980-1986 followed an increasing growth in the period 1987-1992. These patterns also hold for the period 1992-1993 in which GDP, as shown respectively in Tables VI.2.1 and VI.3.1, decreased by about 25% in Angola and increased by about 19% in Mozambique.

Comparing the above development patterns in the context of Group 2, Figs. V.3 and V.5 show that both lines in the diagrams representing, respectively, the evolution of

GDP per capita and CVA as a share of GDP in Group 2 (mean) show a negative slope in the period 1980-1992. This is revealed in a coefficient of correlation of 0.73 which is a highly significant positive correlation. The coefficient of correlation of Angola ($R = 0.668$) is not much different from that of Group 2 (mean), which means that, in spite of annual fluctuations, the evolution of the measures of construction output in Angola follows the general trend of Group 2.

Looking closely at the Figs. V.3 and V.5, and also Table VI.4.1, another similarity between Angola and Group 2 (mean) can be observed in the evolution of GDP per capita and of CVA as a share of GDP. In the periods in which GDP per capita declined sharply (1980-1986 in Group 2, and 1988-1993 in Angola), the respective fall in the share of CVA in GDP was even greater. Contrary to Angola, the coefficient of correlation of Mozambique is -0.355 . Although this value is not significantly negative, Mozambique is among the countries that are part of Group 2 (see section V.4.3) the only one in which a negative coefficient of correlation between the share of CVA in GDP and GDP per capita was observed. This result is, however, consistent with the diagrams depicted in Figs. V.3 and V.5 representing, respectively, the evolution of GDP per capita and the share of CVA in GDP in Mozambique during the period 1980-1992. Whereas GDP per capita in this period shows two distinct trends- a decreasing growth in 1980-1986 and an increasing growth from 1987-most recent estimates, a pattern of stagnation is generally observed in the share of CVA in GDP. However, from 1989 onwards, the growth rate of CVA tends to increase less than the growth rate of GDP.

The picture that emerges from the development pattern of Angola and Mozambique in the period 1980-1993 suggests that the growth in GDP is not the only determinant for the growth in construction output. Indeed, when analysing the evolution of the macroeconomic variables in the latter country (there is no reliable data pertaining to official grants in Angola) during that period, it was observed a similar trend in the evolution of construction investment, total investment and in the amount of official grants channelled to Mozambique.

**Table VI.4.2 Evolution of Official Grants, GFCF and GFCFC in Mozambique
in the Period 1980-1993 (billions of MzM, 1980 constant prices)**

	Year							
	1980	1982	1983	1985	1987	1989	1991	1993
Off. Grants	2.10	1.90	2.16	1.24	5.89	11.75	12.19	14.61
GFCF	14.80	14.70	7.40	7.20	11.10	16.30	18.50	20.20
GFCFC	4.80	4.89	5.03	4.31	5.60	5.83	6.08	6.43

Sources: Table VI.3.1; WB (1993); CNP (1994)

It is worthy of note that the values pertaining to official grants for the period 1980-1985 are underreported particularly those concerning military aid from the former centrally planned economies of Eastern Europe and the former USSR (WB, 1993). And in the case of Mozambique (as well as in Angola), a significant part of the investment in the defence sector was in the form of rehabilitation and repair of military infrastructures owing to the widespread destruction caused by the civil war, particularly from the period 1981 onwards (see Chapter VII).

VI.5 Concluding Remarks

This chapter has analysed the relationship between the construction sector and the national economy in Angola and Mozambique, and compared their development patterns within the context of the general model developed in Chapter V. The results of this analysis have provided a better understanding of the main findings presented in that chapter: in countries which have experienced an increasing growth in the period 1980-1992 (Group 1), the share of construction in GDP followed generally a pattern of stagnation; in countries which experienced a decreasing growth in the same period (Group 2), construction output declined relatively, not only absolutely. Although Angola and Mozambique are part of Group 2, the evolution of GDP per capita in the latter, in the period from 1987 up to most recent estimates, was conforming with that pertaining to the countries that constitute Group 1 in the period

of analysis. The pattern of the construction industry in Angola and Mozambique in this period was similar, respectively, to Group 2 and Group 1.

The case of Mozambique can also aid in the understanding of (and the implication for) the development of the construction industry in countries that are reversing the path of economic stagnation or decline. Mozambique has been experiencing a sustained economic growth in which, according to most recent estimates (CNP, 1995), the annual average growth rate of GDP was just over 7% between 1990 and 1995. The contribution of construction value added to GDP (current prices) was about 7.3 % in the same period, a value unusually high for a country with its level of income per capita. The relatively high value of this indicator should, however, be viewed in the context of a country which relies much on its transport sector, particularly of its rail-port corridors, where main infrastructures have been rehabilitated and upgraded, let alone the relatively low level of its gross domestic product. As construction output during this period has increased absolutely but not relatively, the most recent experience from Mozambique provides evidence that the construction industry should follow rather than provide the lead for the general economy.

This analysis has also shown the importance of country studies, and especially the knowledge of economic institutions (see Solow, 1988; Bon, 1992), for the study of the construction industry and its role in national economy. One evidence presented here is that the pattern of the construction in Mozambique has been intertwined with the role played by the international bodies, particularly the providing of official grants, in the investment strategy adopted in this country since the implementation of the Economic Rehabilitation Programme in 1987 (see section VII.4). Further research on, and those concerned with, the construction industry in developing countries would benefit from the recent experience from Mozambique.

CHAPTER VII

Angola and Mozambique: Country Surveys

VII.1 Introduction

This chapter presents the results of the fieldwork carried out in Angola and Mozambique from 1st January to 15th April 1995.

As mentioned in section I.3.3.2, the fieldwork is part of the research methodology adopted in this study. The purpose of the fieldwork was twofold. Firstly, to collect original data on the construction industry and related sectors of Angola and Mozambique, which are not, in the main, available in the international bodies' publications. Secondly, to survey the opinion of the economic agents' representatives of these countries on the importance of the construction sector within a strategy of economic development, and their perspectives of the development patterns of the construction industry of Angola and Mozambique for the near future (say the next 10 years).

This chapter is divided into 5 parts. In part 1, the objectives and methodology of data collection are described and discussed. Parts 2 and 3 analyse the economic development of, respectively, Angola and Mozambique in the period from immediately before the independence of these countries (1973) onwards. Additionally, the results of a questionnaire-survey conducted on the representatives of the economic agents of Angola and Mozambique, are presented and analysed. Part

4 draws a comparison between the results of the questionnaire- survey of Angola and Mozambique within the perspective of the ECERU Opinion Surveys (Bon, 1993, 1994, 1994a). Finally, a concluding remark summarises the results of this chapter.

With the exception of sections VII.3.3 and VII.4.3 (the results of the questionnaire- survey of, respectively, Angola and Mozambique), the reader can disregard the remainder of the sections VII.3 and VII.4, respectively, the economic development of Angola and economic development of Mozambique. The reason for the presentation of the latter sections is to give the reader a better comprehension of the macroeconomic environment prevailing in these countries throughout the period of analysis. They prepare, it is expected, the ground for further studies on the construction industry and its role in economic development of Angola and Mozambique. The economic development in the colonial period of Angola and Mozambique is presented, respectively, in Appendices A.2 and A.3.

VII.2 Objectives and Methodology of Data Collection

VII.2.1 Objectives

As stated above, the fieldwork is part of the methodology adopted in this research project. The relationship between the construction sector and economic growth and development within the context of Angola and Mozambique's economic performance, particularly the evolution of GDP, was analysed in Chapter VI. In this chapter, the main concern is to present an overview of the macroeconomic and social framework prevailing in these countries, and specifically to analyse, as far as data would permit, the interrelated processes of the economic growth and development of Angola and Mozambique. This way, I hope to go deeper into the analyses than it would be looking only at the rough figures of the national accounts tables.

One aim of the research is to collect and coordinate data on Angola's and Mozambique's construction sectors. It is widely recognised that data on the construction sector, though they appear twice in national accounts statistics (in terms

of value added and as a component of gross fixed capital formation), are less reliable compared to those pertaining to other sectors of the economy (Turin, 1973; Bon, 1990). Regarding developing countries, the situation tends to get worse in terms of the accuracy of data.

As far as this fieldwork is concerned, many of the interviewees and respondents of the opinion survey are (or were) responsible for government departments that provide data on the construction sector and other sectors of the economy. To my understanding, it was of utmost importance to acquaint the opinion of these economic agents' representatives on the role construction sector played (and plays) in the process of economic development. Furthermore, it was interesting to confront quantitative data with qualitative data provided by the producers of the former. Regarding the questionnaire-survey, it was designed to collect qualitative data on the construction industry and related sectors for complementing quantitative data provided by government publications and international sources, and to elicit the opinion of the aforementioned economic agents' representatives on the constraints that affect the demand-side and supply-side of the construction industry in Angola and Mozambique.

A subsidiary objective of this opinion-survey is an attempt to contribute to the diffusion of new approaches in the field of construction economics and to a certain extent development economics within the construction professionals community and government departments of those countries.

VII.2.2 Methodology of Data Collection

VII.2.2.1 Introduction

As stated above, data would be obtained through the collection of secondary data published by varied government departments, interviews with representatives of Angola and Mozambique's economic and financial sectors, and a questionnaire-survey conducted on the same economic agents' representatives.

As pointed out by several writers (Reynolds, 1985; Bon, 1990), statistical coverage tends to improve with the level of economic development. It is not surprising that the difficulties of data collection, at least for academic purposes, conversely, tends to get worse with the level of economic development.

In order to tackle these difficulties a thorough preparation of the fieldwork was carried out before visiting Angola and Mozambique. Thus, through the scarce literature available pertaining to Angola and Mozambique, and also from a former research experience of my own on the construction sector in Cape Verde Islands (Lopes, 1992), it was possible to know the main government departments responsible for the publication of statistical data and other information. In order to facilitate this work, I contacted different experts in construction economics and related areas, who have, in common, a great deal of expertise and/or interest on specific problems that concern developing countries. Thus, Prof. M. Oliveira- Lusófona University, Lisbon, Portugal, provided me with contacts to key representatives of Angola and Mozambique's government departments. Mr Merryfield- University of Durban, South Africa, gave me advice on the first draft of the opinion-survey. Prof. Ranko Bon- University of Reading and Dr. Hillebrandt advised me on the strategy for the collection of secondary data pertaining to the construction sector. I benefited also from the discussions with Prof. M. Oliveira and Prof. Braga de Macedo- New University of Lisbon, Portugal, respectively, members of UNIDO and World Bank missions that undertook economic review of Mozambique and Angola (UNIDO, 1987; World Bank, 1991b). The questionnaire-survey follows broadly the structure of the ECERU Opinion Surveys (Bon, 1993, 1994, 1994a). Questions concerning the sectoral level of the construction industry were drawn from the varied literature concerning the construction industry in developing countries, from which the main findings can be summarised in HABITAT (1982), World Bank (1984) and UNIDO (1985).

VII.2.2.2 Interviews

The objectives of the interviews were to contact economic agents' representatives of Angola and Mozambique (Government, business services, bank and industrial

enterprises), whom one can imagine as these countries' opinion makers in terms of strategy for economic development, and the role the construction sector plays in economic growth and development.

The interviews were carried out in two phases. Firstly, top level representatives of former and actual Government and other economic agents were contacted. As a result of these interviews, a broad perspective on the construction sector's operating environment, including policy changes in the area of general economic policy, was obtained.

The final design of the questionnaire-survey was also discussed, together with suggested potential respondents of the questionnaire and an indication of the main statistical sources of interest for this research.

These interviewees were: 1) in Mozambique: a former Prime-Minister and Minister of Planning and Finance; two representatives of the Ministry of Planning and Finance; the Minister in the Presidency for Economic and Social Affairs, a former Minister of Construction; a representative of the Bank of Mozambique; a representative of the People's Development Bank, and a top manager of a construction enterprise; 2) In Angola: a former and the actual Minister of Construction; two representatives of the Ministry of Construction, a representative of the National Institute of Statistics; two representatives of the Ministry of Planning and Economic Co-operation; a leading academic; and a top manager of a construction enterprise.

The second phase of the interviews (9 in Mozambique and 5 in Angola) was directed to the remaining respondents of the opinion-survey (not all the respondents). In general, in these interviews, some items of the questionnaire were clarified and the depth of interviews carried out according to the status and area of interest of the respondents.

VII.2.2.3 Collection of Secondary Data

The main government departments that publish data on the construction industry and related sectors in Angola and Mozambique are:

1) In Angola:-

Ministry of Planning and Economic Cooperation (Ministério do Planeamento e Cooperação Económica- MPCE); Ministry of Construction (Ministério da Construção- MC); National Institute of Statistics (Instituto Nacional de Estatística- INE); and National Bank of Angola (Banco Nacional de Angola- BNA).

2) In Mozambique:-

Ministry of Planning and Finance (Ministério do Plano e Finanças- MFP); Ministry of Construction (Ministério da Construção- MC); National Directorate of Statistics (Direcção Nacional de Estatística- DNE); Bank of Mozambique (Banco de Moçambique- BM); and National Planning Commission (Comissão Nacional do Plano- CNP).

Data published by international bodies were provided by the CNP in Mozambique, and MPCE in Angola.

The collection of time series data on construction and related sectors would span the period from 1973 onwards. Unfortunately, data do not consistently cover the entire period of reference (especially in Angola) but it is possible to identify the global trends concerning the different indicators of the construction industry activity, and the structure of gross domestic product (GDP) and other macroeconomic indicators in the period of analysis.

VI.2.2.4 Questionnaire-Surveys

The questionnaire-survey was designed, mainly, to complement quantitative data provided by publications from government departments and international bodies, and

to elicit the opinion of the aforementioned economic agents' representatives on the role the construction sector plays in economic development of Angola and Mozambique. The constraints that affect the demand-side and supply-side of the construction industry in these countries are also addressed in the questionnaire-survey.

As noted in the introduction, the knowledge of economic institutions is important for the understanding, in Lucas' (1988) words, of the mechanics of economic growth of nations. Addressing the role of the agents of these institutions, and pertaining to the study of the construction sector, Bon (1993: p. 9) writes:

...It takes many years to put in place a constructed facility of any significance, but it may take a few hours or days to change the views of those who are instrumental in deciding upon and investing into these construction facilities. Our research needs to focus on the human mind and its "products" rather than exclusively on bricks and mortars.

The recent changes in the political and economic environment in Southern Africa and the prospect of a strengthened regional block in this region (South Africa is considered the economic pole of the region), in which cooperation in the areas of transport and energy is now a reality (SADC, 1995), can provide insights for new research approaches on the role the construction sector plays in economic growth and development, both in individual countries and in the regional block as a whole. Thus, it is reasonable to assume that the opinion of these "opinion-makers" concerns much more than his/her individual country. It is, to a certain extent, of interest of all Southern African countries. This issue is, however, out of the boundaries of this study.

The opinion-survey is divided into three parts (see Appendix A.4). The first part is personal and confidential: name, post, organisation, date, country and kind of engagement with the construction industry. The second part consists of 7 questions concerning the construction sector and economic development. In the first 6

questions, the respondents were asked to range in a scale coded from **1**, “**unimportant**” to **5**, “**very important**” each statement of each question. The last question consists of a statement concerning the share of construction in GDP and the stage of economic development. The respondents were asked to tick the appropriate box in a scale of agreement ranging from **1**, “**strongly disagree**” to **5**, “**strongly agree**”. The third part of the questionnaire consists of 3 questions concerning the sectoral level of the construction industry, for the next 10 years. The first 2 questions concern measures to tackle the constraints that affect respectively the demand-side and supply-side of the construction industry. The respondents were asked to range in a scale which varies from **1**, “**unimportant**” to **5**, “**very important**” each statement of each question. The last question concerns the growth prospects of different market segments of the construction activity. The respondents were asked to present their view on the growth prospect of each market segment in a scale which varied from **1**, “**decrease strongly**” to **5**, “**increase strongly**”.

The structure of the questionnaire is the same for both Angola and Mozambique, with the exception of the question regarding the construction market (see Appendix A.4). In the former country, the market segment of public works was divided in two sub-segments: sanitary works and other public works, both of them comprising repair and maintenance construction works. In the latter, the market segment of the public works comprised repair and maintenance works, and new public works. The majority of the respondents are economists or civil engineers (note that in Portuguese-speaking countries all graduate construction professionals- except architects- are civil engineers), they live in the capital cities, have some kind of link with the construction industry, and are/were top level representatives of Government departments, construction enterprises, financial sectors and the academy. The questionnaire was sent, or handed in, to 36 respondents in Mozambique and 25 respondents in Angola. The responses to the questionnaire number 29 from Mozambique and 21 from Angola. Interestingly, all the participants in the interview (both first and second phases) responded to the questionnaire.

VII.3 Angola : Country Survey

VII.3.1- Introduction

This section discusses and analyses the relevant characteristics of the economic development of Angola in the period from 1973 (shortly before the independence of the country) onwards. The economic system is comprehensively reviewed, and the macroeconomic performance in this period is analysed. Additionally, the results of an opinion survey conducted on the representatives of the economic agents of Angola are presented and analysed.

VII.3.2 The Economic Development of Angola since Independence

VII.3.2.1 The Economic System of Angola

This section presents the most significant features of the system of organisation and management of the Angolan economy since its independence in 1975. Specifically, it broadly discusses the roles played by central planning, foreign exchange policy, price policy and organisation of the productive activity in the country's macroeconomic management. Additionally, a description on the reform of the economic policy which has been envisaged since 1987 is presented and discussed. Most of the information presented in this section is taken from World Bank (1991b).

The Institutional Framework of Economic Management

Central planning has been the dominant feature of the Angolan economy. After independence, the People's Republic of Angola¹ declared itself a socialist country. According to its Constitution, the organs of the State are subordinated to the ruling party -MPLA which was renamed MPLA-PT (People's Movement for the Liberation of Angola- Labour Party) after the First Congress Party in 1977.

¹ In 1991, the country changed its name for Republic of Angola

The establishment of an economic system, based on central planning, nationalisation of a significant part of productive enterprises and rigorous State control of economic activities, was determined not only by official ideology (WB, 1991b: p 8). Indeed, the large number of productive units that the government took control on was, for the most part, the result of abandonment by their previous owners. Further, the law on State Intervention enforced in 1976 which formally nationalised the abandoned enterprises, was intended to allow the private sector to play an important role in the economy. However, with the establishment of state monopolies in foreign trade, banking and insurance, the State became not only the ultimate responsible for managing the economy but also a dominant economic agent in a wide range of productive activities.

A National Planning Commission (CNP), with the might of being an organ of the Council of Ministers, was established in 1976, one year after independence. This commission was aimed at monitoring and coordinating activities in almost all sectors of the economy. Four levels of planning were addressed in the annual plans: national; sectoral; provincial; and at the level of productive units. Annual plans at national level included not only indicators and programmes in the areas of growth projections of the aggregate national output, budgets for foreign exchange receipts and expenditures, programmes for employment and wages, state budget, but also programmes for strategic sectoral investments (e.g. dams, bridges and military construction works) which were ultimately approved by resolution of the Council of the Ministers (fieldwork interview).

The Allocation of Foreign Exchange

The allocation of foreign exchange was, even at micro level, the most visible face of the excessive intervention of the government in the economy. Foreign exchange was allocated administratively on the basis of economic and social priorities defined by the government. With the exception of some companies (mainly in the oil and mining sectors), all firms (private and state-owned enterprises) earning foreign currency through exports or services must turn all of their earnings over to the central bank - BNA (Banco Nacional de Angola) - at official exchange rate. Likewise, all

decisions of any enterprise that required the use of foreign currency (imports, foreign labour contracts) must be preceded by a licence from the Ministry of Foreign Trade. The implementing organ responsible for drawing up the foreign exchange budget was the BNA.

This foreign exchange planning process was very time-consuming. Due to the lack of skilled personnel in Angola, the allocation of foreign exchange has not been functioning efficiently. Further, as can be seen in section VII.3.2.2, Angola rely heavily on oil export for obtaining its hard currency. In the periods of severe foreign exchange shortage (due to fall in production and/or in price of oil), many potentially productive enterprises were left without required intermediate inputs and equipment, resulting in substantial inefficiencies in production and productivity. The consequences of the civil war which erupted in the country shortly before its independence (see Angola Profile in Appendix A.2) were also a major constraint for the supply of foreign currency to the economy.

Price Policies

Price policy was based, until 1988, on government control in practically all prices of goods and services. The policy of controlled prices was administered by the National Price Office (Direção Nacional de Preços), a department of the Ministry of Planning. Sectoral ministries were also involved in this process of price control.

The system of price control has been divided, and evolving, into four regimes: The fixed price regime had been the most favoured in the early stages of post-independence up to 1988. It covered most essential goods and services, including a wide variety of food products, clothing, footwear, housing rents, water and electricity, oil products, cement and other building materials. Prices on this regime were approved by the Council of Ministers on the proposals of the Minister of Planning. The controlled price regime included a large number of agricultural products, raw materials and services which were considered important but not meriting a fixed price. In this regime, either a minimum or a maximum price is specified and decisions have been set up by the Ministers of Planning and Finance,

and of the sectoral ministry involved. The two remaining regimes, which covered less essential products, had been a fixed commercial margin regime and a declared price regime. In these regimes decisions were set up by sectoral ministries or provincial authorities.

Price policies have also been a major cause of the persistent difficulties in the economy of Angola since independence. The generalised controls and rigidities (until 1991) and deficiencies in their implementation (often the same product under the jurisdiction of different ministries or provincial authorities had different prices) were a burden on enterprise efficiency as price did not play a significant role in equating demand with supply (MC- *Annual Report 1989*). The immediate consequence was a disincentive by the part of public enterprises in increasing production. Mismanagement in public enterprises, shortages of goods and services, especially basic goods, at official prices led to an upsurge in the late 1970s of parallel markets, in which prices were determined by demand and supply.

Wage policy had also been established centrally and no incentive for increasing productivity was envisaged for individual production units, as output was centrally planned by sectoral ministries. Further, as a component of their salaries, workers in productive enterprises, especially in the manufacturing sub-sectors of food processing and drinks, have benefited from the opportunity to buy a certain amount of these goods at official prices (the so-called "auto-consumo"). Government services and foreign enclave companies (mainly in the oil sector and construction enterprises) have created special shops for their workers. This unequal access of basic goods and services at official prices, reflecting to a certain extent different economic status of the Angolan population, have hard hit the most vulnerable of its population (low-paid urban workers and peasants, let alone unemployed and displaced people).

Monetary policy has been, in the main, an instrument of the Government to finance the war effort, and to face the fluctuations of net foreign assets, resulting from the instability in the world price of oil. According to the World Bank (1991b: p. xiv), the monetary aggregate M2 rose 180% in the period 1980-1985 and the real supply of

goods and services, at least, did not increase in the same period. The foreign exchange rate had remained unchanged (US\$ 1=Kz 29.8) from 1976 up to 1991 despite an official inflation (CPI) of about 100% in the last decade (INE, 1993a). This increase in money supply and the consequent loss of value of the Kwanza (national currency) has aggravated the shortage of goods and services in the official market and propelled inflation in the parallel markets. The latter market would play, at least until the early 1990s, a key role in the Angolan economy.

The Administrative and Productive Structures

The economy of Angola, as in most Sub-Saharan African countries, consists not only of a formal sector, but also of parallel markets and a substantial subsistence sector (Todaro, 1992). The subsistence sector in Angola has developed mainly in rural areas due to disruptions in trade and transportation caused by the war.

The modern sector of the economy is organised in accordance with a centrally planned economy: state ownership of a large part of productive enterprises and administrative control of economic activities. In the early years of the post-independence period, the Government nationalised the abandoned enterprises, including foreign ownership in banks, and established a state monopoly in insurance. In the oil industry (the most important source of revenue of the state budget and, practically, the only country's foreign exchange earnings), the Government created a public-owned company (SONANGOL) which has all rights for production and exploration of hydrocarbons, and operates under special regimes on the basis of joint ventures and production sharing agreements with foreign oil companies (DTI, 1995). The foreign assets of the oil companies as well as the foreign share in diamond mining industry have remained untouched. These foreign companies operate under special legislation as regards the ability to use their foreign exchange revenues, and are not submitted to the import licensing process.

In addition to these foreign enclave companies, other private enterprises and mixed enterprises have been operated in Angola since the independence. As has been referred to, their autonomy is very limited, so that they depended (and in part still

depend) on government decisions in regard to importing licences, allocation of foreign exchange, prices and purchases by the public sector. Despite these constraints, these enterprises, operating mainly in the manufacturing sector, have been profitable and growing in number after the reform of economic policy which has been undertaken since 1988.

Public-owned companies are, however, the dominant pattern in the modern sector of the Angolan economy. They cover almost all areas of economic activity and employ most of the labour force in the formal sector of the economy. The public enterprises are tightly controlled by different sectoral ministries to which they report, especially in what concern the allocation of foreign exchange, prices, financing, wage and labour regime, and even at the level of planned output. Although financial data on these companies are not reliable, it is reported (WB, 1991b; MC, various years) that the public enterprises are generally a burden on the state budget, and have been performing unsatisfactorily.

The Reform of Economic Policies in 1987

As mentioned in section IV.1, by the mid of the 1980s, the symptoms of the economic crisis in Sub-Saharan Africa were evident in practically all sectors of economic and social activity. However, contrary to the majority of the Sub-Saharan African countries, Angola, as an oil-exporting economy, was severely affected by the sharp decline in the world price of oil in 1985/1986, and the civil that erupted in the country shortly before its independence (see Angola Profile in Appendix A.2). Further, former CPE countries of Eastern Europe and the then USSR- important trading partners of Angola- were also experiencing, at the time, a serious economic and financial crisis.

As pointed out earlier, most Sub-Saharan African countries have been implementing, since 1987, a Structural Adjustment Programme (SAP) led by the World Bank and International Monetary Fund. Although the Republic of Angola was not, at the time, a member of these international financial institutions, the Angolan authorities

seemed not to disregard the implications of the economic policies envisaged in the SAPs.

The Government of Angola announced in 1987 an ambitious Programme of Economic and Financial Restructuring (known by its Portuguese initials SEF-Saneamento Económico e Financeiro). These economic policies, similar to those envisaged in the SAPs, were intended to be implemented since 1988, and would cover such areas as the liberalisation or adjustments of controlled prices, depreciation of the exchange rate, control of public finances and reform of public enterprises. A phasing-out programme of privatisation of the state-owned companies was also a key component for restructuring the government intervention in the economy.

However, with the continuation of the war, these macroeconomic policies were not, in the main, implemented until 1991. It should be noted, however, that the prices of a certain number of agricultural products were liberalised in 1988. A “Gabinete de Redimensionamento Empresarial” was also established in 1989 with the task of implementing the reform of public enterprise sector by either transferring such enterprises to the private sector or creating some forms of partnership between the private sector and the State (MPCE, 1994).

By the mid-1991, the Government and the main opposition party - UNITA signed a peace agreement (Bicesse Agreement) with the aim at ending the long civil war that persisted in Angola since 1975. A process of democratic transition was followed and multi-party elections were summoned for October 1992. This peace process was short-lived and lasted only 18 months. During this period, the new political climate was accompanied by an acceleration of economic reforms. The Government launched for 1991-1992 a Programa Económico e Social -PES (Economic and Social Programme) which led to a series of devaluation of the Kwanza, the removal of almost all price controls, the launch of a vast privatisation programme, and the restructuring of the banking system (separating the functions of central bank and commercial bank of the BNA, and allowing the private sector to operate in this area). Nevertheless, a key component of that reform that did not take place (as in 1995) was in the area of public finances (Moura Roque, 1996). A reduction in current

expenditures, particularly military expenditures, was the starting point envisaged in the PES.

The resumption of the war at the end of 1992 interrupted abruptly these positive developments. During the period 1992-1994, the country was plunged in an unprecedented destruction. The massive destruction of economic and social infrastructures, for the first time in the big cities, led to a disintegration of the regulation of economic activity at the time when the return to a market economy was being fostered (Republic of Angola, 1995). The production in all the non-oil sectors nearly collapsed and the macroeconomic imbalances reached alarming levels, and GDP fell by 25% in 1993. In these 2 years, the social crisis has even got worse: more than one tenth of the Angolan population was displaced, and the indicators of welfare fell dramatically (MPCE, 1994).

The peace process was resumed in November 1994 after the signature of the Lusaka Protocol between the Government and UNITA. The United Nations and a troika of observers (Portugal, Russia and the United States) are also involved in this process. The Constitution of Angola is being revised and complicated negotiations are still in place (at the time of writing) in order to establish a power-sharing agreement between the actual Government and the main opposition party. It is expected that the democratic process, based on a multi-party system, will return to normal in 1997. The key reforms of the macroeconomic policies which were interrupted by the resumption of the war will be then, it is expected, implemented.

VII.3.2.2 Macroeconomic Performance Since Independence

The structure of the national economy and its evolution are presented in terms of the behaviour of gross domestic product (GDP) and other macroeconomic indicators. The period of analysis, and for selected years, is 1980-1994. The period from 1973 to 1980 is briefly commented on owing to the scarcity and reliability of data. It should also be noted that, for the period 1980-1994, data on the evolution of GDP (measured in terms of 1987 constant prices) are subject to certain qualifications,

specially for the period between 1980 and 1984. This issue was discussed in greater detail in section VI.2.

Gross Domestic Product

As noted earlier, the economy of Angola was severely disrupted during the transition to independence. The massive exodus of the Portuguese settlers in 1974/1975 who were in charge of practically all administrative and managerial posts led to a situation of almost total chaos in the economy. The persistence of the civil war until 1994 and the invasion of the South of Angola by the South African armed forces in 1975 created also serious disruptions in a great part of the Angolan territory.

Although I am aware of the great limitations of the data for the period 1973-1980, available only for the aggregate GDP, some general trends for this period can be established. The main source of data are based on OECD (1990), World Bank (1991b) and information resulting from the interviews carried out during the fieldwork in Angola. During this period GDP (in 1970 constant prices) decreased from Kz 51,862 million in 1973 (an all-time peak in Angolan economy) to a dramatic slump of Kz 30,373 million in 1975, followed by a decrease to Kz 27,984 million in 1977. From 1977 up to 1980 the Angolan economy experienced a slight recovery and GDP increased to Kz 31,175 million in 1980. This increase in GDP in 1977-1980 was due to the increase in the world price of oil in the late 1970s, and a steady recovery in diamond production, which was disrupted in the early years post-independence (fieldwork interview). In this period, a significant development in the construction sector (mainly provisional bridges) took place alongside the improvement in the military situation, particularly after the abandonment of the South African armed forces in 1976.

For the period 1980-1994 in which statistical data, despite their limitations, are reasonably reliable (see section VI.2), the structure of GDP and its evolution are analysed in greater detail.

Table VII.3.1 Gross Domestic Product of Angola in Selected Years
(Billions of Kwanzas, 1987 constant prices)

	Year							
	1980	1984	1985	1987	1988	1990	1992	1993
GDP	201.3	189.5	201.1	221.9	234.3	234.2	240.6	186.2

Source: Chapter VI

Table VI.3.2 Structure of Gross domestic Product (percent)

Sectors	Year								
	1980	1984	1985	1987	1988	1990	1992	1993	1994
Agriculture	22.0	21.3	13.4	12.8	15.8	17.9	19.1	19.7	11.9
Oil	22.5	29.3	27.8	27.2	24.8	30.8	32.7	35.2	49.9
Industry *	1.5	9.6	10.3	7.8	10.4	7.1	6.1	5.2	4.5
Construction	6.4	3.3	4.8	5.2	4.0	2.9	2.4	1.9	1.6
Services **	37.6	36.5	41.8	45.2	43.6	40.7	36.5	38.4	32.0
Import Duties	..	..	1.9	1.5	1.4	0.6	3.2	2.1	1.5
Total GDP	100	100	100	100	100	100	100	100	100

Notes: ()- comprises manufacturing, diamond and other mining and quarrying, electricity and water (**) comprise transport and communications, banking and insurance, commerce, producers of government services, other services, and input bank charge. Sources: World Bank (1991b); INE (1993a); INE (1994) MPCE (1994); SEPLAN (1995)*

Tables VII.3.1 and VII.3.2 show that the Angolan economy experienced, in general, a severe deterioration throughout the period 1980-1994. Looking closely at the Table VII.3.1, it can be seen that in terms of per capita GDP, the average annual growth rate was -4.2% in 1980-1984 and about 2.5% in 1985-1998 (average annual growth rate of population = 2.8%). From 1988 onwards there has been a continuous decline in per capita national income, despite a small recovery in the short period of peace (1991-1992) which, nevertheless, did not match population growth. According to Republic of Angola (1995), per capita GDP was US\$ 410 (current prices) in 1994 practically half of the 1990 level. As has been referred to, a great deal of caution is

needed when interpreting the figures in US dollars based on a single year exchange rate, especially in the case of Angola in which the national currency suffered an abruptly continuous devaluation from 1991 onwards.

Oil was the only sector that did not follow this downturn pattern, and it is practically the paymaster of the Angolan economy, despite some disruptions caused by the war and the sharp fall in the world price of this commodity in 1985/1986. The contribution of the oil sector to GDP was about 50% in 1994, which is typical of an one-product dependent economy. In the same year, oil and oil-related activities represented about 90% of Government revenues and contributed 97% to total exports. The sectors of the economy which were severely affected by the war were, energy, manufacturing, construction and transport, though data are not presented in disaggregated form for the services sector. Commerce and agriculture, especially rural trade, were also severely affected by the resumption of the war in 1992 owing to disruptions in transports infrastructures . The small recovery that is observed for agriculture in the early 1990s was more due to a sharp rise in agricultural product prices than an increase in production during the short period of peace in 1991-1992. The sharp decline (both in absolute and relative terms) in manufacturing and construction, especially from 1990 onwards appears no less than dramatic. The contribution of construction to GDP varied from 6.4% in 1980 (current prices), 2.9% in 1990 to 1.6% in 1994. Taking in account the different components of the industrial sector, the share of manufacturing in GDP decreased from 10% in 1980, 5% in 1990 to 3.4% in 1994.

Apart from the sharp decline in per capita national income, other immediate consequences on national supply derived from this severe drop in domestic production has been an increase of imports to fulfil the people's basic needs, and a sudden increase in the cost of transporting goods owing to the massive destruction of transport infrastructures.

The analysis above depicted suggests that all those factors, and also the radical change in the production structure, have had a direct effect on price levels (including the price of money) and the State budget, which in turn impact heavily on the

country's macro-financial balances. Some of these macroeconomic imbalances, particularly pertaining to the period that follows the reform of economic policies in 1988, is outlined below (see also Table A.2.3 in Appendix A.2).

The State Budget, Creation of Money and Inflation, and the Balance of Payments

The budget had always shown since the early 1980s an overall structural deficit of about 7% financed by Treasury advances which were rarely repaid (World Bank, 1991b). The partial liberalisation of the economy in mid-1991 did not reverse this trend due to the high level and rigidity of Government current expenditure. Excessive spending during the electoral campaign in 1991-1992 and high military expenditure after, led to a huge deterioration in Government revenues. The high levels of subsidies for prices, especially on petroleum products and the high levels of external debt also contributed to this situation (MPCE, 1994). The budget deficit increased from 18% of GDP in 1991, 22% in 1992 to about 30% in 1994. As has been noted, the oil sector has always been the main source of revenue for the State budget, and since 1992 it constitutes practically the only source of State finance.

The creation of money has taken traditionally the form of credits for public enterprises with low levels of productivity and advances to the State budget. The monetary supply M2 rose at an average growth rate of 17% per year throughout the 1980s although with large year to year fluctuations, reflecting the erratic movements in net foreign assets and domestic credit, and ultimately the instability in the world price of oil. The National Bank of Angola had maintained a fixed exchange rate during the period 1975-1991 (US\$ 1 = 29.88 Kz) whereas the value of the U.S. dollar in the parallel market had been much higher - Kz 827 per US dollar in 1991. The resumption of the war in 1992 accentuated this increasing trend in money supply. Advances to the State increased by 757% in 1992-1993 and by 843% in 1993-1994 (at end year). Accordingly, the monetary base increased during 1993 by 780%, of which more than 97% consisted of advances to the State and public enterprises. This increase in money supply, added to the strong devaluation of the national currency since 1991, led to a high level of inflation. This indicator increased

from 175.7% in 1991, 495.8% in 1992 to a dramatic increase to 1837.8% in 1993. In the year to December 1994, inflation decreased to 972% which was a substantial reduction compared to the 1993 level but much higher than the targeted 260% in the 1994 PES.

The balance of payments of Angola has two main characteristics: i) it is typical of a country depending mainly on exports of a single product, in this case oil, and having massive resource to external services; ii) the overall balance of payments has been financed largely by running up arrears on medium and long-term debt.

Angola has always had a positive trade balance (see Table A.2.3 in Appendix A.2). However, the components of the trade balance depend largely on the level of oil revenue. After a fall in oil production (or a decrease in oil price) both exports and imports tend to decrease. The current balance, however, has been showing a large deficit. In 1994, this deficit amounted to US\$ 879 million, about 15% of GDP. The main cause of the problem has been the balance of services which have been increasing from 1985 onwards. As a result, the country's reserves have been reducing and the Government ceased to honour its debt obligations (MPCE, 1994). Total external debt for 1994 was estimated to be US\$ 13.5 billion (261% of GDP) of which US\$ 5.3 billion are in arrears. These figures indicate that Angola is one of the most heavily indebted countries in the world. However, contrary to most Sub-Saharan African countries, a great majority of this debt (86%) is bilateral, of which three-quarters is owed to non-OECD countries. The main creditors are Portugal, Brazil and principally Russia. It is reported (SADC, 1995) that the Paris Club component can be rescheduled but it is not clear whether the Russian one can be rescheduled or a cancellation negotiated.

This balance of payments structure, which is connected with the nature of the budget deficit explains the extent of the erosion of the nominal value of the Kwanza against other international currencies, and also the emergence of a large parallel market. Between December 1993 and December 1994 the value of the Kwanza fell by 1,174 % on the parallel market and by 7,734% on the official market (Republic of Angola, 1995). It is interesting to note that the movements in the parallel market exchange

rate in 1993-1994 reflects roughly the level of the inflation in the country. Of course with these changes in the structure of price formation, and particularly owing to its difference across economic sectors, it is hard to compare data on the national output and its components from the period 1991 onwards with data prior to 1991.

VII.3.3 Questionnaire Results

VI.3.3.1 Introduction

This section presents the results of the opinion-survey carried out in Angola. As earlier referred to, the results of the questionnaire consist of two parts: questions concerning the construction sector and economic development; and questions concerning the sectoral level of the construction industry. In the first 6 questions of the section VI.3.3.2 (Tables VII.3.3. to VII.3.8) and in the two first questions of section VI.3.3.3 (Tables VI.3.10 and VI.3.11), the respondents (N stands for the number of respondents) were asked to range in a scale coded from **1, “unimportant”** to **5, “very important”** each statement of each question. The variables are ranked according to their degree of importance. As the mean increases, their degree of importance increases. In the last question of the section VI.3.3.2 (Table VI.3.9), the respondents were asked to present their degree of agreement about a statement regarding the share of construction in GDP and the stage of economic development. The responses range from **1, “strongly disagree”** to **5, “strongly agree”**. Finally, in the last question of section VI.3.3.3 (Table VI.3.12), the respondents were asked to present their view on the growth prospects of different segments of the construction market for the next 10 years. The responses were coded from **1, “strongly decrease”** to **5, “strongly increase”**. In the case of Angola, the market segment of public works was disaggregated in two sub-segments: sanitation works; and other public works. In all questions, average scores are computed from ordinary coding of the data. A SPSS (Statistical Package for Social Sciences) programme was used to calculate the means and standard deviations (the latter statistics not shown). The lower the standard deviation, the more representative is the mean. Thus, when two or more variables

have the same mean, the relatively higher ranking goes to the variable that has the lower standard deviation.

VII.3.3.2 Questions Concerning Construction and Economic Development

VI.3.3.2.1 *The Productive Sectors of the Economy*

Tables VI.3.6. and VI.3.7 list the productive sectors of the economy according to their degree of importance in the promotion of economic development respectively for the periods 1975-1985 and 1985-1995. Likewise, Table VI.3.8 lists the same variables considering the respondents' expectations for the period 1995-2005.

Table VII.3.3 The Productive Sectors and Economic Development; 1975-1985

Variables	Rank	Mean (N=18)
Mineral Resources	1	4.61
Construction	2	3.39
Agriculture	3	3.28
Transport & Communications	4	3.00
Energy & Water	5	2.83
Manufacturing	6	2.39
Banking & Insurance	7	2.11
Commerce & Trade	8	2.00
Tourism	9	1.28

Table VII.3.4 The Productive Sectors and Economic Development; 1985-1995

Variables	Rank	Mean (N=18)
Mineral Resources	1	4.67
Agriculture	2	3.17
Construction	3	3.06
Commerce & Trade	4	2.78
Transport & Communications	5	2.67
Banking & Insurance	6	2.44
Manufacturing	7	2.28
Energy & Water	8	2.22
Tourism	9	1.22

Table VII.3.5 The Productive Sectors and Economic Development; 1995-2005

Variables	Rank	Mean (N=19)
Construction	1	4.84
Agriculture	2	4.79
Mineral Resources	3	4.68
Transport & Communications	4	4.26
Energy & Water	5	4.26
Banking & Insurance	6	4.16
Manufacturing	7	3.63
Commerce & Trade	8	3.58
Tourism	9	2.11

An inspection of Tables VII.3.3 to VII.3.5 shows that the respondents ranked mineral resources, among the nine sectors of the economy, as the productive sector that most contributed to economic growth and development of Angola in the periods 1975-1985 and 1985-1995. Construction and agriculture ranked respectively second and third in 1975-1985, and in 1985-1995, agriculture changes position with construction. The high value scored by mineral resources (a mean of 4.61 and 4.67 for, respectively, the periods 1975-1985 and 1985-1995) indicates that the respondents' view is consistent with historical evidence. In fact, mineral resources (practically the oil sector) has been since the independence the paymaster of Angolan economy. On the other hand, according to the respondents' opinion, the services sectors and manufacturing (mean scores less than 3, the "not sure" response) had not an important contribution to economic development in the periods 1975-1985 and 1985-1995. Tourism was ranked the ninth sector in both these periods.

As regards the respondents' view for the period 1995-2005, the first relevant characteristic observed in Table VII.3.5 is that the experts in the developmental strategy of Angola are over-optimist as regards the contribution of different sectors of the economy to economic growth and development. Of course this over-optimist perspective is based upon the assumption that political instability will not persist in the near future (fieldwork interview) and then the country will experience a high rate of growth, taking advantage of its rich resource endowments. The mean scores of all

sectors, with the exception of tourism, are over 3, and six sectors, ranked according to their decreasing order of importance- construction, agriculture, mineral resources, transports and communications, energy and water, and banking and insurance- have mean scores over 4, the “important” response. The high values scored by construction, agriculture and mineral resources (ranging from 4.84 to 4.68), and the narrow differences between their average scores, suggest that these sectors are, in the respondents’ view, crucial for the development agenda of Angola in the near future. Manufacturing was ranked the seventh important sector of the economy for the period 1995-2005. Commerce and trade, and tourism were ranked the eighth and ninth sectors, respectively.

VI.3.3.2.2 Goals of Economic Development

Table VI.3.9 lists, apart from the increase in per capita income, goals of economic development, according to their degree of importance.

Table VI.3.6 Goals of Economic Development

Variables	Rank	Mean (N=21)
Creation of employment	1	5.00
Poverty alleviation	2	4.38
Improvement in global competitiveness	3	4.19
Achievement of a better physical and social environment	4	3.67
Diversification of production and/or availability of products and services	5	3.67

Table VII.3.6 shows that employment creation is, in the respondents’ opinion, the most important goal in the economic development of Angola. The mean score is 5, the highest possible, and the unique case in the questionnaire of both Angola and Mozambique. The respondents find that creation of employment is the top priority to be pursued in the process of economic development of this country. Closely related to the above, is the problem of poverty alleviation which was ranked the second most important goal. Improvement in global competitiveness, which besides being an objective is also a cause of economic growth, was ranked the third most important

goal of economic development. A better physical and social environment, and diversification of production and/or availability of products and services were seen as the least important goals to be achieved in the development process of Angola.

VII.3.3.2.3 Construction and Economic Development

Table VII.3.7 lists objectives of a construction industry development programme promoted by Government for the next 10 years, according to their importance in economic growth and development.

Table VII.3.7 Role of Construction in Economic Development

Variables	Rank	Mean (N=21)
Creation of job and diversification of business opportunities	1	4.95
Local manufacture of building materials	2	4.62
Multiplier effect on other sectors of the economy	3	4.19
Optimal use of the country's existing fixed capital	4	3.90
Profit maximisation/cost minimisation	5	3.43
Good quality natural environment	6	3.38

An inspection of Table VII.3.7 shows that creation of jobs and diversification of business opportunities were seen as the most important objectives of a construction industry development programme for the next 10 years. Local manufacture of building materials and the multiplier effect on other sectors of the economy were ranked by the respondents the second and third objectives, respectively. These results are consistent with the view derived from many studies pertaining to the construction industry and its role in national economy (Turin, 1973; World Bank, 1984; Bon, 1991, among other references). Indeed, the creation of employment, the demand for building materials and the positive impact on other sectors of the economy are quite often referred to in the construction economics literature as the most important contributions of construction to the process of development. The construction industry activity, particularly in developing countries, is also often seen as an “unfriendly” industry as regards its impact on the environment. However, a good

quality natural environment was ranked by the respondents the least important objective of a construction industry development programme.

VII.3.3.2.4 Building Materials Industry

Table VII.3.8 lists different strategies for development of the building materials industry for the next 10 years, according to their degree of importance in economic growth and development.

Table VII.3.8 Strategies for Development of the Building Materials Industry

Variables	Rank	Mean (N=21)
Import-substitution of most common used building materials	1	4.71
Building materials that promote labour-intensive technology	2	4.24
Building materials that enhance business opportunities in other sectors of the economy (economies of scale)	3	3.52
Building materials for the housing sub-sector	4	3.33
Export-led production of building materials in which the country has most comparative advantage in the Southern African region	5	3.10

It can be seen in Table VII.3.8 that import-substitution production of most common used materials is regarded by the respondents as the most important strategy for the development of the building material industry in Angola in the next 10 years. The production of building materials that promotes labour intensive technology, which quite often is correlated to the former, was ranked the second. An export-led production of building materials aimed at Angola's partners in Southern African region was regarded by the respondents the least important strategy to be implemented.

VII.3.3.2.5 Construction and Stage of Development

The European Construction Economics Research Unit- ECERU in the Department of Construction Management and Engineering at the University of Reading undertakes, since 1992, an annual opinion survey conducted on the "experts" of the construction industry in their own country and across the world. These surveys, under the

direction of Professor Ranko Bon- Head of the ECERU, present the results of the respondents' view regarding the pattern of the construction industry in the process of economic development, and the growth prospect of the construction market across the globe (for a more complete understanding of these opinion surveys and their results, see Bon, 1992; see also Bon's diagrams in Figs. III.2 to III.4 in section III.2). Among other assertions presented in these surveys, the respondents were asked to present their view on the following statements:

- 1- "The volume of construction output first grows and then declines with economic development".
- 2- "The share of construction in GDP increases in the first stages of development and decreases in the last stages of development".

The majority of these "experts", both of total and of different world regions, agree with the above statements in the 1992, 1993 and 1994 ECERU Opinion Surveys (Bon, 1993, 1994, 1994a). They find that the construction volume and its share in GDP follow a bell-shaped pattern in the process of development.

In the questionnaire-survey presented here, the respondents from Angola and also from Mozambique (see section VII.4.3.2.5) were asked to comment only on the second of the above statements. The results from Angola are stated in Table VII.3.9.

Table VII.3.9 Construction and Stage of Development

Variables	Percentage (N=20)
1= "Strongly disagree"	0.0
2= "Disagree"	10.0
3= "Not sure"	25.0
4= "Agree"	45.0
5= "Strongly agree"	20.0

Table VII.3.9 indicates that 65% of the respondents either agree or strongly agree with the second of the above statements. On the other hand only 10% of the respondents either disagree or strongly disagree with the same statement. Taking into account the “not sure” responses, (25% of respondents), almost two thirds of the respondents find that construction volume increases relatively in the first stages of development and then decreases relatively with the level of economic development.

VII.3.3.3 Questions Concerning the Sectoral Level (for the next 10 years)

VII.3.3.3.1 Demand- side and Supply-side of The Construction Industry

Table VII.3.10 and VII.3.11 list measures to tackle the constraints that affect, respectively, the demand-side and the supply-side of the construction industry, according to their degree of importance in the construction industry performance.

Table VII.3.10 Measures on the Demand-side of the Construction Industry

Variables	Rank	Mean (N=20)
Regulation/amendment of the legislative framework pertaining to the construction industry activity (e.g. property rights and land-use planning, development plans, planning permissions)	1	4.60
Improvement in the planning of public sector projects in order to even the construction demand	2	4.30
Intervention in the financial market to facilitate the housing market through saving from private investors	3	4.05
Establishment of a fiscal policy pertaining to construction companies and property development enterprises	4	3.75
Establishment of a market-oriented housing rent policy	5	3.65
Regulation of the informal sector of the construction industry	6	3.50

Table VII.3.11 Measures on the Supply-side of the Construction Industry

Variables	Rank	Mean (N=20)
Regulation/modification of the procedures for procurement contract forms and contracting prices in the public and private sector	1	4.30
Improvement on the rules and procedures concerning the role of different parties in the construction industry activity	2	4.15
Investment on, and leasing of, construction equipment in order to promote the economic efficiency of the construction enterprises	3	3.80
Regulation/amendment of the wage and labour legislation pertaining to the construction industry activity	4	3.65
Establishment of guidelines at sectoral level, the appropriate construction technology for different sub-sectors in order to award enterprises that achieve Government goals	5	3.50
Regulation/amendment of the law on “Alvarás- Classification of Activities and Enterprises in the Construction Industry”	6	3.40

Tables VII.3.10 and VII.3.11 present the results of the respondents’ view regarding the measures to tackle the constraints that affect respectively the demand-side and supply-side of the construction industry. At demand-side, the clarification and/or amendment of the legislative framework pertaining to the construction industry activity (ranked first), and a better planning of public investment projects (ranked second) were seen by the respondents as the top priority measures for achieving a better performance of the construction industry in Angola in the near future. Government policies aimed at the promotion of the housing market was ranked the third most important measure. The regulation of the informal sector was ranked the least important measure to tackle the constraints on the demand-side.

The regulation and/or modification of the procedures for procurement contract forms and contracting prices, and improvement on the rules and procedures concerning the role of different parties in the construction industry activity, were ranked respectively the first and the second most important measures to tackle the constraints on the side of supply. Government investment in equipment to promote the economic efficiency of construction companies was ranked the third most important measure. The regulation/amendment of the law on “Classification of Activities and Enterprises in the Construction Industry” was seen as the least important policy measure for enhancing the performance on the supply-side of the construction industry.

VI.3.3.3.2 Construction Market

Table VII.3.12 lists different segments of the construction market. These market segments are ranked according to their prospects of growth. The higher the mean, the higher the growth expectation of a particular segment of the construction market.

Table VII.3.12 Construction Market for the Next 10 Years

Variables	Rank	Mean (N=20)
Sanitation construction works	1	4.59
Other public works	2	4.24
Repair/maintenance of industrial and agro-industrial building	3	4.18
Housing	4	4.12
Informal sector market	5	4.06
Non- housing building	6	3.41

Table VII.3.12 shows that, according to the respondents' expectations, sanitation construction works and other public works are Angola's fastest growing market segments for the next 10 years. They were ranked the first and the second, respectively. All the remaining market segments with the exception of non-housing building have average scores over 4, the "increase" response. The results presented here are consistent with the underlying results shown in Tables VII.3.5 to VII.3.7, in which the respondents find that a strong incentive in construction investment was crucial for both the growth process of Angola in the near future, and to help to tackle the serious social problems prevailing in the country.

VII.4 Mozambique: Country Survey

VII.4.1- Introduction

This section discusses and analyses the key characteristics of the economic development of Mozambique in the period from 1973 (shortly before the independence of the country) onwards. The economic system is comprehensively reviewed and the reforms of economic policies throughout this period are commented on. The macroeconomic performance is analysed and discussed, and the industrial development strategy adopted by the Mozambican authorities is reviewed and discussed. In addition, the results of an opinion survey conducted on the representatives of the economic agents of Mozambique are presented and analysed.

VII.4.2 The Economic Development of Mozambique since Independence

VII.4.2.1 The Economic System of Mozambique

a) Period 1975-1987

The difficult process of transition to independence (see Mozambique Profile in section A.3.1) and fear caused by the uncertainty derived from the alteration of the political system led to a progressive exodus of more than 90% of the 250,000 Portuguese settlers, which proceeded until 1997, two years after independence. With the abandonment of the Portuguese owners, managers and skilled workers, factories and other productive enterprises were left under the responsibility of Mozambican workers which had low level of managerial and technical expertise. Furthermore, most of enterprises were running out of inputs and spare parts owing to political instability. The need to counter economic sabotage, which led to the destruction of equipment and flight of capital, forced the transitional government (and subsequently

the post-independence government) to intervene² in the management and supervision of the abandoned or private enterprises (UNIDO, 1987)

As in the case of Angola, central planning was the dominant feature of the Mozambican economy until the implementation of the Structural Adjustment Programme in 1987. At the Third Congress of Frelimo- the ruling party, held in February 1977, “the programme for the construction of socialism in Mozambique” was approved. Pertaining to the economic sphere, the same document set up:

.....the State has as the main task the organisation of the productive sectors in order to guarantee and promote the centrally planned economy, and to develop and strengthen the state sector of the economy (as cited in UNIDO, 1987: p. 15, author’s translation).

Thus, the macroeconomic and social policies adopted by the Frelimo government was not extremely different from what could be drawn from African and Latin American experiences (World Bank, 1993). The relevant features of these policies adopted by the Mozambican authorities as regards the state central planning, the industrial development strategy and the economic policies reform attempted in 1983 are analysed below.

State Central Planning

In the aftermath of the Third Congress of Frelimo, the Government’s economic policy focused on the task of building up the institutional apparatus for state planning and for establishing state control over key sectors of the economy. The key sectors of the economy in agriculture, transports and finance were brought under direct control of the state and formally constituted as state enterprises (Wuyts, 1989: pp. 56-57). Under the law enforced in April 1977, state enterprises were to produce in accordance with targets set up in the State Central Plans (Planos Estatais Centrais-PECs) and to contribute to the State budget as well. A National Planning

² The few known cases of nationalisation in the post-independence period pertain to the petroleum refinery industry and the banking sector. However, this intervention which led to a *de facto* nationalisation were less the result of a deliberate economic policy, rather than of circumstances (fieldwork interview)

Commission (Comissão Nacional do Plano- CNP) was established to provide the institutional structure for planning and monitoring the economy, and all economic ministries were subordinated to it. Economic ministries were responsible for the state enterprises within their sector of economic activity (UNIDO, 1987). The state budget became the main instrument of financial planning, and the banking system was, in the main, the controller of the execution of the plan as well as the financier of the state enterprises and the budget. An administrative system for the allocation of foreign resources was also implemented by the central bank (Banco de Moçambique - BM) in accordance with the directives established centrally by the Ministry of Planning through the CNP.

Besides intervened and state enterprises, other institutional structures of the enterprises, according to their jurisdictional status, comprised the following groups: private enterprises (including the popular sector), mixed enterprises and cooperatives. Whereas before independence, the majority of the formal enterprises accounted for the private sector, after that date the number of private enterprises decreased significantly, and were subject to a rigid control and regulation by the State. Their autonomy was very limited, especially in the areas of price and wages policies, importing licenses, allocation and use of foreign exchange, and purchasing and selling of goods and services from (to) public enterprises and government services.

With regard to price policies, the pattern of this period had been, in the main, a freezing in domestic prices and in the exchange rate to guarantee the Government's re-distributive policies. The state intervened in the formation of prices of products and services either through the system of fixing their price, establishing the norms of their control (where a maximum or minimum price was specified) or by authorising the practice of a free price regime (usually in rural areas). The products in the fixed price regime (basic consumption goods and petroleum products) were set up by decisions of the Ministers of Planning and Finance. The controlled price regime was under the responsibility of other sectoral ministries or provincial authorities, and the norms for setting up the price in this regime included: the methodology for the computation of production costs; the maximum profit margins to be practised by the

production units; and the maximum commercialisation margins to be adopted in the distribution circuits.

The wage policy was also established centrally, and its main feature was a narrow wage differential which proceeded from the country's political system irrespective of acute shortages of skilled workers at almost all levels of productive and administrative activities. However, public employees (especially senior ones) benefited from an allowance of basic goods given in kind (fieldwork interview).

Another feature of this period was the nationalisation of the social services (health, education, the provision of legal services and funeral services), housing and land ownership. Clearly, the aim was to radically alter the access to services, housing and land, and transform the provision of social services in a way consistent with socialist principles (Wuyts, 1989: p. 40). It goes without saying that some remarkable improvements were achieved in health and education despite the deepening economic crisis in the period 1983-1987. In education, particularly, the progress was somewhat spectacular: a literacy rate of 25% in the mid 1980s compared to a literacy rate of 7% at the end of the colonial period (UNIDO, 1987).

Industrial Development Strategy

The industrial development strategy in Mozambique should be viewed in the context of the political system adopted after independence as well as in the context of the dominant school of thought concerning the determinants of growth prevailing in the 1970s. It should be recalled that the dominant view on the growth theory prevailing in developing countries until the early 1980s, and even within the institutional financial bodies (WB, 1993), was that physical capital accumulation was the main engine of economic growth and development. As had happened with most African countries, Mozambique seemed to have followed this view in the early stages of the post-independence period, particularly after the Third Congress of Frelimo in 1977. Much of this information presented here is taken from UNIDO (1987) and Wuyts (1989).

The proceedings of this Congress called for the establishment of centrally planned economy base on a strong state sector which was to control the key sectors of the economy. The state control of key sectors of the economy - large scale agriculture, major industries, wholesale trade and financial institutions- was seen as the cornerstone of transforming the economy. However private initiative was not to discourage as long as it met the overall objectives of the process of change, and the cooperative movement would be promoted to transform the popular (peasantry) sector, moving towards more socialised forms of production (Frelimo, 1977). The development of productive forces - laying the foundations for heavy industry and raising productivity in agriculture through mechanisation - was seen as a prerequisite for socialist development.

Clearly, the strategy of the Government was to restore production and productivity to pre-independence levels through a heavy programme of investment in large agricultural projects. Agriculture, thus, was seen as the main source of capital accumulation, the producer of foods for the towns and an foreign currency earner through exports. Although the development of the heavy industry was believed to be the ultimate condition for raising long-term productivity, the development of this sector, in the first stages, would concentrate on the production of basic necessities.

The issue of development as synonymous of accumulation was a dominant view in the then Mozambican leadership. The banking system (in fact the central bank) through money creation paid the surplus of investment over savings. However, this policy of exacting a sacrifice from consumers to finance a high rate of accumulation not only had adverse distribution implications, but also seriously hampered the process of transforming production within socialist transition (Wuyts, 1989: p. 64). The rationale behind this proposition is that the easy printing of money to finance investment and the budget (accompanied by a sharp fall in production) led to a scarcity in consumption goods in the official market, resulting that the better off and senior public employees and cadres had privileged access to this market (fieldwork interview).

The shift in external relations envisaged by the Government can also aid in understanding the context in which internal changes took place. A dominant characteristic of Mozambican economy in the colonial period was its dependence on foreign exchange from transport services and migrant labour. The economy of Mozambique became integrated with Southern Africa region under the domination of South Africa, which was then politically hostile to the newly independent countries of Southern Africa (Angola and Mozambique). For Portugal, the colony of Mozambique performed mainly two functions: the supply of cotton for the metropolis textile industry; and the provisions of foreign exchange earnings (see Table A.3.2.2 in Appendix A3)

In terms of economy policy in the post- independent period, the Government had two broad aims with respect to international relationships. First, to re-direct trade dependence (both in terms of exports and imports) towards the Council for Mutual Economic Assistance (CMEA) countries, by seeking association with the CMEA. Second, to foster regional integration in Southern Africa, after the independence of Zimbabwe. The formation of SADC was seen as crucial to counter the economic dependence on South Africa, and transport and energy were seen as the catalysts sectors for cooperation and development towards a fully integrated economy in that regional block. With regard to the latter, cooperation within SADC during the 1980s had been, in the main, unsuccessful owing to the upsurge of the civil war in Mozambique in 1976, and South Africa's military and economic policies in that region. With regard to the former, some positive developments were achieved with respect to the areas of export and import, and the provisions of financial assistance and military aid to Mozambique. However, when Mozambique was experiencing a severe crisis in foreign exchange reserves (as in the early 1980s), CMEA countries were unable to provide more financial aid. Further, Mozambique's proposal to adhere to the CMEA was turned down by the former USSR. This event would constitute a turning point in the political thought of the then Mozambican leadership who was seeking assistance from the then socialist countries to finance the war effort (fieldwork interview).

What followed was another shift in international relationships. Mozambique sought membership in the World Bank and the International Monetary Fund, and its authorities started envisaging reforms of economic policy.

The Revision of Economic Policy in 1983

In 1983, the country was experiencing a severe economic crisis characterised by a dramatic fall in output, an exhaustion of foreign exchange reserves and a drastic cut in imports. Internal and external factors that proceeded since independence are in the origin of this deepening economic crisis (UNIDO, 1987).

As adverse external factors, South Africa's obstruction policy led to a sharp decrease in the number of Mozambican migrant workers in the former country and the destruction of transport and energy infrastructures. The closure of the border with Rhodesia in 1976, in accordance with a UN resolution had also profound implications in the Mozambican economy, so that income from transport services from Rhodesia virtually ceased. The second oil crisis in 1979/1980 was also a major factor that affected the Mozambican economy.

In the internal sphere, an economic policy characterised by the expansion of the state sector and the operation of a central planning system which concentrated resources in state-sector development. Investment in large agricultural and industrial projects, some of them of doubtful economic viability, led to the neglecting of the peasant sector from which most of Mozambican population depended on, not only for subsistence agriculture but also for cash crop production. Added to these an unrealistic price policy which was established assuming a full utilisation capacity of the enterprises. In a productive structure that relied much on (with the exception of some agro-industries) import content, the result was that the planned production far exceeded real production. Negative value added in many manufacturing industries, e.g. cement (UNIDO, 1987) shows the extent to which the economic structure of the enterprises was disrupted. The civil war which intensified and spread to almost all over the territory from the early 1980s onwards aggravated the already fragile economic structure of the country. The agricultural sector was severely affected, and

the destruction of transport infrastructures led to a disruption of the distribution circuits between the towns and countryside.

The Fourth Congress of Frelimo, held on April 1983, discussed the economic policies the Government pursued after the Third Congress and sharp criticisms were appointed in the areas of: the neglect of family agriculture and cooperative sector; the question of private enterprise's place in economic development and over-concentration of investment on the state sector; and the preoccupation of the planning system with large projects, and the consequent neglect of the role of small projects in sustaining and promoting the production of basic necessities (Frelimo, 1983; Wuytz, 1989). In the international sphere, the Congress called for an external policy which aimed, primarily, to promote cooperation with all countries of Southern Africa (including South Africa), to take advantage of its rail-port system. More open economic policies to attract foreign direct investment was also another substantial change brought about by the proceedings of the Fourth Congress.

As a result, the Government's economic policy changed significantly. Although industry was still being seen as the catalyst of economic growth and development in a long-term perspective, top priorities were to concentrate on the promotion of food self-sufficiency and strengthening led-export agricultural production, and to guarantee the supply of inputs to the domestic industrial sector. In terms of the organisational structure of the economy, the roles of the private sector and popular sector were to be encouraged and inserted in the country's development effort.

This was a radical shift in the Frelimo's industrial development strategy. The underlying notion was that in the development process, accumulation *per se* was no longer a key for economic growth and development but rather a conceptualisation of a policy of maintaining a proper balance between sectors within the process of growth, in particular the balance between heavy industrial and infrastructural development on the one hand and consumer goods industries on the other (Wuytz, 1989).

It is interesting to note the similarity of the policy changes brought about by the proceedings of the Fourth Congress and the assertion of Steel and Evans (1984) regarding the role of the industrial sector in the growth process of Sub-Saharan Africa. They observed:

....from the experience of the industrialisation process in Sub-Saharan Africa, it can be concluded that despite the fact that the industrial sector may grow faster than other sectors of the economy, it (the industrial sector) can no longer sustain a growth process that significantly diverges from that of the rest of the economy” (as cited in UNIDO, 1987: p. 33, author’s translation)

Although attempts were made to implement some of the directives that proceeded from the reform of economic policies envisaged in the Fourth Congress, Mozambique was not able to reverse the path of economic decline until the implementation of the Economic Rehabilitation Programme in 1987.

b) The Economic Rehabilitation Programme in 1987

After the introduction in 1984-1986 of partial economic restructuring measures which had been, in the main, unsuccessful, the Government of Mozambique, with the support of the World Bank and International Monetary Fund, launched in the early 1987 an Economic Rehabilitation Programme (ERP) to tackle the structural problems and severe distortions of the economy. Most of the information presented here is taken from World Bank (1993).

The reform of economic policies in Mozambique followed closely the policy reforms envisaged in SAPs, particularly in the two following broad areas: 1) a clear shift toward a more transparent economy (be that market-based or centrally planned economy) with less administrative control and more reliance on international and domestic market mechanisms; 2) improving the efficiency in public administration. The latter area revolved around the idea that only by strengthening the government administrative capabilities, main issues concerning e.g. the improvement in public expenditures, the relation between private expenditures and the efficiency of

government's services, the adequacy of public expenditure with development strategy, can be effectively examined and monitored.

It is worthy of note that the SAPs encompass an initial package of financial assistance (normally grants and concessional loans) to tackle the most pressing needs of the concerned country, which is usually characterised by a balance of payment crisis and huge fiscal deficits. In Mozambique, these problems were aggravated by the prevalence of a civil war (hence representing a fixed additional costs at all levels of economic activity), a dramatic fall in output since 1980 and a creditworthiness limit for commercial external borrowing.

Thus, the institutional bodies supporting the ERP envisaged a process in which reforms on economic policy should be preceded by a programme of stabilisation.

The relevant characteristics of the ERP are as follows:

a) Stabilisation of the economy through restrictive monetary policies and fiscal adjustments. The main goals in these policy measures aimed to ensure the deactivation of the money machine (the policy of printing money to finance fiscal deficits and public enterprises losses and investment) and reduce Government's fiscal deficit. With regard to monetary policies, a set of measures were adopted to reduce the monetary aggregate M2 which was set to grow less than inflation and establishing credit ceilings. The fiscal deficit has been decreasing since 1987 through official transfers (grants) to the Government. In parallel, a process of clarification in the public sector accounting, namely Government and public enterprises, the Treasury and the Central Bank and particularly a strategy to separate the commercial and central banking operations of the BM were envisaged and have been progressively implemented

b) Price liberalisation (including the unification of the exchange rate markets) and financial policies. In this areas a comprehensive set of exchange rate, wage and price policies have been undertaken by the Government since 1987. The Metical (national currency) was, in 1987, devalued more than 600% from MzM 40.43 per US dollar to MzM 289.44 (1987 average) per US dollar, and subsequent steps were followed with

the aim at reducing the difference between the parallel market exchange rate and official exchange rate. In the beginning of the ERP, the official market exchange rate was 50% of the parallel market exchange rate whereas in 1991 the ratio of official market over parallel market increased to 80% (CNP, 1992). After a successful introduction of a secondary official market, that ratio increased continuously and, as in 1994, the difference in the two market exchange rates virtually disappeared.

Fixed prices of products and services were realigned by about 100% in 1987 and then progressively liberalised. Subsequent large increases in controlled prices were introduced in line with the devaluation of the Metical. As a result, real money balances have been consistently declining and the ratio of M2 to GDP fell from about 80% in 1983 to about 35% in 1991. To supplement the price policies, the Government adopted restrictive financial policies. In the fiscal area, the revenue base was strengthened through improvement in tax reforms and tax administration (widening the base of domestic taxes and by the simplification of the mechanisms of its collection). Recurrent expenditures was contained through setting up ceilings on consumer subsidies and on the budgetary transfers to the public enterprises. Whereas the current expenditure as a share of GDP was reduced slightly, the overall deficit (excluding official grants) increased sharply as a result of the impact of the exchange rate changes on capital expenditures. However, The Government overall fiscal deficit has been controlled through official transfers, and tends to decline. Inflation (CPI) was reduced from 180.5% in 1987 to 85% in 1988 and has been progressively declining to a value less than 50% in subsequent years (see Table A.3.3, Appendix A.3).

c) Foreign savings. Inflows of foreign saving, especially grants, played (and is continuing to play) an essential role in supporting the structural reforms of the Mozambican economy. Grants and concessional credit have been the main source for reducing the budget deficit and supporting the balance of payments. Further, an expansion of externally financed public expenditures was the basis upon which to build, rehabilitate and maintain the country's physical infrastructure, which has been an incentive for attracting private (internal and external) investment since 1987. It is also through another component of the foreign aid -food and income subsidies-

addressed particularly to the poor strata of Mozambican population, that has been possible to maintain the needed political consensus for the success of the economic reforms. In this respect, the ERP has been renamed ESRP (Economic and Social Rehabilitation Programme), and show the extent to which the Government and the donors committed themselves to foster the welfare of the most vulnerable of the Mozambican population (Report from Mozambique, 1995).

Summarising, the Economic and Social Rehabilitation Programme has reversed the path of economic decline of the early 1980s, and donor driven public investment has been playing a major role in Mozambique's growth process. External financing has provided the condition for reducing the external and macro-financial imbalances, which shows external commitment to the programme's objectives and these in turn has brought confidence to different economic agents. With respect to the organisation of productive structure, a clear shift towards a more market-based economy was devised and has been pursued by the Government (CNP, 1994). A vast programme of privatisation in all sectors of economic activity has been progressively implemented, particularly since 1991.

The industrial strategy within the ERP is not extremely different from that envisaged in the Fourth Congress of Frelimo in 1983. However, the high level of tied external aid (see Chapter V, Table V.1) conditions, in part, the options of the Government. In the Public Triennial Investment Programme (PTIP), the legal framework for planning and monitoring public investment, the Mozambican authorities have been planning and revising annually public investment programmes which take particularly in account the recurrent cost derived from new investment, that is, selecting investment projects producing the highest growth pattern at the lowest recurrent financial costs (CNP, 1990; CNP, 1991, 1993 and 1995a).

VII.4.2.2 Macroeconomic Performance Since Independence

The structure of the national economy and its evolution are presented and analysed in terms of the behaviour of the aggregate national output and its components in the period 1973-1994. The performance of other macroeconomic indicators has been

broadly reviewed, and additional data are presented in Table A.3.3- Appendix A.3. However, quantitative data for this period is subjected to certain qualifications, especially for the period 1973-1980 in which data on the aggregate national output and its structure are only available in the accountancy of the Material Product System (MPS). As data for the period 1980-1994 are presented according to the System of National Accounts of UN, they are not strictly comparable with data prior to 1980. However, I hope to establish a global trend for the entire period 1973-1994, using different sources of data and trying to carefully relate them to one another. The issues regarding the MPS were discussed in greater detail in section VI.3.1.

a) Period 1973-1980

Unlike Angola, there is in Mozambique a reasonable amount of data concerning the national output and its structure and other macroeconomic indicators for the period 1973-1980. However, since these data are widespread for varied sources, the customary caution is needed when interpreting the results. The main sources of data used in this analysis are a publication of the National Directorate of Statistics (CNP-DNE, 1985) and a report published by the National Planning Commission (CNP, 1984). The former publication provides data on aggregate national output (Gross Social Product- GSP) and its structure for selected years in the period 1973-1980, and for the entire period 1980-1984. The second source provides time series data for industrial output in 1973-1983, and national accounts data for selected years in the period 1973-1983. All set of data in the two statistical sources are computed in 1980 constant prices.

Table VII.4.1 Evolution of the GSP of Mozambique; 1973-1980
(billion Meticaís, 1980 constant prices)

Sectors	Year				
	1973	1974	1975	1977	1980
Agriculture	36.9	32.0	24.8	29.8	30.8
Industry	42.1	34.6	28.0	28.4	32.6
Construction	14.5	8.0	4.0	3.6	4.8
Transport & Communications	12.2	11.0	9.1	7.8	8.1
Commerce & Others	6.2	5.9	5.5	5.2	5.9
SGP	111.9	91.5	71.4	74.8	82.1

Sources: CNP (1984); CNP-DNE (1985)

Table VII.4.1 presents the evolution of the structure of the GSP in the period 1973-1980. It can be seen that all sectors of the economy experienced a sharp decline in output in 1973-1975, in which GSP decreased about 36%. This coincided with the period of great political instability immediately before and after the independence of the country. The gross product in agriculture fell by about one third in 1973-75, and gross output in construction decreased by about 70% in the same period. This downturn movement continued in the period 1975-1977 in all sectors of the economy (although at a lesser rate), with the exception of agriculture. As a result, the GSP increased slightly from MzM 71.4 billion in 1975 to MzM 74.8 billion in 1977, which did not match, nevertheless, the growth of population. In the period 1977-1980, the Mozambican economy experienced a small recovery in all sectors of the economy, particularly in the case of the industrial sector. This seems to be consistent with the industrial development strategy undertaken by the Mozambican authorities after the Third Congress of Frelimo in 1977, which was characterised by a policy of heavy investment in the state sector of the economy. However, this recovery was at the cost of increasing external debt and growing deficits in the Government accounts, so that the Mozambican authorities decided to invest heavily in the social sectors of the economy- education and health. The closure of the border with Southern Rhodesia which decreased substantially the revenue from the transport sector, the

sharp decrease in migrant Mozambican miners to South Africa, and the effects of the civil war from 1976 onwards, also contributed to the financial imbalances that characterised the Mozambican economy in the early 1980s (UNIDO, 1987).

Summarising, the period 1973-1980 was characterised by sharp falls in the level of output for all sectors of the economy, with particular significance for the sectors of industry, construction and transports. Global social product decreased from MzM 111.1 billion in 1973 to MzM 82.1 billion (1980 constant prices), a fall of about 26%. If we take into account the increase in population (an average annual growth rate of 2.6% in that period), this shows the extent to which the standard of living of the Mozambican population was affected.

The behaviour of the construction industry in the period 1973-1975 portrays with striking evidence the importance of political factors (particularly the negative effect of political instability) in the process of economic growth. In Mozambique, this is revealed in the many unfinished buildings from the end of the colonial period in the capital - Maputo, as if they marked, as Wuyts (1989) put it, the end of an era.

b) Period 1980-1994

Table VII.4.2 presents the evolution of the gross domestic product in the period 1980-1994. It can be seen that this economic indicator shows clearly two different patterns of development: the period 1980-1985 (in fact 1980-1986, so that the increase in 1985-1986 was 0.1%) characterised by a dramatic fall of 22% of GDP, and if measured in terms of GDP per capita the fall was about 39%; a steady economic growth along the period 1985-1994 in which GDP and GDP per capita rose, respectively, 5.6% and 2.9% per annum.

To analyse the behaviour of different sectors of the economy, Table VII.4.3 should be looked at closely with Table VII.4.2. However, some degree of caution is needed for the latter is presented in constant prices whereas the former in current prices. Conjugating carefully the two tables, a general pattern can be constructed. Thus, for the period 1980-1985, the value added for all sectors of the economy experienced an absolute decline, and industry and transports decreased not only absolutely but also

relatively. The industrial sector was particularly affected in the period 1980-1985. The share of industry in GDP decreased from 14.1% in 1980 to 7.3% in 1985, a relative decrease of almost 50%. Taking into account that real GDP in the same period decreased significantly, the absolute decline was much higher. Agriculture, and commerce and other services, though have experienced an absolute decrease, performed much better than other sectors, not least because they encompass a strong component of the informal and subsistence sectors. The case of construction is somewhat peculiar. It did not perform badly in the period 1980-1985 despite the great decline in 1984-1985. As mentioned in section VI.3, construction volume (measured in 1980 constant prices) declined absolutely but not relatively in this period.

Table VII.4.2 Evolution of the GDP in Mozambique; 1980-1994
(billion Meticais, 1980 constant prices)

	Year									
	1980	1981	1983	1984	1985	1987	1990	1992	1993	1994
GDP	78.0	78.6	66.1	66.7	60.9	64.1	72.1	75.1	89.5	94.0

Source: Chapter VI, CNP(1995)

Table VII.4.3 Structure of GDP in Mozambique; 1980-1994

Sectors	Year									
	1980	1981	1983	1984	1985	1987	1990	1992	1993	1994
Agriculture	36.3	36.3	38.0	41.5	49.4	45.4	40.6	31.9	33.1	30.8
Industry	14.1	13.9	13.0	10.4	7.3	11.1	14.8	13.6	12.0	11.1
Construction	4.8	4.7	4.8	4.1	2.9	6.6	7.0	7.5	7.0	7.7
Transport & Communications	8.1	8.8	7.7	6.2	5.3	5.9	7.8	13.2	12.5	11.0
Commerce & Other Services	36.7	36.3	36.5	37.8	35.1	31.0	29.8	33.8	35.4	39.3
GDP	100	100	100	100	100	100	100	100	100	100

Note: In 1980-1985, data are presented at factor cost. Sources: CNP-DNE (1985); CNP (1992, 1994); CNP (1995a); DNE (1986); DNE (1991, 1994a); UNIDO (1987); Sectoral estimates for 1980-1985, author's estimates based on UNIDO (1987).

For the period 1985-1994, the behaviour of different sectors of the economy is more erratic. It should be noted, however, that the price structure since the implementation of the ERP changed dissimilarly across the economic sectors, especially in the first years of the programme. Prices rose more in industry and construction than in other sectors. Thus, these values should be interpreted with a degree of caution. In general, the services sector (including transports) increased its share in GDP, particularly since 1992, which coincided with the beginning of the peace process, and in 1994, the contribution of services to GDP was just over 50%. Industry increased its share in GDP from 11.1% in 1987 to 14.8% in 1990 and decreased there after, due to the closure of many economically nonviable manufacturing enterprises. It is worth mentioning that in the Mozambique's national accounts, industry comprise manufacturing, electricity and water, mining and fishing, so the weight of manufacturing in the national economy has been continuously decreasing. Agriculture shows a trend of stagnation despite a sharp fall in the period 1990-1992 owing to the drought that affected all Southern African countries (SADC, 1994), but recovered in 1993. It contributed with about 30% to GDP in the last three years, and lost its importance in comparison with the services sector. Regarding construction, the increase from 2.9% to 6.6% of GDP in 1985-1987 is somewhat misleading. As noted above, the price structure in the construction industry and ancillary activities rose much faster than in other sectors. From 1987 onwards, the share of construction in GDP tends to stabilise (a value around 7%) which suggests that the pattern of the construction industry followed generally the evolution of the gross domestic product.

VII.4.3 Questionnaire Results

VII.4.3.1 Introduction

As earlier noted, the structure of the questionnaire-survey in Mozambique is the same as that of Angola with the exception of the question concerning the construction market (Table VII.4.13). In the former country, the market segment of public works was disaggregated in two sub-segments: new public work; and repair and rehabilitation work.

VII.4.3.2 Questions Concerning Construction and Economic Development

VI.4.3.2.1 The Productive Sectors of the Economy

Tables VII.4.4 and VII.4.5 list the productive sectors of the economy according to their degree of importance in the promotion of economic development, respectively, in the periods 1975-1985 and 1985-1995. Likewise, Table VII.4.6 lists the same variables considering the respondents' expectations for the period 1995-2005.

Table VII.4.4 The Productive Sectors and Economic Development; 1975-1985

Variables	Rank	Mean (N=29)
Agriculture	1	4.41
Transport & Communications	2	3.83
Manufacturing	3	3.07
Construction	4	3.03
Commerce & Trade	5	2.86
Energy & Water	6	2.83
Mineral Resources	7	2.62
Banking & Insurance	8	2.45
Tourism	9	1.97

Table VII.4.5 The Productive Sectors and Economic Development; 1985-1995

Variables	Rank	Mean (N=29)
Agriculture	1	3.97
Commerce & Trade	2	3.86
Transport & Communications	3	3.59
Construction	4	3.24
Banking & Insurance	5	2.90
Manufacturing	6	2.79
Energy & Water	7	2.48
Mineral Resources	8	2.48
Tourism	9	2.17

Table VII.4.6 The Productive Sectors and Economic Development; 1995-2005

Variables	Rank	Mean (N=29)
Agriculture	1	4.52
Transport & Communications	2	4.34
Construction	3	4.24
Energy & Water	4	4.00
Commerce & Trade	5	3.83
Mineral Resources	6	3.76
Banking & Insurance	7	3.69
Manufacturing	8	3.48
Tourism	9	3.34

An inspection of Table VII.4.4 and VII.4.5 shows that agriculture, was, in the respondents' view, the productive sector that most contributed to economic growth and development in Mozambique in the periods 1975-1985 and 1985-1995. There are also observed some significant shifts in the relative ranking of the productive sectors in these periods. Commerce and trade was ranked the second most important sector in 1985-1995 compared to its fifth position in 1975-1985. Transports and communications shifted from the second most important sector in 1975-1985 to third in 1985-1995. Manufacturing changed its position from the third most important sector in 1975-1985 to sixth in 1985-1995. The position of construction remained unchanged in these periods. It was ranked the fourth sector that most contributed to economic growth and development in the periods 1975-1985 and 1985-1995. Tourism was ranked the least important sector in both two periods. These results are consistent with the evidence derived from the review and analysis of the economic literature of Mozambique. Indeed, the first position of agriculture is by no means surprising for most of the work force is engaged in the agricultural sector, particularly in the subsistence sector, and agricultural products have practically been the only exports of this country. It was also shown (see section VII.4.2.2) that agriculture was the only sector of economic activity that experienced an increasing growth during the slowdown period 1975-1985, and remained stable in the period 1985-1995. Transports and communications has been since the colonial period the country's major foreign currency earner, taking advantage of its rail-port

infrastructures and privileged location in Southern Africa (see section A.3.2). Manufacturing and construction benefited from the investment strategy adopted by the Mozambican authorities in 1977. However, since the implementation of the reforms of economic policy in 1987 the manufacturing industry has been losing its weight in the economy. On the other hand, commerce and trade activities were stimulated by these policy reforms.

As regards the respondents' expectations for the period 1995-2005, Table VII.4.6 shows that agriculture, transport and communications, and construction were regarded by the respondents as the most important sectors of the economy for the period 1995-2005, ranking the first, second and third sectors, respectively. That is, agriculture and transport infrastructures (the country's main resource endowments) and construction (the provider of most physical infrastructures) are considered the key factors for the economic development of Mozambique in the near future. Energy and water (the country has a huge hydroelectric potential) was ranked the fourth most important sector. All these four sectors have average scores 4 or more, the "important response". Manufacturing and tourism were considered the least important sector of the economy for the period 1995-2005. They were ranked the eighth and the ninth sectors, respectively.

VII.4.3.2.2 Goals of Economic Development

Table VII.4.7 lists, apart from the increase in per capita income, goals of economic development, according to their degree of importance.

Table VII.4.7 Goals of Economic Development

Variables	Rank	Mean (N=29)
Improvement in global competitiveness	1	4.21
Creation of employment	2	4.14
Poverty alleviation	3	3.93
Achievement of a better physical and social environment	4	3.21
Diversification of production and/or availability of products and services	5	3.21

Table VII.4.7 shows that improvement in global competitiveness is, in the respondents' view, the most important goal in the economic development of Mozambique. Creation of employment was ranked the second goal but has an average scores close to the former (4.14 against 4.21). It is possible to speculate that Mozambique's development experts find that the first-mentioned goal is a proximate cause rather than an objective of economic growth, and then improvement in competitiveness will ultimately create the demand for new jobs, and help to alleviate poverty, which was ranked the third most important goal of economic development. A better physical and social environment, and diversification of production and/or availability of products and services were seen as the last goals to be pursued in the development process of Mozambique.

VII.4.3.2.3 Construction and Economic Development

Table VII.4.8 lists objectives of a construction industry development programme promoted by Government for the near future (say the next 10 years), according to their degree of importance in economic growth and development.

Table VII.4.8 Role of Construction in Economic Development

Variables	Rank	Mean (N=29)
Local manufacture of building materials	1	4.14
Multiplier effect on other sectors of the economy	2	4.10
Creation of job and diversification of business opportunities	3	3.97
Optimal use of the country's existing fixed capital	4	3.79
Profit maximisation/cost minimisation	5	3.24
Good quality natural environment	6	2.97

An inspection of Table VII.4.8 shows that local manufacture of building materials was seen as the most important objective of a construction industry development programme for the next 10 years. The multiplier effect on other sectors of the economy and employment creation were ranked by the respondents the second and the third, respectively. Good quality natural environment was ranked the least important objective.

VII.4.3.4 Building Materials Industry

Table VII.4.9 lists different strategies for development of the building materials industry for the next 10 years, according to their degree of importance in economic growth and development.

Table VII.4.9 Strategies for Development of the Building Materials Industry

Variables	Rank	Mean (N=29)
Import-substitution of most common used building materials	1	4.24
Building materials that promote labour-intensive technology	2	3.59
Building materials that enhance business opportunities in other sectors of the economy (economies of scale)	3	3.59
Export-led production in which the country has most comparative advantage in the Southern African region	4	3.52
Building materials for the housing sub-sector	5	2.72

It can be seen in Table VII.4.9 that an import-substitution of most common used building materials was regarded by the respondents as the most important strategy for the development of the building materials industry in Mozambique. The production of building materials that promotes labour intensive technology, which quite often is related to the former, and the production policy that facilitates business opportunities in other sectors of economy were ranked the second and third, respectively. An export-led production of building materials aimed at the Southern African market, and building materials production for the housing sub-sector were regarded by the respondents as the least important strategies. They were ranked the fourth and fifth, respectively.

VII.4.3.2.5 Construction and Stage of Development

As referred to in section VII.3.3.2.5, the respondents from Mozambique were asked to comment on the following Bon's (1992) statement: *"The share of construction in GDP increases in the first stages of development and decreases in the last stages of economic development"*.

The results of the respondents' view on the above statement are presented in Table VII.4.10.

Table VII.4.10 Construction and Stage of Economic Development

Variables	Percent (N=29)
1= Strongly disagree	3.4
2= Disagree	10.3
3= Not sure	34.5
4= Agree	34.5
5= Strongly agree	17.3

Table VII.4.10 indicates that 51.8% of the respondents either agree or strongly agree with the above statement. On the other hand, only 13.7% of the respondents either disagree or strongly disagree with the same statement. The percentage of the respondents that neither agree nor disagree, the “note sure” response, is the same as of those that agree- 34.5%. Section VII.5 draws a comparison between these results and those from the respondents of Angola.

VII.4.3.3 Questions Concerning the Sectoral Level (for the next 10 years)

VII.4.3.3.1 Demand- side and Supply-side of the Construction Industry

Tables VII.4.11 and VII.4.12 list measures to tackle the constraints that affect, respectively, the demand-side and supply-side of the construction industry, according to their degree of importance in the construction industry performance.

Table VII.4.11 Measures on the Demand-Side of the Construction Industry

Variables	Rank	Mean (N=29)
Regulation/amendment of the legislative framework pertaining to the construction industry activity (e.g. property rights and land-use planning, development plans, planning permissions)	1	4.14
Improvement in the planning of public sector projects in order to even the construction demand	2	3.83
Establishment of a fiscal policy pertaining to construction companies and property development enterprises	3	3.73
Intervention in the financial market to facilitate the housing market through saving from private investors	4	3.69
Establishment of a market- oriented housing rent policy	5	3.14
Regulation of the informal sector of the construction industry	6	2.97

Table VII.4.12 Measures on the Supply- Side of the Construction Industry

Variables	Rank	Mean (N=29)
Regulation/modification of the procedures for procurement contract forms and contracting prices in the public and private sector	1	3.79
Investment on, and leasing of, construction equipment in order to promote the economic efficiency of the construction enterprises	2	3.72
Improvement on the rules and procedures concerning the role of different parties in the construction industry activity	3	3.48
Regulation/amendment of the law on “Alvarás - Classification of Activities and Enterprises in the Construction Industry”	4	3.34
Establishment of guidelines at sectoral level, the appropriate construction technology for different sub-sectors in order to award enterprises that achieve the social goals of the Government	5	3.21
Regulation/amendment of the wage and labour legislation pertaining to the construction industry activity	6	3.17

An inspection of Table VII.4.11 shows that the clarification and/or amendment of the legislative framework pertaining to the construction industry activity, and a better planning of public investment projects were regarded by the respondents as the top priority measures to tackle the constraints on the demand-side of the construction industry in Mozambique. They were ranked the first and the second, respectively. Fiscal policies that benefit construction companies and property developments were ranked the third most important measure. The regulation of the informal sector was ranked the least important measure to tackle the constraints on the demand-side.

Table VII.4.12 shows that the regulation and/or modification of the procedures for procurement contract forms and contracting prices, and Government investment in equipment to promote the economic efficiency of construction companies, were ranked respectively the first and the second most important measures to tackle the constraints on the side of supply. The improvement on the rules and procedures concerning the role of different parties in construction activity was regarded by the respondents as the third most important measure. The regulation or amendment of the wage and labour legislation were ranked the least important measure to tackle the constraints on the supply-side.

VII.4.3.3 Construction Market

Table VII.4.13 lists different segments of the construction market. These market segments are ranked according to their growth prospect. The higher the mean, the higher the growth expectation of a particular segment of the construction market

Table VII.4.13 Construction Market for the Next 10 Years

Variables	Rank	Mean (N=29)
Repair/rehabilitation of public works	1	4.34
New public works	2	3.83
Informal sector market	3	3.62
Housing	4	3.62
Repair/maintenance of industrial and agro-industrial building	5	3.55
Non- housing building	6	3.14

Table VI.4.13 shows that repair/rehabilitation of public works and new public works are, according to the respondents' expectations, the fastest growing market segments in Mozambique for the next 10 years. They were ranked the first and the second, respectively. These results (note that great part of the respondents are high-level representatives of Government departments) are in line with the investment strategy pursued by the Mozambican authorities since the implementation of the Economic Rehabilitation Programme in 1987. Indeed, from then on public investment has been, in the main, directed at the rehabilitation of transport infrastructures (particularly the

rail-port corridors) and the upgrading of urban facilities in the two main cities - Maputo and Beira - which are also the terminal of, respectively, Maputo and Beira rail-port corridors. It is also shown that all segments of the construction market have average scores over 3, the “unchanged” response. Thus, there is a prospect for an increasing growth in construction volume for the next 10 years. Non-housing building is, according to the respondents’ expectations, the slowest growing market for this period.

VII.5 Comparison between the Results of the Questionnaire-Surveys of Angola and Mozambique within the Perspective of the ECERU Opinion Surveys

The administration of the questionnaire-surveys was not intended for hypothesis testing purposes but rather to obtain qualitative data to complement quantitative data provided by government departments, and also to elicit the opinion of the representatives of economic agents of Angola and Mozambique on the role the construction sector plays in economic development. As referred to in sections VII.3.3.2.5 and VII.4.3.3.2.5, the majority of the respondents, from both Angola and Mozambique, accord with the assumption that “the share of construction in GDP increases in the first stages of development and decreases in the last stages of development” (Bon, 1992). These results seem to provide a dissenting perspective from that presented in Chapters V and VI, as regards the pattern of the construction industry in the early stages of development. Recall that the underlying results of these chapters have shown that the direct relationship between the share of construction in GDP and GDP per capita is consistently only with a decreasing growth development pattern. In an increasing growth pattern, the rate of growth in construction is not greater than the rate of growth of GDP. This assumption is based on data spanning the period 1980-1992 and concerns the next 10 years.

Of course the above mentioned statement is, as Bon (1994a) put it, too theoretical to merit an in-depth treatment in an opinion survey. However, as many of the respondents, from both Angola and Mozambique, are/were responsible for implementing the economic policies in their respective country, the results of the questionnaire- surveys concerning that statement deserve an analysis with some detail.

Table VII.5.1 shows that 65% and 51.8% of the respondents from Angola and Mozambique, respectively, either agree or strongly agree with that statement. On the other hand, 10% and 13.7% of the respondents from the former and the latter, respectively, either disagree or strongly disagree with the same statement. According

to the results constructed from Tables VII.3.9 and VII.4.10, the mean value of the responses is 3.8 and 3.6 for Angola and Mozambique, respectively.

Table VII.5.1 Construction and Stage of Development: View from Angola and Mozambique

Variables	Angola	Mozambique
	(Percent)	
1= Strongly disagree	0.0	3.4
2= Disagree	10.0	10.3
3= Not sure	25.0	34.5
4= Agree	45.0	34.5
5= Strongly agree	20.0	17.3

Sources: Tables VII.3.9 and VII.4.10

The results stated above are in line with those as regards the same statement provided by the ECERU Opinion Surveys (Bon, 1994a). In the latter surveys, the “world” mean for both the 1992, 1993 and 1994 Surveys is 4.1, a value that reveals a strong agreement with that statement. Looking more closely at the Table VII.5.1, a difference, though not very significant, between the results of Angola and Mozambique can be disclosed. Almost two thirds of the responses from Angola are above the Angolan mean whereas those from Mozambique which are above the Mozambican mean are just over half. In the former, the percentage of “not sure” i.e. that neither agree nor disagree is 25%. In the latter, that percentage is 34.5% which is the same as that of “agree”.

The argument that follows is consistent with the results presented in Table VII.5.2. It appears that the respondents from Angola have a more optimistic view on the role the construction sector plays in the process of economic growth and development than those from Mozambique. It is also possible to speculate that the pressing need for construction investment projects in Angola (construction output in this country experienced both an absolute and relative decline in the period 1980-1994 and nearly collapsed at the end of this period, see section VII.3), the presence of products and

services of the construction industry in any developmental strategy seem to “direct” the respondents to that optimistic view. On the other hand, the results from Mozambique seem to be compatible with a country in which construction value added, from 1987 onwards, contributed about 7% to the gross domestic product (see section VII.4), a value considered high for a country of its income level.

Table VII.5.2 The Productive Sectors and Economic Development in Angola and Mozambique for the Period 1995-2005

Variables	Angola (Rank)	Mozambique
Construction	1	3
Agriculture	2	1
Mineral Resources	3	6
Transport & Communications	4	2
Energy and Water	5	4
Banking & Insurance	6	7
Manufacturing	7	8
Commerce & Trade	8	5
Tourism	9	9

Sources: Table VII.3.5 and VII.4.6

As shown in Table VII.5.2., the construction sector and the countries’ main resource endowments (agriculture and mineral resources in Angola; agriculture and transport infrastructures in Mozambique) were regarded by the respondents as the key sectors for promoting the economic growth and development of these countries for the period 1995-2005. The construction sector was ranked, respectively for Angola and Mozambique, the first and the third most important sector of the economy for this period. The first ranking of construction in Angola is no less than impressive and reveals both of two interrelated things: i) it shows with clear evidence the importance the respondents assign to the construction industry in the development process of a country in which mineral resources contributed about 50% to the national output in 1994 (see section VII.3); ii) it is consistent with the view that the role the

construction sector plays in the development strategy of any country goes beyond its share in national output.

The results of the questionnaire-surveys offer support to Bon's (1992) assumption that the share of construction in national output follows a bell-shaped pattern in the development process. However, the difference between the results of Angola and Mozambique seem to throw more light on the evidence provided in Chapters V and VI; in the developing countries which are experiencing an increasing growth, the share of construction in GDP follows generally a pattern of stagnation. As shown in Chapter III, this pattern seems to also hold for countries pertaining to the group of middle-income economies during the period 1980-most recent estimates. In high-income economies, the share of construction in GDP reveals a marked trend of decline since the first oil shock in 1973 (see also Bon, 1992).

VII.6 Concluding Remarks

The general objective in this chapter was to describe the relevant features of the development process of Angola and Mozambique in the post-independence period. The results of this study did not provide any extensive comparative analysis which would aim to contrast both the Mozambican and Angolan experiences, and particularly against the background of other experiences. Nor did it attempt to prescribe alternative economic policies but rather to raise new agenda of issues for further research, particularly in the study of the construction sector and its role in national economy. However, in section VII.5, a comparison between the results of the questionnaire-survey of Angola and Mozambique is presented within the perspective of the ECERU Opinion Surveys (Bon, 1993, 1994, 1994a).

What was offered here concerns the similarities and also dissimilarities of the recent growth process of countries that lived under the same colonial rule, and adopted analogous economic policies in the post-independence period. A review of the economic literature pertaining to Angola and Mozambique, and the critical use of the underlying data, coupled with interviews conducted on high-level representatives of Government and other economic agents of these countries, and a questionnaire-survey on the same representatives were the basic material used in this analysis.

This analysis has found that the prevalence, in both countries, of an economic system based on central planning at all levels of economic activity, controlled prices and production, and a productive structure dominated by state enterprises affected the performance of the national economy, particularly of the production and productivity in the productive sectors of the economy. Another similarity in the growth process of these countries consisted of a system of target production prescribed in the PECs (State and Central Plans) which paid no attention to the scarcity in human skills, and assuming a full capacity of utilisation of the enterprises. This unrealistic production policy (most of the intermediate inputs were imported) undermined the financial balances of the enterprises and ultimately of the State budget.

These policies were consistent with the development strategy adopted in both countries in the early post-independence period. In Mozambique, an investment policy directed at large agricultural and industrial projects, led to the neglect of the popular sector of the economy which employed most of the labour force and provided the great majority of exportable agricultural products. The growth in industrial production in the late 1970s was at a cost of increasing external imbalances. As a result, the country was plunged into a grave financial and external debt crisis in the early 1980s, and experienced a strong economic decline up to the implementation of the Economic Rehabilitation Programme in 1987. In Angola, a development strategy, if any, based on oil production which, apart from its effect in Government revenues, has few linkages with other productive sectors of the economy (Moura Roque, 1996). Oil revenues financed the intermediate inputs for the manufacturing sector and the imported components pertaining to the construction industry and ancillary activities. Exports of agricultural products, which represented about 50% of the country's total exports in 1973, were practically non-existent in the 1990s. The collapse of the world price of oil in 1985/1986 and the depreciation of the dollar in 1986 affected seriously Angola's external accounts. As a result, imports of intermediate inputs and equipment decreased and the country started to accumulate arrears.

The WB/IMF- sponsored Economic Rehabilitation Programme in 1987 reversed the path of economic decline in Mozambique. From 1987 onwards this country has been experiencing an average growth rate of GDP of about 7% per year, a spectacular performance compared with its counterparts in Africa in this period. The policy reforms addressed particularly two broad areas (World Bank, 1993): 1) a clear shift toward a more transparent economy with less administrative control and more reliance on international and domestic market mechanisms; 2) improving the efficiency in public administration, particularly the efficiency in government's services and investment in human skills. External aid (through grants and concessional loans) was also an important component of this programme. On the contrary, the partial adjustment programme implemented within the framework of the Programme of Economic and Financial Restructuring (SEF) in 1988 produced

disappointing results in Angola. These policy reforms consisted mainly on price liberalisation and a more reliance on the private sector of the economy. However, a key component of the policy reforms that did not take place was in the area of public finances. A reduction in current expenditures, particularly military expenditures, was the starting point envisaged in the SEF. The resumption of the civil war in 1992, and the massive destruction of physical infrastructures, worsened the already critical economic situation characterised by a continuous fall in GDP per capita since the independence in 1975. The social situation was even worse. For example, Angola's ranking in the Human Development Index fell from 94th in 1990 to 164th in 1994 (Moura Roque, 1996). This development pattern places Angola as one of the worst performer countries in Sub-Saharan Africa in the last two decades. However, it is worth noting that Angola, as a non-member until recently (1991) of the WB and the IMF, has benefited from an insignificant external assistance (see Chapter V, Table V.1).

The civil war in Angola and Mozambique affected the economic performance in both countries, not least because war represents an additional cost at all levels of economic activity, let alone the ensuing human drama. However, the impressive economic recovery in Mozambique from 1987 onwards offers support for the argument that the civil war was by no means the only cause of the long-term economic decline of these countries.

The results of the questionnaire-survey provide insights on the recent development process of Angola and Mozambique as well as on the role the construction sector plays in economic development of these countries.

As far as the productive structure of the economy is concerned, the results of the opinion-survey in both countries for the period 1975-1995 have matched historical evidence. Oil and agriculture, respectively for Angola and Mozambique, were considered the most important sectors of the economy in the period referred to. Another similarity concerns the sectoral development strategies for the period 1995-2005. The construction sector and the countries' main resource endowments (agriculture and mineral resources in Angola; agriculture and transport

infrastructures in Mozambique) were regarded as the key sectors for promoting the economic growth and development of these countries in the near future. Further, besides its direct contribution to the national output and the multiplier effect on the economy, the construction sector has an important role in the creation of employment, thus helping to achieve an important objective of economic development.

The respondents of both countries have also similar views about the strategy for the development of building materials industry in their respective countries. They find that an import-substitution policy of most common used building materials is the most important production strategy for the next 10 years. They also share the view that an export-led production aimed at the Southern African market is one of the least important strategies to be implemented in their respective countries. It is possible to speculate that the respondents' perception is that both Angola and Mozambique cannot compete in the building materials market, in years to come, with the more advanced economies of S. Africa and Zimbabwe.

The same point of view holds with regard to the most important measures to tackle the constraints that affect the demand-side and supply-side of the Angolan and Mozambican construction industry. They relate, at the demand-side, to the clarification/amendment of the legislative framework pertaining to the construction industry activity (e.g. property rights, land-use planning, development plans) and a better planning of public sectors projects. The regulation of the procedures for procurement contract forms and contracting prices in the public and private sector, is regarded, in both countries, as the most important measure for enhancing the performance of the construction industry at the side of supply. The first of the former results is consistent with the view that, unlike in most sectors of economic activity, a well-defined legal system of property rights in transition economies is crucial for the development of a private sector market that depend upon the services of the construction activity (Rapaczinsky, 1996).

As regards the construction market for the next 10 years, there is a prospect for an increasing growth in construction output in both Angola and Mozambique, although

the segments of the construction market are not presented in the same way for these countries. The fastest growing market segments for the next 10 years are, respectively for Angola and Mozambique, sanitation construction works and other public works, and rehabilitation/repair of public works and new public works.

However, the results of the questionnaire have shown that the respondents from Angola are more “optimistic” than those from Mozambique about the contribution of the construction industry to the economic development of their respective country for the period 1995-2005. The construction sector was ranked, respectively for the former and the latter country, the first and third most important sector of the economy for this period. Further, apart from the market segment of public works, the growth expectations in the construction market are more pronounced in Angolan respondents than in Mozambican ones. Another somewhat noticeable difference concerns the respondents’ view about Bon’s (1992) assumption that the share of construction in gross output follows an inverted U-shaped pattern in the development process. Whereas in Angola 65% of the respondents either agree or strongly agree with that assumption, only 52% of the respondents from Mozambique either agree or strongly agree with the same assumption. The difference between the questionnaire results of Angola and Mozambique, although not very impressive, are somewhat concordant with the implications derived from Chapters V and VI as regards the dual pattern of the construction in developing countries: there should be an incentive in the construction industry activity in countries which either are experiencing a decreasing growth or are in the early stages of their recovery; when countries enter into a period of sustained economic growth, construction output should not grow much faster than the rest of the economy (see Lopes and Ruddock, *Construction Management Journal*, November 1997).

CHAPTER VIII

Conclusions and Further Development

VIII.1 Introduction

An investigation on the interdependence between the construction sector and the national economy with particular reference to developing countries of Africa has been undertaken. Then a correlational model portraying the development pattern of the construction industry according to the evolution of gross domestic product per capita has been developed and the testing of this model carried out. In addition, an in-depth macroeconomic study of two African countries (Angola and Mozambique) has been undertaken, and the underlying interdependence was analysed within the context developed in the general model.

The first part of this chapter summarises the main conclusions of the study, and calls attention to some implications for public policy. The second section states the main contributions of this research project. The final section discusses the limitations of the research and suggests further development in the area of construction macroeconomics.

VIII.2 Summary of the Thesis

VIII.2.1 Main Conclusions

Because of the nature of the construction industry activity and the challenges it brings with it onto any developmental strategy, coupled with the impact of the

worldwide structural changes in the 1980s in Sub-Saharan African economy, the macro-level of the construction industry was chosen as the theme of this study.

Literature on economic development with particular reference to measurement and comparability of economic growth and development, and the main approaches in growth theory were extensively studied. Construction contributes significantly to the national economy. As a major component of a country's capital formation, construction is without doubt encompassed in any discussions of economic growth, particularly developing country growth.

Economic development is by no means a fully understood process. As Hirschman (1958) pointed out, development economists do not even agree with a common definition of economic development. Economic growth is what we know and economic development is what we do not know (Lucas, 1988). Nevertheless, there is a growing consensus that any notion of economic progress must, at a minimum, look beyond growth in per capita incomes to the reduction of poverty and greater equity, to progress in education and health, and the protection of the environment.

The classical approach on growth theory envisaged that output per capita would be stationary as the rate of output declined with diminishing improvements in productivity. Rosenstein-Rodan (1943) postulated the big push by which output would grow in proportion with capital and then an economy would propel itself into self-sustaining industrialisation and growth. The neoclassical theory of growth also envisaged the idea of diminishing returns, so that economic growth was possible only through exogenous technical changes. In this line of approach, the growth rate was not only not proportional to the rate of saving but also independent of the rate of saving, and, if countries have access to the same technology, incorporated mainly in machinery and equipment, growth rates would be expected to converge across countries. The recent experience of most advanced industrial countries provides support for the process of convergence (WB, 1991a).

However, the growth rates of developing countries have diverged particularly since the first oil-shock in 1973/1974. This seemed to contradict the expectation of

convergence, and has been a major concern among development economists and development-assistance agencies. But in practice, the path of technological change has not been equal nor have been transmitted in most developing countries. It has been argued (e.g. Agargwala, 1983) that excessive industrial protection, tariff and other import restrictions, and market distortions have encouraged an inefficient pattern of production and growth. Further, a pro-urban bias in pricing has caused a disincentive for the part of the private and subsistence sectors in increasing agricultural production and exports (WB, 1991a, 1993).

The endogenous economic growth approach suggests that even if all economies have access to the same technologies, national growth rates can diverge if human capital (education and knowledge) and incentives to adopt new technologies differ across countries (Romer, 1990; Barro, 1991). Following this approach, endogenous policy changes (e.g. macroeconomic stability, investment in human capital, improving capacity building) produce positive externalities or increasing returns in the development process.

The first step in achieving the objectives of this study was to identify the development pattern of the construction industry according to a country's stage of economic development. Previous works have found that construction output as a percentage of GDP is related to GDP per capita in an increasing form of income level. And, if this relationship also occurs within a country over time, the growth rate in construction volume would be higher than the growth rate in national income. A longitudinal study spanning the period from 1970 to generally 1992 was used to test these assumptions. Data on the construction industry and related sectors were drawn from 15 countries representing all stages of economic development: advanced industrial countries (AICs); newly industrialised countries (NICs); and less developed countries (LDCs). The results of this analysis provide no support for those assumptions, even for countries in low-to-middle income range. Although the sample is relatively small, the striking results shown here for the period 1980-most recent estimates call attention to further development in this area.

The study proceeded with a macroeconomic analysis on Sub-Saharan Africa for the period 1970-most recent estimates. Significant world events that have had a huge impact in the economy of this region was also broadly reviewed. This analysis found that the economic performance in Sub-Saharan Africa, although it had never been impressive, is increasingly falling behind of the performance of other developing regions. Measured in terms of GDP per capita, economic growth in Sub-Saharan Africa fell in the period from 1980-most recent estimates. The fall in GDP per capita was accompanied by a decline in the level of investment and a halt in the development of other indicators of welfare. The rapid increase in urban population was far ahead of growth in urban infrastructure and growth in the industrial sector. The consequent deterioration in urban infrastructure has grave consequences in the mode of life, and decreasing productivity in the productive sectors of the economy. Further, the loss in the terms of trade in the aftermath of the international financial crisis in the early 1980s worsened the already debt-burden economies of Sub-Saharan Africa. It was also shown that S. Africa and Nigeria have a significant weight in Sub-Saharan African economy both in terms of population and in total output, particularly industrial output. A boom (slump) in the economy of any of these two countries have a huge impact in the economies of, respectively, Western and Southern regions of Africa. Excluding these two countries, the growth performance was slightly better but a pattern of decline in the period 1980-most recent estimates was also evident. The long-term economic decline in Sub-Saharan Africa coupled with the increasing conditionalities for the part of DAC countries on the loans and other financial flows to developing countries of Africa, calls for new research approaches in construction industry and its role in national economy. That is, studies on the macro-level of the construction industry pertaining to these countries should take in account a regional macroeconomic framework characterised by a decline in the global level of investment, increasing external debt and resource-constrained, particularly in foreign currency.

The next step of the study was to establish a model of interdependence between the construction sector and the national economy in developing countries of Africa. Data and indicators constructed from the data were drawn from 15 countries portraying the

development pattern of the region in the period from 1980 to generally 1992. The sample was split in two groups: one in which GDP per capita was increasing in the period 1980-most recent estimates (Group 1); the other in which GDP per capita was falling in the same period (Group 2). The indicators of economic activity used in this longitudinal study were construction value added (CVA) as a share of GDP and GDP per capita. The analyses of the underlying data and also the results of the correlational test have shown that distinct development patterns of the construction industry were observed in the two country groups. Thus, in countries in which GDP per capita decreased in the period referred to, construction value added decreased not only relatively but also absolutely. In countries which experienced an increasing growth in the same period, CVA increased absolutely but not relatively. That is, looking at the evolution of the measures of economic activity during the period of analysis, there was not observed in Group 1 an association between growth in gross domestic product (GDP) per capita and construction value added measured as a share of GDP. The direct relationship seemed to be consistent only with a downturn economy.

The study proceeded with the analysis of the interdependence between the construction sector and the national economy in Angola and Mozambique within a Sub-Saharan African perspective. The results of this analysis have thrown more light on the underlying relationship developed in the general model. Angola and Mozambique are part of Group 2. However, in the former, the evolution of construction volume during the period 1980-most recent estimates was similar to that of Group 2. That is, CVA decreased not only absolutely but also relatively. In the latter, a pattern of stagnation was generally observed in the evolution of CVA as a share of GDP but a slight trend of decline was noticed in the late years of the period of analysis. The impressive economic recovery in Mozambique in the period from 1987 onwards was accompanied by an absolute increase but not by a relative increase in the measures of the construction industry activity. The market segment which experienced a markedly increasing growth was the rehabilitation of public works and, according to the respondents' view, this is also the prospect for the next 10 years.

The final step of the study was to analyse and discuss a two-country macroeconomic survey. The economic development in Angola and Mozambique in the period from the independence of these countries in 1975 up to most recent estimates followed a pattern similar to that of Sub-Saharan Africa as a whole. However in the latter country a spectacular recovery was observed in the period from 1987 onwards. This period coincided with the WB/IMF- promoted Economic Rehabilitation Programme (ERP). The review of the literature and the results of the interviews conducted on the representatives of economic and financial sectors of Angola and Mozambique, have provided evidence that the economic system has affected negatively the performance of the productive sectors of the economy, particularly the production and productivity in the industrial sector (construction industry including). As far as development strategy is concerned, the results of the opinion-survey in both countries have matched historical evidence. The Angolan and Mozambican policy-makers pursued a growth strategy rather than a developmental strategy, despite the state intentions in addressing the reduction of poverty and inequality. Another similarity in the results of the opinion-survey in these countries is the role the construction sector plays (and will play), according to the respondents' view, in economic development of Angola and Mozambique. Apart from the direct contribution to the national output, construction has an important role in the creation of employment and is a catalyst for development of other sectors of the economy. The same point of view holds with regard to the most important measures to tackle the constraints that affect the demand-side and supply-side of Angolan and Mozambican construction industry. They relate to the clarification/amendment of the legislative framework pertaining to the construction industry activity (e.g. property rights, land-use planning, development plans) and regulation of the procedures for procurement contract forms and contracting prices in the public and private sector.

VIII.2.2 Some Implications for Public Policy

The results of this study may have some policy implications for the construction industry development strategy in Sub-Saharan Africa in the near future. In countries which experienced an increasing growth during the period of analysis (Group 1), the

construction volume measured as a share of GDP presented, in general, a trend of stagnation. This was also the case of Mozambique which, from 1987 onwards, followed a development pattern similar to that of Group 1. The underlying notion, thus, is that in an economy in increasing growth pattern, construction output should not grow much faster than the national economy. The recent development experience from Mozambique also provides evidence of the role of institutions in the process of economic growth and development. Construction industry development should be viewed in a broader context of the investment and industrial strategies. These, in turn, must accord with other macroeconomic policies conducing to a sound process of growth. Of course one can argue that has been the fulfilment of these macroeconomic criteria and a careful management of public sector investment projects undertaken by Mozambican authorities that have played a determinant role in the growth process. Alternatively, it could be said that the development strategy in Mozambique since the implementation of the Economic Rehabilitation Programme (ERP) has been externally guided, and the economic performance was, in the main, due to the high level of investment derived from the financial funds channelled by institutional bodies. Data limitations, particularly those pertaining to the level of real investment in the economy, make it hard to argue one way or another. The fact that remain, however, is that the development planners of the Ministry of Planning and Finance devise and monitor annually a public investment strategy that takes in account the recurrent cost of new investment projects, i.e. selecting investment projects producing the highest growth pattern at the lowest recurrent financial costs.

One implication derived from the results presented in this study is the need to investigate the role of the construction sector in a process of economic decline, and the measures on the demand-side and supply-side of the construction industry that help to reverse the path of economic decline. As this development process is the general pattern of Sub-Saharan Africa since the early 1980s, these topics need particular attention for the part of the construction economics research community and national and international bodies.

VIII.3 Contribution of the Study

The general objective of this research was to investigate the relevant features of the relationship between the construction sector and the macroeconomy in economic development with particular emphasis on less developed countries of Africa. The correlational model used in this study, and the complementary analyses on Angola and Mozambique and on a sample of countries representing all stages of economic development, have provided no support to existing assumptions about the direct relationship between the measures of construction output and GDP per capita, in an increasing form of income level. Thus, due to its empirical implications, the development of the model is the main contribution of this study.

The narrative flow, however, has suggested some contributions of other relevant topics of this research. They concern the inter-related areas of improvement and co-ordination of data on the construction industry and related sectors of Angola and Mozambique, and by conjugating macroeconomic analysis with information derived from the knowledge of economic institutions of these countries. The strategies used were a careful review of the systems of national accounts of Angola and Mozambique, coupled with analysis of qualitative data through interviews and questionnaire-survey conducted on the “producers” of quantitative data of these countries. Contacts and discussions with members of the missions that undertook economic reviews of Angola and Mozambique (UNIDO, 1987; World Bank, 1991b) were also an important component of this strategy. As this study is the first major attempt to address the interdependence between the construction sector and national economy in Angola and Mozambique, the contributions of these topics fit well in the general objective of this study.

The significant contributions of this research can be summarised as follows:

- It provides a framework useful for the analysis of data. The underlying notion is that differences in the recent growth process of Sub-Saharan Africa do matter for

the understanding of the relationship between the construction sector and the national economy in this region.

- The results of this study provide no support to commonly held assumptions about the association between construction investment and economic growth. Further, the study provides strong support to the proposition that the pattern of the construction industry in Sub-Saharan Africa, in the near future, should follow rather than lead economic growth.
- The co-ordination of data on the construction industry and related sectors of Angola and Mozambique is another relevant contribution of this research. It enables comparative analysis at a macro-level perspective and prepares the ground to the study at sectoral level and at micro-level of the construction industry in these countries.
- As construction is a major component of a country's capital formation, this study also contributes to the discussions of economic growth, particularly developing country growth. The results shown here offer some support to the underlying assumptions on the determinants of growth as envisaged by the endogenous economic growth approach.
- Finally, the model can provide a detailed framework to be taken as basis for further research.

VIII.4 Further Development

The data used in this study stem from the most authoritative statistical sources, and are, to my understanding, the best ones available in terms of coverage and uniformity of data. However, as quite often happens in the study on developing countries, this research, particularly the development of the model, encountered up front data limitations and measurement problems. One had no choice but accept these data at face value, try to look beyond them and ask what they do really mean. Data

consistency is a prime rule in longitudinal-time studies. When no consistent set of data was available for the entire period of analysis (as in the cases of Angola and Mozambique), a great deal of effort was made to carefully relate each different set of data to one another. Because of these data limitations, the results presented here should be interpreted with some degree of caution. Thus, this study calls for the improvement in data and increase in statistical coverage pertaining to developing countries as the primary steps for further development in the study of the construction sector and its role in national economy.

The recommendations for further work which could be concluded in the light of the results of this thesis are documented as follows:

- Further research is needed to develop the model portraying the interdependence between the construction sector and the national economy in developing countries of Africa. The sample of countries must be broadened and the period of analysis should go back as far as possible. The inclusion of more countries that experienced an increasing growth per capita during the period 1970-most recent estimates is particularly pertinent for the improvement of the model.
- It should be noted that what is specified in the model is not a prediction but a prospect of the development pattern of the construction industry in specific developing countries in the near future. Further work in this area includes descriptive and predictive studies, at country or regional level, to develop and test the applicability of the model presented in this study.
- More descriptive studies of the construction industry in developing countries of other continents are also needed. Further, a better knowledge of the development process of countries (e.g. in Eastern Europe) that have embarked on a transition from a centrally planned economy to a marked economy is important for the understanding the contribution of construction for economic growth and development. Research into construction industry of developing countries that are facing similar transition experience would benefit from this knowledge.

As regards Angola and Mozambique, this study is in the spirit of exploratory analysis rather than hypothesis testing. Topics that need further development which could be drawn from the results of the survey include:

- Research is needed to investigate how, and the extent to which, the economic system of Angola and Mozambique has affected the performance of the construction industry in these countries.
- The prospect for a strengthened inter-regional cooperation and trade (construction materials and construction services including) in the Southern African Development Community (SADC) area will influence the development pattern of the construction industry in any country in this region. An investigation of how significant this influence will be, and which levels, constitutes areas for further development.
- Connected to the point expressed above, research is also needed to develop and improve the questionnaire-survey. The range of potential respondents needs to be extended to cover representatives from SADC countries other than Angola and Mozambique. Further studies would be directed at the level of country, group of countries or at regional level.

References

Agargwala, R. (1983), *Price Distortions and Growth in Developing Countries*, The International Bank for Reconstruction and Development, World Bank Staff Working Papers; No 575, Washington, D.C.

Auty, Richard M. (1994), *Economic Development and Industrial Policy* (Global Development & the Environment Series), Mansell Publishing Limited, London.

Banco de Angola (1950-), *Relatórios Anuais* (various years), Banco de Angola, Luanda.

Barro, Robert, J. (1989), “ Human Capital and Growth: Theory and Evidence- A Comment”, pp. 287-292, *Carnegie- Rochester Conference Series on Public Policy*, 32, North Holland.

Barro, Robert J. (1991), “Economic Growth in a Cross Section of Countries”, *The Quarterly Journal of Economics*, Vol. 106, May, pp. 407-443.

Barreiro, J. A. (1985), *Alternativas Estratégicas Possíveis para o Desenvolvimento do Sector das Industrias de Materiais e Componentes de Construção*, UNIDO, Praia, Cape Verde Islands.

Berry, B. J. L. (1973), *The Human Consequences of Urbanisation: Divergent Paths in the Urban Experience of the Twentieth Century*, Macmillan, London

Bon, R. (1990), “The World Building Market, 1970-1985”, *Proceedings on the CIB International Symposium on Building Economics and Construction Management*, Vol. 1, Sydney, March 14-21, pp. 16-47.

Bon, R. (1991), *What Do We Mean by Building Technology?*, An Inaugural Lecture Delivered at the University of Reading, Reading, Berkshire.

Bon, R. (1992), “The Future of International Construction: Secular Patterns of Growth and Decline”, *Habitat International*, Vol. 16, No. 3, pp. 119-128.

Bon, R. (1993), "The Future of International Construction: 1992 and 1993 ECERU Opinion Surveys", Keynote Address, *International Symposium on Economic Evaluation and the Built Environment*, CIB Working Commission W55, 6-10 September, Lisbon.

Bon, R. (1994), "Wither Global Construction? 1992 and 1993 European Construction Economics Research Unit Surveys", *Building Research and Information*, Vol. 12, No. 2, pp. 109-126.

Bon, R. (1994a), *Wither Global Construction? ECERU Opinion Surveys, 1992-1994*, Department of Construction Management and Engineering, University of Reading, Reading, Berkshire.

Bon, R., and Pietroforte, R. (1993), "New Construction versus Maintenance and Repair Construction Technology in The U.S. since World War II", *Construction Management and Economics*, Vol. 11, No. 2, pp. 151-162.

Bryman, A. (1993), *Quantity and Quality in Social Research*, Routledge, London (First published 1988 by Unwin Hyman).

Centro de Estudos Africanos- CEA (1977), *The Mozambican Miner: A Study in the Export of Labour*, CEA, Maputo.

Chang, Dae W. (1988), "The Republic of Korea" pp. 141-158 in Strassmann, W. P., and J. Wells, eds., *The Global Construction Industry: Strategies for Entry, Growth and Survival*, World Industries Studies, Vol. 7, London, Unwin Hyman.

Chenery, Hollis, *et al* (1986), *Industrialisation and Growth: A comparative Study*, Published for the World Bank, Oxford University Press.

Comissão Nacional do Plano- CNP (1984), *Relatório Económico*, MPF, Maputo.

Comissão Nacional do Plano- CNP (1990), *Programa Trienal de Investimento Público- PTIP, 1990-1992*, Vol. 7- Construção e Águas, MPF, Maputo.

Comissão Nacional do Plano- CNP (1991, 1993, 1995a), *Programa Trienal de Investimento Público- PTIP*; 1991-1993, 1993-1995 and 1994-1996, MPF, Maputo.

Comissão Nacional do Plano- CNP (1992, 1994), *Programa Económico e Social*, 1992 and 1994, MPF, Maputo.

Comissão Nacional do Plano- CNP (1995b), *Relatório de Execução de 1994 e Programa Económico e Social para 1995*, MPF, Maputo.

CNP-DNE (1985), *Informação Estatística, 1975-1984*, DNE, Maputo.

Currie, L.(1974), “The ‘Leading Sector’ Model of Growth in Developing Countries”, *Journal of Economic Studies*, Vol. 1, No. 1, May, pp. 1-16.

Da Costa, P., *et al* (1973), *Moçambique na Actualidade*, Lourenço Marques, Mozambique.

De Brito, L. (1980), “Dependência Colonial e Integração Regional”, in CEA, *Estudos Moçambicanos*, Maputo, No. 1, pp. 23-32.

De Long, J. Bradford, and Summers, Lawrence H. (1991), “Equipment Investment and Economic Growth”, *The Quarterly Journal of Economics*, Vol. 106, May, pp. 445-502.

Deininger, K., and Squire, Lyn (1996), “Measuring Income Inequality: A New Database”, *The World Bank Economic Review*, Vol. 10, No. 3, 565-591.

Denison, E. (1985), *Trends in American Economic Growth, 1929-1982*, Washington, D.C.: The Brookings Institution.

Department of Trade and Industry (1995), *Angola: General Information*, Overseas Trade Services, Department of Trade and Industry, London.

Dilolowa, Carlos R. (1978), *Contribuição para a História Económica de Angola*, INA, Luanda.

Diogo, A. (1963), *Rumo à Industrialização de Angola*, Junta de Desenvolvimento Industrial, INE, Luanda.

Direcção Nacional de Estatística- DNE (1975), *Estatísticas Industriais 1973*, DNE, Maputo.

Direcção Nacional de Estatística- DNE (1986), *Informação Estatística*, 1985, DNE, Maputo.

Direcção Nacional de Estatística- DNE (1991, 1994a) *Anuário Estatístico*; 1990 and 1993, DNE, Maputo.

Direcção Nacional de Estatística- DNE (1994b) *Projeções Anuais da População Total: 1980-2030*, Departamento de Demografia, DNE, Maputo.

Direcção Nacional de Estatística- DNE (1994c), *Força de Trabalho e sua Utilização em Moçambique-1991*, DNE, Maputo.

Direcção Nacional de Planificação- DNP (1991), *Despesa Interna e Produção Global e Sectorial-1990*, MPF, Maputo.

Easterby-Smith, M., *et al* (1991), *Management Research: An Introduction*, 2nd ed., London, Sage Publications.

Economist, The (1996), *Debt, Gold and Blater*, p. 127, September. 28th- October 4th, The Economist, London.

Economist, The (1996), *Of Cranes, Aid and Unintended Consequences*, pp. 109-110, October 5th-11th, The Economist, London.

Economist, The (1996), *Slicing the Cake*, October 19th-25th, p. 132, The Economist, London.

Frelimo (1977), *Directivas Económicas e Sociais*, Third Congress Documents, Maputo.

- Frelimo (1983), *Directivas Económicas e Sociais*, Fourth Congress Documents, Maputo.
- Ganesan, S. (1979), *Growth of Housing and Construction Sectors: Key to Employment Creation*, Progress in Planning, Vol. 12, Part 1, London.
- Ganesan, S. (1994), "Employment Maximisation in Construction in Developing Countries", *Construction, Management and Economics*, Vol. 12, pp. 323-335.
- Guardian, The (1996), *Can't Pay, Shouldn't Have to Pay*, p. 18, June 28th, The Guardian, London and Manchester.
- Grimwade, N. (1989), *International Trade: New Patterns of Trade, Production and Investment*, Routledge, London..
- Hickman, Bert G., and Choen, R. M. (1976), *An Annual Growth Model of The U.S. Economy*, Contributions to Economic Analysis, No. 100, North- Holland.
- Hillebrandt, P. M. (1985), *Economic Theory and the Construction Industry*, 2nd ed., Macmillan Press Ltd.
- Hirschman, A. O. (1958), *The Strategy of Economic Development*, New Haven, Yale University Press.
- Hogg, R. V., and Tanis, E. A. (1988), *Probability and Statistical Inference*, Macmillan Publishing Company, New York.
- Instituto Nacional de Estatística- INE (1987-), *Informação Estatística*, 1984-1986, 1987-1988 and 1989, INE, Luanda.
- Instituto Nacional de Estatística- INE (1993a), *Contas Nacionais de Angola*, 1985-1990, INE, Luanda.
- Instituto Nacional de Estatística- INE (1993b), *Perfil Estatístico Económico e Social*, 1988-1992, INE, Luanda.

Instituto Nacional de Estatística- INE (1994) *Estatísticas Industriais: Principais Variáveis- Séries Experimentais*; 1991-1992, INE, Luanda.

Instituto Nacional de Estatística de Angola (1965-1970), *Anuário Estatístico*, INE, Luanda.

International Labour Organisation (1988, 1994, 1995), *Yearbook of Labour Statistics*, ILO, Geneva.

International Monetary Fund (1994a), *Adjustment and Growth in Developing Countries: Successes and Continuous Challenges*, IMF, Washington.

International Monetary Fund (1994b), *IMF Survey*, Vol. 23, No. 16.

Jones, Charles I. (1995), "R & D-Based Models of Economics Growth", *Journal of Political Economy*, Vol. 103, No. 4, pp. 759-784.

Kisanga, A. (1991) *Industrial Production of Building Materials in Developing Countries: The Case of Tanzania*, Unpublished PhD. Thesis, Barlet School of Architecture and Planning, University of London.

Knight, J. B. (1991) "The Evolution of Development Economics" pp. 10-22 in V. N. Balasubramanyam and Sanjava Lall, eds., *Current Issues in Development Economics*, Macmillan Education Ltd, London.

Kuznets, Simon (1963), "Notes on the Take-off", pp. 22-43 in W. W. Rostow, ed., *The Economics of Take-off into Sustained Growth*, Proceedings of Conference Held by the International Economic Association, The Macmillan Press Ltd, London and Basingstoke.

Kuznets, Simon (1966), *Modern Economic Growth: Rate, Structure and Spread*, New Haven, Yale University Press.

Kuznets, Simon (1968), *Towards a Theory of Economic Growth*, New York, W. W. Norton.

Kuznets, Simon (1976), "Recent Population Trends in Less Developed Countries and Implications for Internal Income Inequality", pp. 471-515 in R. Easterlin, ed., *Population and Economic Changes in Developing Countries*, NBER Conference Report, No 30, The University of Chicago Press.

Lange, J. E., and Mills, D. Q. (1979), "An Introduction to the Construction Sector of the Economy" pp. 1-9 in J. E. Lange and D Q. Mills, eds., *The Construction Industry: Balance Wheel of the Economy*, Lexington, Massachusetts and Toronto, Lexington Books.

Lewis, W. A. (1954), "Economic Development with Unlimited Supplies of Labour", *Manchester School of Economic and Social Studies*, Vol. 22, pp. 139-191.

Lewis, W. A. (1955), *The Theory of Economic Growth*, London, Allen & Unwin.

Lopes, J. (1992), *Gestão da Construção em Cabo Verde: Análise e Perspectivas*, Unpublished MSc. Dissertation, Technical University of Lisbon.

Lopes, J., and Ruddock, L.(1997) "Construction Investment and Economic Growth in Developing Countries", *Construction Management Journal*, South Africa

Lucas, R. (1988), "On the Mechanics of Economic Development", *Journal of Monetary Economics*, Vol. 22, pp. 3-42.

Macedo, Jorge B. (1975), *Notas sobre a História Económica de Angola*, CCFAA, Luanda, (mimeo)

Macedo, Jorge B. (1978), *Colonial Development of Angola: The Rise and Fall of a South Atlantic Link?*, Yale University, (mimeo)

Macedo, José (1988) *Autonomia de Angola*, 2nd ed., Centro de Socio-Economia, Lisbon (First published 1910, author's ed.).

Maddison, Angus. (1987), "Growth and Slowdown In Advanced Capitalist Economies", *Journal of Economic Literature*, Vol. 25, No. 2, pp. 649-698.

Mabogunge, A. L. (1989), *The Development Process: A Spatial Perspective*, 2nd ed., London, Unwin Hyman.

Malpezzy, Stephen (1990) "Urban Housing and Financial Markets: Some International Comparisons", *Urban Studies*, Vol. 27, No. 6, pp. 971-1002.

Meier, Gerald M. (1989), *Leading Issues in Economic Development*, 5th ed., Oxford University Press.

Merrifield, Andrew (1994), *The Performance and Capacity of the Construction Industry in the early 1990s*, Unpublished Report Commissioned by Working Group Three National Housing Forum, University of Natal, Durban, S. Africa.

Ministério da Construção- MC (1985-), *Relatórios Anuais*, 1984, 1987, 1988 and 1989, MC, Luanda.

Ministério da Construção- MC (1983-), Sector da Construção: *Relatórios Anuais*, 1982-1991, MC, Maputo.

Ministério do Planeamento e Cooperação Económica- MPCE (1994), *Plano Económico e Social 1994*, Departamento de Políticas Económicas, MPCE, Luanda.

Ministério do Planeamento e Cooperação Económica- MPCE (1990-), *Programa Anual de Investimento Público: Agregados Sectoriais*, 1990, 1994 and 1995, Departamento de Investimentos, MPCE, Luanda.

Ministério do Trabalho- MT (1994), *Evolução do Salário Real*, DNOT, MT, Maputo.

Moavenzadeh, F., and Koch Rossow, J. A. (1974), *The Construction Industry in Developing Countries*, Technology Adaptation Program, Massachusetts Institute of Technology, Cambridge, Massachusetts, Spring.

Mosley, Paul (1991), "Structural Adjustment: A General Overview, 1980-1989", pp. 223-242 in V. N. Balasubramanyam and Sanjava Lall, eds., *Current Issues in Development Economics*, Macmillan Education Ltd, London.

Moura Roque, F. (1996), *Angola beyond Partial Adjustment: A structural and Systemic Transformation Programme*, Working Paper No. 283, New University of Lisbon.

Nurkse, R. (1967), *Problems of Capital Formation in Underdeveloped Countries*, 2nd ed., New York, Oxford University Press.

Ofori, G. (1990), *The Construction Industry: Aspects of its Economics and Management*, Singapore University Press.

Ofori, G. (1993), "Research on Construction Development at the Crossroads", *Construction Management and Economics*, Vol. 11, No.3, pp. 175-185.

Oliveira, Marco A. M. (1992), "Summary and Conclusions" in *Colóquio sobre os Países Africanos de Língua Oficial Portuguesa*, Banco Português do Atlântico, September, (mimeo).

Olson, Mancur (1996), "Distinguished Lecture on Economics in Government: Big Bills Left on the Sidewalk; Why Some Nations are Rich, and others Poor", *Journal of Economic Perspectives*, Vol. 10, No. 2, pp. 3-24.

O'Neil, Donald (1995), "Education and Income Growth: Implications for Cross-Country Inequality", *Journal of Political Economy*, Vol. 103, No. 6, 1289-1301.

Organisation for economic Cooperation and Development (1990), *Estimates of the Aggregate Accounts of Angola, 1950-1987*, Departamento de Contas Nacionais, MPCE, Luanda, (mimeo).

Organisation for economic Cooperation and Development (1994), *Geographical Distribution of Financial Flows to Developing Countries*, OECD, Paris.

Pheng, Low S. (1994), "The Role of Construction and Market in Economic Development: A Framework for Planning", *RICS Research Papers*, Vol. 1, No. 3.

Plank, D. N. (1992), "Co-operation and Conditionality: The Mozambican State in the New World Order", *Annual Meeting of the African Studies Association*, Seattle.

Randless, W. G. (1968), *L'ancien Royaume du Kongo des Origines a la Fin du XIX Siecle*, Ed. Mouton, Paris

Rapaczynski, A. (1996), "The Role of the State and the Market in Establishing Property Rights", *Journal of Economic Perspectives*, Vol. 10, No. 2, pp. 87-103.

Republic of Angola (1995), *Community Rehabilitation and National Reconciliation Programme*, Round Table Conference of Donors, Brussels, (mimeo).

Republic of Mozambique (1995), "National Report from Mozambique on Social Development", *World Social Development Summit*, Copenhagen, 6-12 March.

Reynolds, Lloyd G. (1985), *Economic Growth in the Third World: 1850 - 1980*, New Haven, Yale University Press.

Roberson, J. (1993), "The U.S: Growth Initiatives and their Importance to Building and Construction", *Euroconstruct Conference*, Section IV- Growth Initiatives and their Importance to the General Economy and to the Construction Industry, Copenhagen, Denmark, June 18, pp. 495-517.

Romer, Paul M. (1986), "Increasing Returns and Long-Run Growth", *Journal of Political Economy*, Vol. 94, No. 5, pp. 1002-1037.

Romer, Paul M. (1989), "Human Capital and Growth: Theory and Evidence", pp. 251-286, *Carnegie-Rochester Conference Series on Public Policy*, 32, North-Holland.

Romer, Paul M. (1990), "Endogenous Technological Change", *Journal of Political Economy*, No. 98, No. 5, pp. S71- S102.

Rosefield, S., and Mills, D. Q. (1979) "Is Construction Technologically Stagnant?" pp. 83-114 in J. E. Lange and D. Q. Mills, eds., *The Construction Industry: Balance Wheel of the Economy*, Lexington, Massachusetts and Toronto, Lexington Books.

Rosenstein-Rodan, P. N. (1943), "Problems of Industrialisation in Eastern and Southern Europe", *Economic Journal*, 53, June- September, pp. 202- 211.

Rostow, W. W. (1960), *The Stages of Economic Growth: A Non-communist Manifesto*, Cambridge, Cambridge University Press

Rostow, W. W. (1963), "The Leading Sectors and the Take-off", pp. 1-21 in W. W. Rostow, ed., *The Economics of Take-off into Sustained Growth*, Proceedings of Conference Held by the International Economic Association, The Macmillan Press Ltd, London and Basingstoke.

Saito, Shuhei (1993), "Japan: Growth Initiatives and their Importance to Building and Construction", *Euroconstruct Conference*, Section IV- Growth Initiatives and their Importance to the General Economy and to the Construction Industry, Copenhagen, Denmark, June 18, pp. 519-529.

Secretaria de Estado de Planeamento- SEPLAN (1995), *Plano Económico e Social*, 1995-1996, Departamento de Políticas Económicas, MPCE, Luanda.

Serra, A. (1980), "O Capitalismo Colonial na Zambésia), in CEA, *Estudos Moçambicanos*, No. 1, pp. 33-52, Maputo.

Snowden, P. N. (1991) "Managing the Debt Legacy: Approaches to Resolution", pp. 171-195 in V. N. Balasubramanyam and Sanjava Lall, eds., *Current Issues in Development Economics*, Macmillan Education Ltd, London.

South African Development Community (1994, 1995), *Annual Report; 1992-1993 and 1993-1994*, SADC, Gaborone.

South African Development Co-ordination Conference (1990), *SADCC- Industrial Development Policies and Strategies*, SADCC, Gaborone, (mimeo).

Solow, Robert (1956), "A Contribution to the Theory of Economic Growth", *Quarterly Journal of Economics*, Vol. 70, February, pp. 65-94.

Solow, Robert (1957), "Technical Change and the Aggregate Production Function", *Review of Economics and Statistics*, Vol. 39, August, pp. 312-320.

Solow, Robert (1988), "Growth Theory and After", Nobel Lecture Delivered in Stockholm, Sweden, December 8, 1987, *American Economic Review*, Vol. 78, No. 3, pp. 307-317.

Strassmann, W. P., and J. Wells, eds. (1988), *The Global Construction Industry: Strategies for Entry, Growth and Survival*, World Industries Studies, Vol. 7, London, Unwin Hyman.

Summers, R., and Heston, A. (1988), "A New Set of International Comparisons of Real Products and Prices: Estimates for 130 Countries", *Review of Income and Wealth*, Vol. 34, March, pp. 1-25.

Syrquin, M., and Chenery, H. B. (1989), *Patterns of Development, 1950-1980*, World Bank Discussion Paper No. 41, The World Bank, Washington D.C.

Thirlwall, A. P. (1994), *Growth and Development: with Special Reference to Developing Countries*, 5th ed., Macmillan Press Ltd, London.

Thompsen, Jens (1993), "Europe: Growth Initiatives in the EC and their Importance to Building and Construction", *Euroconstruct Conference*, Section IV- Growth Initiatives and their Importance to the General Economy and to the Construction Industry, Copenhagen, Denmark, June 18, pp. 485-493.

Todaro, M. P. (1992), *Economic Development in the Third World*, 3rd ed., Longman Group Ltd., New York.

Turin, D. A. (1966), *What Do We mean by Building?*, An Inaugural Lecture Delivered at University College London on February 14, 1966, London.

Turin, D. A. (1973), *The Construction Industry: Its Economic Significance and its Role in Development*, UCERG, London.

United Nations (1970), *A System of National Accounts*, Studies in Methods, Series F, No. 2- Rev. 3, United Nations, New York Publishing Division.

United Nations (1970-), *Demographic Yearbook* (various years), Statistical Office, Department of Economic and Social Affairs, New York Publishing Division.

United Nations (1979), *Handbook of National Accounts in Constant Prices*, Statistical Papers, Series M, No. 64, United Nations, New York Publishing Division.

United Nations (1985a), *International Comparisons of Prices and Purchasing Power in 1980*, United Nations, New York Publishing Division.

United Nations (1985b, 1988, 1995), *Yearbook of National Accounts Statistics*, Statistical Office, Department of Economic and Social Affairs, New York Publishing Division.

United Nations (1989), *Basic Methodological Principles Governing the Compilation of the System of Statistical Balances of the National Economy*, Vol. 1 and Vol. 2, Series F, No. 17-Rev. 3, United Nations, New York Publishing Division.

United Nations (1992), *Yearbook of National Accounts Statistics: Main Aggregates and Detailed Tables*, Statistical Office, Department of Economic and Social Affairs, New York Publishing Division.

UNCHS, HABITAT (1982), *Role and Contribution of Construction to Social Economic Growth of Developing Countries*, United Nations Centre for Human Settlements, Nairobi.

UNDP (1990-), *Human Development Report* (various years), United Nations Development Program, New York, Oxford University Press.

UNIDO (1985), *The Building Materials Industry in Developing Countries: An Analytical Appraisal*, Sectoral Studies Series, No. 16, Vol. 1, UNIDO, Vienna.

UNIDO (1987), *Situação da Indústria em Moçambique*, Proj. DP/Moz/85/014, Vol. 1, Main Report, Maputo, (mimeo).

Wells, J. (1986), *The Construction Industry in Developing Countries: Alternative Strategies for Development*, Croom Helm Ltd, London.

Wells, J. (1993), "Special Issue: Construction in Developing countries- Editorial", *Construction Management and Economics*, Vol. 11, No. 3, p. 173.

World Bank (1984), *The Construction Industry: Issues and Strategies in Developing Countries*, International Bank for Reconstruction and Development, The World Bank, Washington D.C.

World Bank, (1986, 1992a, 1995a, 1996), *World Development Report*, International Bank for Reconstruction and Development, Oxford University Press.

World Bank (1989a), *Sub-Saharan Africa: From Crisis to Sustainable Growth*, The World Bank, Washington D.C.

World Bank (1989b), *African Financial Indicators*, International Bank for Reconstruction and Development, The World Bank, Washington D.C.

World Bank (1991a), *World Development Report: The Challenge for Development*, International Bank for Reconstruction and Development, Oxford University Press.

World Bank (1991b), *Angola: An Introductory Economic Review*, International Bank for Reconstruction and Development, The World Bank, Washington D.C.

World Bank (1992b, 1995b), *African Development Indicators*, International Bank for Reconstruction and Development, The World Bank, Washington D.C.

World Bank (1993), *Mozambique; 2nd Public Expenditure Review- PER*, MPF, Maputo, (mimeo).

World Bank (1994a), *Adjustment in Africa: Reforms, Results and The Road Ahead*, A World Bank Policy Research Report, International Bank for Reconstruction and Development, Oxford University Press.

World Bank (1994b), *Adjustment in Africa: Lessons from Case Studies*, edited by Ishrat Hussain and Rashid Faruque, International Bank for Reconstruction and Development, The World Bank, Washington D.C.

Wuyts, M. E. (1989), *Money and Planning for Socialist Transition: The Mozambican Experience*, Gower Publishing Company Ltd., Aldershot.

APPENDIX A.1

Additional Data for Chapter V

In this section, there are presented data on the construction industry and related sectors pertaining to the countries studied in Chapter V. These data consist of two sets of economic series: the period 1970-1980; and the period 1980- most recent estimates. Data from Angola and Mozambique are presented in Chapter VI.

A.1.1 Period 1970-1980

Data presented for this period are: Construction value added (CVA) as a share of GDP; and Indices of GDP per capita (1970 = 100). Both data are measured in constant prices. The sample of 9 countries (Figs. A.1.1.1 to A.1.1.4) were split in two groups: one in which GDP per capita increased in the period 1970-1980; the other in which GDP per capita was falling in the same period. The statistical sources used are *Yearbook of National Accounts Statistics* (UN, 1985b.) and the 1985 edition of the *Demographic Yearbook*, also published by the United Nations.

Fig. A.1.1.1 Indices of GDP per capita (Countries with Increasing GDP per capita in the period 1970 - 1980)
1970 = 100

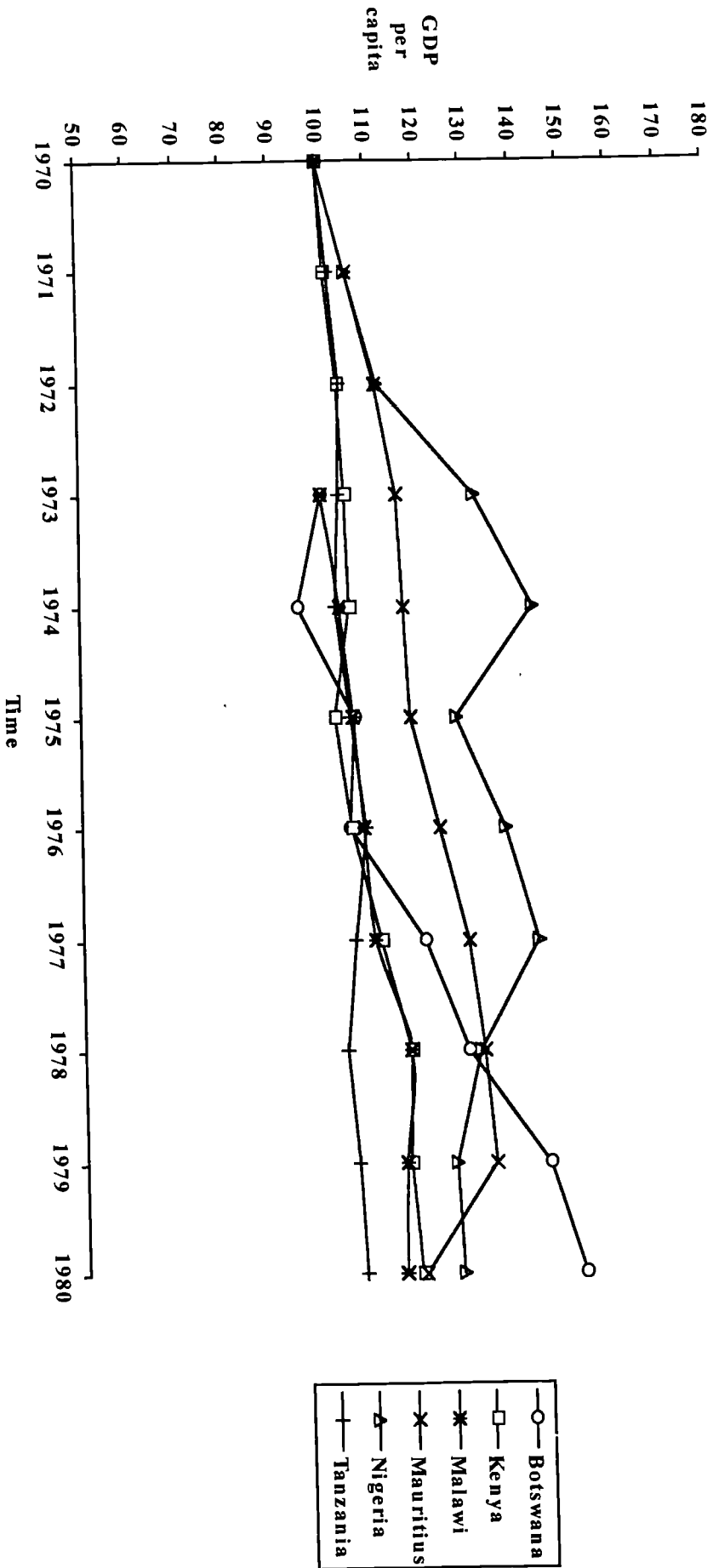


Fig. A.1.1.2 Indices of GDP per capita (Countries with Decreasing GDP per capita in the period 1970 - 1980)
1970 = 100

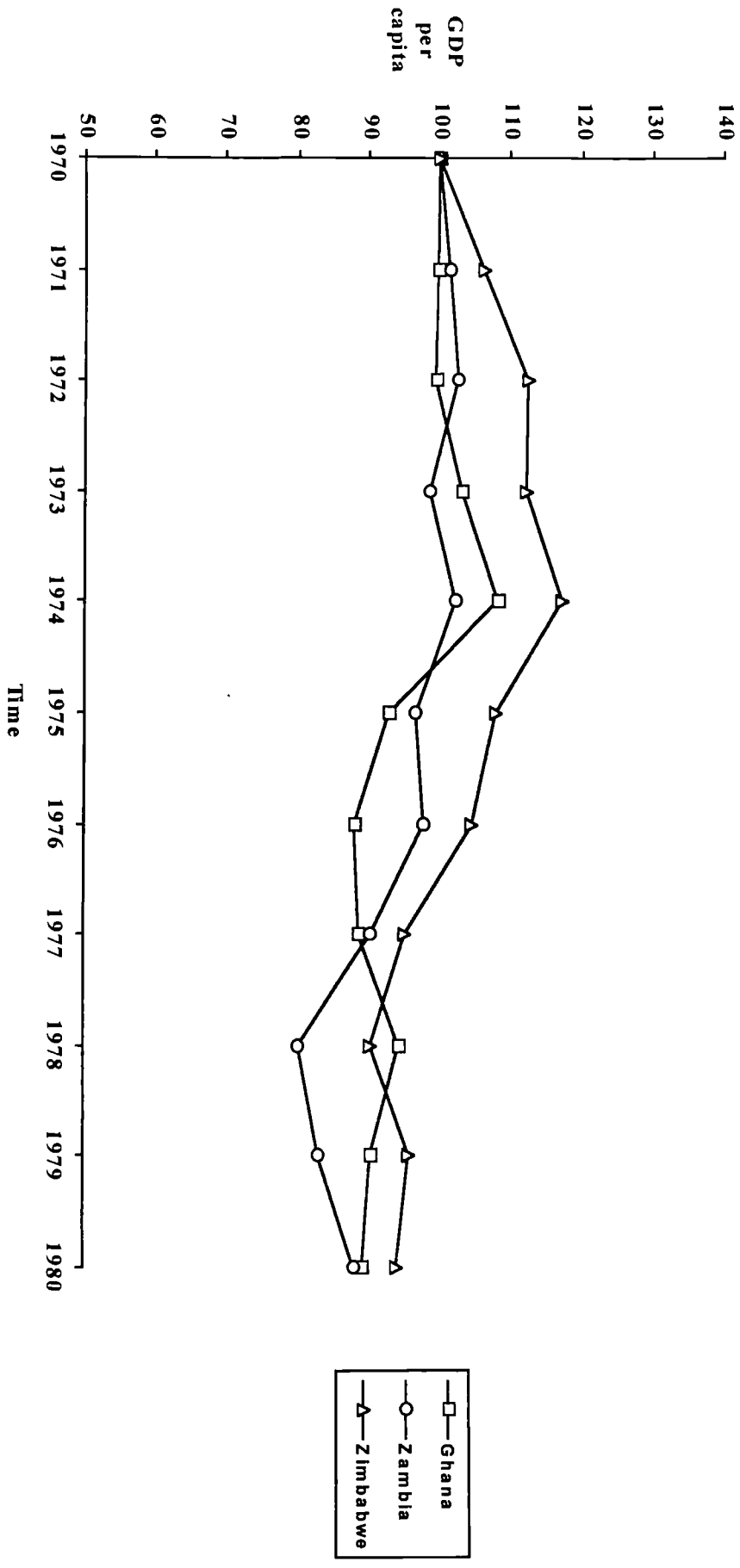


Fig. A.1.1.3 CVA as a Share of GDP (Countries with Increasing GDP per capita in the period 1970 - 1980)

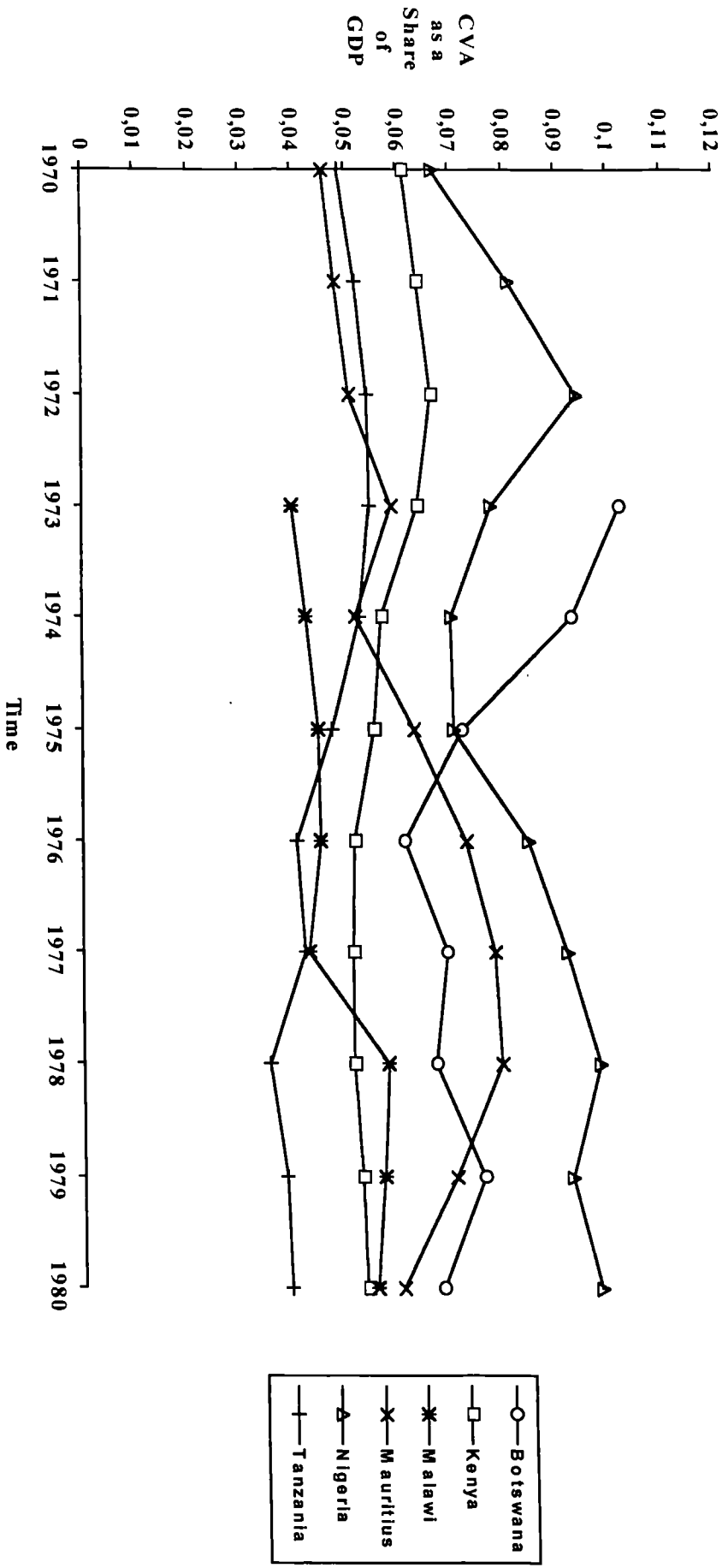
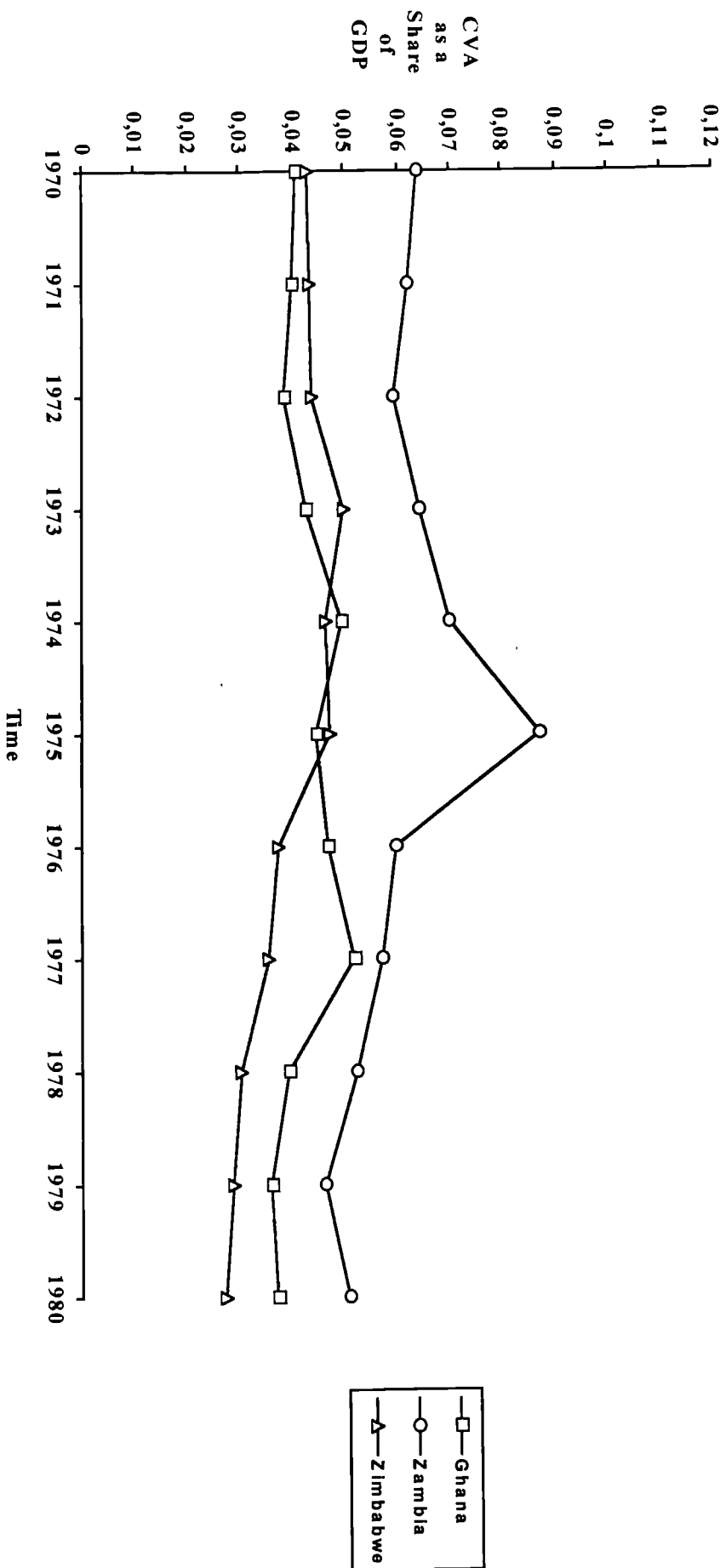


Fig. A.1.1.4 CVA as a Share of GDP (Countries with Decreasing GDP per capita in the period 1970 - 1980)



A.1.2 Period 1980- most recent estimates

Data on the construction industry and related sectors for this period pertain to 13 African countries (Tables A.1.2.1 to A.1.2.13) which, added to Angola and Mozambique, were studied in Chapter V. Data and indicators constructed from the data are stated below:

GDP and *GDPY*- gross domestic product, in current and constant prices

CVA and *CVAY* - construction valued added, in current and constant prices

GFCFC and *GFCFCY* - gross fixed capital formation in construction, in current and constant prices

GFCF and *GFCFY*- gross fixed capital formation, in current and constant prices.

Icva and *IcvaY*- *CVA/GDP* ratio, in current and constant prices

Igfcfc and *IgfcfcY* - *GFCFC/GDP* ratio, in current and constant prices

The statistical sources used are the 1988 and 1995 editions of the *Yearbook of National Accounts Statistics* published by the United Nations.

In all tables, "n.a." means not available.

Table A.1.2.1 Evolution of the Indicators of the Construction Industry, GDP and GFCF in Botswana

Year	CVA	GDP	CVA85	GDP85	GFCFC	GFCF	GFCFC85	GFCF85
(million Botswana pula)								
1980	69.0	875.5	116.4	1511.1	178.9	306.6	280.1	481.5
1981	53.0	899.9	83.7	1590.9	130.0	304.8	190.9	453.1
1982	58.0	1153.1	105.1	1884.2	158.4	320.3	188.3	386.0
1983	94.8	1390.9	105.1	2101.2	197.1	337.6	218.6	382.1
1984	97.4	1828.6	108.1	2251.9	222.0	484.0	245.5	545.0
1985	96.0	2420.6	96.0	2420.6	221.0	457.9	221.0	457.0
1986	132.3	2809.8	114.1	2636.2	305.9	669.9	256.8	561.7
1987	185.2	3795.6	131.6	3038.7	511.4	1081.8	379.9	791.1
1988	259.3	5472.0	171.4	3437.4	1055.4	2232.0	396.8	1024.1
1989	337.1	6130.1	188.2	3633.6				
1990	393.4	6995.0	202.0	3954.5	n.a.	n.a.	n.a.	n.a.
1991	46.0	7810.1	211.2	4209.5				

Year	ICVA	IGFCFC	ICVA85	IGFCFC85
1980	0.0788121	0.204340	0.0770300	0.185362
1981	0.0588954	0.144460	0.0526117	0.119995
1982	0.0502992	0.137369	0.0362488	0.099936
1983	0.0681573	0.141707	0.0500190	0.104036
1984	0.0532648	0.121404	0.0480039	0.109019
1985	0.0396596	0.092539	0.0396596	0.091300
1986	0.0470852	0.108869	0.0432820	0.097413
1987	0.0487933	0.134735	0.0433080	0.125021
1988	0.0473867	0.192873	0.0498633	0.115436
1989	0.0549909		0.0517944	
1990	0.0562402	n.a.	0.0510810	n.a.
1991	0.0589365		0.0501722	

Table A.1.2.2 Evolution of the Indicators of the Construction Industry, GDP and GFCF in Cape Verde Islands

Year	CVA	GDP	CVA80	GDP80	GFCFC	GFCF	GFCFC80	GFCF80
			(million Cape Verde escudos)					
1980	692	5919	692	5919	1385	2214	1385	2214
1981	903	7053	838	6296	2272	2747	2006	2747
1982	938	8438	785	6520	297	4222	2325	3037
1983	1150	10140	880	7121	3144	4840	2188	3103
1984	1330	11548	881	7381	3071	4966	1998	3078
1985	1398	13081	927	8011	4038	5957	2387	3296
1986	1705	15559	967	8229	4358	6440	2424	3394
1987	1881	17984	1051	8852	4183	7053	2294	3520
1988	2238	20640	1224	9529	4948	7721	2609	3675
1989			1250	10115				
1990	n.a.	n.a.	1287	10310	n.a.	n.a.	n.a.	n.a.
1991			1184	10555				
1992			1267	10946				

Year	ICVA	IGFCFC	ICVA80	IGFCFC80
1980	0.116912	0.233992	0.116912	0.233992
1981	0.128031	0.322132	0.133100	0.318615
1982	0.111164	0.352216	0.120399	0.356595
1983	0.113412	0.310059	0.123578	0.307260
1984	0.115171	0.265933	0.119361	0.270695
1985	0.106873	0.308692	0.115716	0.297965
1986	0.109583	0.280095	0.117511	0.294568
1987	0.104593	0.232596	0.118730	0.259150
1988	0.108430	0.239729	0.128450	0.273796
1989			0.123579	
1990	n.a.	n.a.	0.124830	n.a.
1991			0.112174	
1992			0.115750	

Table A.1.2.3 Evolution of the Indicators of the Construction Industry, GDP and GFCF in Gambia

Year	CVA	GDP	CVA76	GDP76	GFCFC	GFCF	GFCFC76	GFCF76
(thousand Gambian dalasis)								
1980	31215	411681	18509	341764				
1981	24652	451230	14878	372796				
1982	28887	605787	20552	430682				
1983	32444	617837	22431	432145				
1984	39510	781183	25463	439166				
1985	40608	1085241	23291	457137	n.a.	n.a.	n.a.	n.a.
1986	70904	1485985	27611	469859				
1987	63908	1635517	19576	477871				
1988	84204	1942310	24901	498573				
1989	116804	2366950	27873	527022				
1990	118623	2629565	30101	538711				
1991	148300	2947632	31606	562232				

Year	ICVA	IGFCFC	ICVA76	IGFCFC76
1980	0.0758233		0.0541573	
1981	0.0546329		0.0399092	
1982	0.0476851		0.0477197	
1983	0.0525122		0.0519062	
1984	0.0505771		0.0579804	
1985	0.0374184	n.a.	0.0509497	n.a.
1986	0.0477152		0.0587644	
1987	0.0390751		0.0409650	
1988	0.0433525		0.0499445	
1989	0.0493479		0.0528877	
1990	0.0451113		0.0558760	
1991	0.0503116		0.0562152	

Table A.1.2.4 Evolution of the Indicators of the Construction Industry, GDP and GFCF in Ghana

Year	CVA	GDP	CVA75	GDP75	GFCFC	GFCF	GFCFC75	GFCF75
(million Ghanaian cedis)								
1980	236	5283	236	5283	396	614	396	613
1981	262	6526	239	5097	404	641	370	576
1982	422	11163	270	5212	701	1049	462	691
1983	517	20986	222	5654	823	1355	348	585
1984	659	28222	198	5512	1151	1899	313	547
1985	1055	42854	206	5538	1861	2613	330	516
1986	1491	72626	184	5344	2628	3430	272	456
1987	1486	86451	151	4974	2473	3053	164	352
1988	2796	184039	129	4747	5131	6922	169	344
1989	5945	270561	132	5158	11590	18542	190	392
1990	9780	343048	135	5420	20487	32689	300	489
1991	12962	511400	132	5702	28490	47500	306	473

Year	ICVA	IGFCFC	ICVA75	IGFCFC75
1980	0.0446716	0.0749574	0.0446716	0.0749574
1981	0.0401471	0.0619062	0.0468903	0.0725917
1982	0.0378035	0.0627967	0.0518035	0.0886416
1983	0.0246355	0.0392166	0.0392642	0.0615493
1984	0.0233506	0.0407838	0.0359216	0.0567852
1985	0.0246185	0.0434265	0.0371975	0.0595883
1986	0.0205298	0.0361854	0.0344311	0.0508982
1987	0.0171889	0.0286058	0.0303579	0.0329715
1988	0.0151924	0.0278800	0.0271751	0.0356014
1989	0.0219729	0.0421837	0.0255913	0.0368360
1990	0.0285091	0.0597205	0.0249077	0.0553506
1991	0.0253461	0.0557098	0.0231498	0.0536654

Table A.1.2.5 Evolution of the Indicators of the Construction Industry, GDP and GFCF in Kenya

Year	CVA	GDP	CVA82	GDP82	GFCFC	GFCF	GFCFC82	GFCF82
(million Kenyan pounds)								
1980	147	2695	175	3267	320	623	368	807
1981	167	3023	185	3390	369	728	418	848
1982	185	3615	185	3515	371	666	371	668
1983	198	3983	169	3563	342	717	309	576
1984	196	4464	164	3626	385	807	304	565
1985	238	5042	179	3781	436	880	313	597
1986	247	5874	177	4052	502	1153	338	668
1987	288	6658	184	4292	540	1287	328	708
1988	375	7560	190	4558	726	1518	378	767
1989	368	8579	200	4772	777	1658	386	760
1990	468	9777	208	4973	931	2028	404	787
1991	570	11044	213	5043	977	2134	395	762
1992	639	12904	197	5065	950	2122	342	692

Year	ICVA	IGFCFC	ICVA82	IGFCFC82
1980	0.0545455	0.118738	0.0535660	0.118151
1981	0.0552431	0.122064	0.0545723	0.123304
1982	0.0511757	0.102628	0.0526316	0.105548
1983	0.0497113	0.085865	0.0474319	0.086725
1984	0.0439068	0.086246	0.0452289	0.083839
1985	0.0472035	0.086474	0.0473420	0.082782
1986	0.0420497	0.085461	0.0436821	0.083416
1987	0.0432562	0.081105	0.0428705	0.076421
1988	0.0496032	0.096032	0.0416849	0.082931
1989	0.0428954	0.090570	0.0419111	0.080889
1990	0.0478674	0.095223	0.0418259	0.081239
1991	0.0516117	0.088464	0.0422368	0.078326
1992	0.0495195	0.073621	0.0388944	0.067522

Table A.1.2.6 Evolution of the Indicators of the Construction Industry, GDP and GFCF in Malawi

Year	CVA	GDP	CVA78	GDP78	GFCFC	GFCF	GFCFC78	GFCF78
(million Malawi kwacha)								
1980		1005.1	43.5	839.1		223.1		174.0
1981		1108.1	36.4	800.4		167.8		117.9
1982		1234.7	35.8	808.4		181.7		114.8
1983		1432.7	33.1	848.4		197.3		112.0
1984		1687.9	30.2	881.0		222.7		108.5
1985		1929.2	39.5	950.0		259.5		108.0
1986	n.a.	2187.9	34.1	953.8	n.a.	264.1	n.a.	80.9
1987		2711.8	32.9	976.9		352.9		88.2
1988		3505.3	38.1	1002.2		524.0		101.2
1989		4536.4	40.5	1052.0		699.6		115.7
1990		5853.9	40.4	1100.0		700.0		102.5
1991		6145.0	44.4	1178.9		1030.0		156.4
1992		6872.7	40.7	1076.4		1077.0		125.8

Year	ICVA	IGFCFC*	ICVA82	IGFCFC82*
1980		0.22197	0.051841	0.20737
1981		0.15143	0.045477	0.14730
1982		0.14716	0.044285	0.15121
1983		0.13771	0.039015	0.14156
1984		0.13194	0.034280	0.13196
1985		0.13451	0.041579	0.12545
1986	n.a.	0.12071	0.035752	0.09210
1987		0.13014	0.033678	0.097978
1988		0.14949	0.038016	0.10924
1989		0.15422	0.038498	0.12002
1990		0.11958	0.036727	0.10173
1991		0.16762	0.037811	0.14358
1992		0.15671	0.037662	0.12650

Note: * - GFCF/GDP ratio

Table A.1.2.7 Evolution of the Indicators of the Construction Industry, GDP and GFCF in Mauritius

Year	CVA	GDP	CVA87	GDP87	GFCFC	GFCF	GFCFC87	GFCF87
	(million Mauritius rupees)							
1980	561	8697	859	15530	1235	2028	2004	3538
1981	588	10209	817	16444	1380	2240	1929	3285
1982	625	11725	783	17348	1460	2100	1911	2824
1983	655	12763	793	17415	1504	2300	1865	2914
1984	690	14360	809	18099	1585	2595	1838	3093
1985	775	16618	875	19501	1790	3100	1982	3402
1986	880	19700	962	21401	2070	3890	2198	4081
1987	1045	23576	1045	23576	2325	5090	2365	5090
1988	1370	27803	1223	25173	3205	7990	2895	7175
1989	1735	32265	1357	26331	1410	8565	3275	6670
1990	2220	38035	1527	28203	5570	11865	3830	8225
1991	2590	42635	1649	29464	6575	12385	4188	7990

Year	ICVA	IGFCFC	ICVA87	IGFCFC87
1980	0.0645050	0.142003	0.0553123	0.129041
1981	0.0575962	0.135175	0.0496838	0.117307
1982	0.0533049	0.124520	0.0451349	0.110157
1983	0.0513202	0.117841	0.0455355	0.107092
1984	0.0480501	0.110376	0.0446986	0.101553
1985	0.0466362	0.107715	0.0448695	0.101636
1986	0.0446700	0.105076	0.0449512	0.102705
1987	0.0443247	0.098617	0.0443247	0.100314
1988	0.0492753	0.115275	0.0485838	0.115004
1989	0.0537734	0.128312	0.0515362	0.124378
1990	0.0583673	0.146444	0.0541432	0.135801
1991	0.0607482	0.154216	0.0559666	0.142140

Table A.1.2.8 Evolution of the Indicators of the Construction Industry, GDP and GFCF in Namibia

Year	CVA	GDP	CVA85	GDP85	GFCFC	GFCF	GFCFC85	GFCF85
(million Namibia dollars)								
1980	50.6	1605.0	94.0	2980.0	292.6	438.7	606.2	837.8
1981	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1982	69.6	1859.9	98.4	2930.4	295.0	422.5	461.6	608.0
1983	64.5	1962.7	80.0	2819.9	251.4	362.8	352.0	458.2
1984	61.9	2195.6	70.9	2838.1	220.4	328.4	284.7	360.0
1985	71.3	2854.2	71.3	2854.2	262.0	380.1	273.1	360.1
1986	69.1	3334.5	59.6	2859.0	256.1	425.6	255.4	357.4
1987	83.7	3601.1	61.6	3025.9	298.8	504.2	264.6	374.1
1988	99.4	4520.9	62.9	3124.1	432.9	658.5	316.5	426.9
1989	111.3	5190.8	59.0	3201.7	499.6	828.6	315.9	455.2
1990	113.2	5507.7	53.1	3298.4	462.2	930.0	260.8	448.2
1991	127.0	6203.4	54.2	3465.3	424.2	692.0	215.5	303.5
1992	137.0	7026.8	53.1	3686.0	482.5	870.3	219.3	333.5

Year	ICVA	IGFCFC	ICVA85	IGFCFC85
1980	0.0315265	0.182305	0.0315436	0.203423
1981	0.0315265*	n.a.	0.0315436*	n.a.
1982	0.0374214	0.158611	0.0335790	0.157521
1983	0.0328629	0.128089	0.0283698	0.124827
1984	0.0281927	0.100383	0.0249815	0.100314
1985	0.0249807	0.091795	0.0249807	0.095684
1986	0.0207227	0.076803	0.0208464	0.089332
1987	0.0232429	0.082975	0.0203576	0.087445
1988	0.0219868	0.095755	0.0195700	0.098472
1989	0.0214418	0.096247	0.0184277	0.098666
1990	0.0205530	0.083919	0.0160987	0.079069
1991	0.0204726	0.068382	0.0156408	0.062188
1992	0.0194968	0.068666	0.0144059	0.059495

Note: * - estimates

Table A.1.2.9 Evolution of the Indicators of the Construction Industry, GDP and GFCF in Nigeria

Year	CVA	GDP	CVA84	GDP84	GFCFC	GFCF	GFCFC84	GFCF84
	(million Nigerian naira)							
1980	3671	48257	4576	72406	10976	7460	13892	13892
1981	3388	50749	4062	70729	12215	6173	14550	14550
1982	2448	51709	2652	70305	10922	6106	11714	11714
1983	2256	57142	2338	66828	8135	5188	8399	8399
1984	1906	63608	1906	63608	5417	3552	5417	5417
1985	1532	72355	1313	69781	5573	3218	4769	4769
1986	1920	73062	1311	71535	7323	3966	4336	4336
1987	2175	108885	1433	71034	10661	4515	3885	3885
1988	2467	145243	1579	78066	12384	5041	4123	4123
1989	3854	224797	1645	83687	18414	8064	4290	4290
1990	4351	260637	1727	90546	30627	10457	5661	5661
1991	4900	324794	1796	94895	36274	11473	5788	5788

Year	ICVA	IGFCFC	ICVA84	IGFCFC84
1980	0.0760719	0.154589	0.0631992	0.144767
1981	0.0667599	0.121638	0.0574305	0.104653
1982	0.0473419	0.118084	0.0377214	0.092597
1983	0.0394806	0.090791	0.0349853	0.080445
1984	0.0299648	0.055842	0.0299648	0.055842
1985	0.0211724	0.044475	0.0188160	0.039524
1986	0.0262791	0.054283	0.0183267	0.037870
1987	0.0199752	0.041466	0.0201734	0.041881
1988	0.0169853	0.034707	0.0202265	0.041324
1989	0.0171444	0.058720	0.0196566	0.041117
1990	0.0166937	0.040121	0.0190723	0.045833
1991	0.0150865	0.035324	0.0189262	0.044312

Table A.1.2.10 Evolution of the Indicators of the Construction Industry, GDP and GFCF in Swaziland

Year	CVA	GDP	CVA85	GDP85	GFCFC	GFCF	GFCFC85	GFCF85
(million Swaziland emalangeni)								
1980	9.1	263.5	18.6*	541.8		68.1		
1981	20.3	323.2	38.4*	613.3	n.a.	114.9		
1982	21.1	372.9	34.6*	611.5		142.1		
1983	16.2	453.5	30.0	642.0	54.8	113.6		
1984	17.0	477.0	27.6	670.1	60.0	140.0		
1985	15.8	584.0	22.0	683.3	62.6	168.8	n.a.	n.a.
1986	25.3	618.7	31.3	687.9	71.9	198.6		
1987	24.6	729.6	27.8	743.1	78.1	231.8		
1988	24.8	802.5	24.8	802.5	85.3	197.6		
1989	29.9	1026.3	24.2	841.1	100.2	163.6		
1990	31.0	1206.1	22.8	819.7	112.0	196.2		
1991	37.1	1573.3	23.9	873.4	134.1	350.7		

Year	ICVA	IGFCFC	ICVA85	IGFCFC85
1980	0.0345351		0.0343686	
1981	0.0628094	n.a.	0.0627530	
1982	0.0565835		0.0566208	
1983	0.0375222	0.120838	0.0467290	
1984	0.0356394	0.125786	0.0411879	n.a.
1985	0.0270548	0.107192	0.0321967	
1986	0.0408922	0.116211	0.0455008	
1987	0.0337217	0.107060	0.0374108	
1988	0.0309034	0.106293	0.0309034	
1989	0.0291338	0.097632	0.0287718	
1990	0.0257027	0.092861	0.0278151	
1991	0.0235810	0.085235	0.0273643	

Note: * - estimates based on CVA in current prices

**Table A.1.2.11 Evolution of the Indicators of the Construction Industry, GDP
and GFCF in Tanzania**

Year	CVA	GDP	CVA76	GDP76	GFCFC	GFCF	GFCFC76	GFCF76
	(million Tanzanian shillings)							
1980	1498	42118	932	23419	4359	8630	2708	5615
1981	1614	49102	890	23301	4677	8632	2582	5806
1982	1863	58826	930	23439	5401	10825	2683	6052
1983	1252	70509	549	22882	2641	7752	1546	4042
1984	1661	88892	660	23656	4713	11973	1789	5891
1985	2061	120621	601	24278	5858	16872	1704	7221
1986	3131	159648	705	25070	9004	28679	2014	7007
1987	6511	226950	1052	26345	19077	65075	2872	8964
1988	11808	331317	1177	27460	34891	97301	3420	8823
1989	9720	406542	858	28376	32210	129092	2740	8548
1990	12650	494999	937	29368	67462	217404	4760	11442
1991	14416	690421	962	30484	78972	262373	4622	11263

Year	ICVA	IGFCFC	ICVA76	IGFCFC76
1980	0.0355667	0.103495	0.0397967	0.115633
1981	0.0328704	0.095251	0.0381958	0.110811
1982	0.0316697	0.091813	0.0396775	0.114467
1983	0.0177566	0.037456	0.0239927	0.067564
1984	0.0186856	0.053019	0.0278999	0.075626
1985	0.0170866	0.048565	0.0247549	0.070187
1986	0.0196119	0.056399	0.0281213	0.080335
1987	0.0286891	0.084058	0.0399317	0.109015
1988	0.0356396	0.105310	0.0428623	0.124545
1989	0.0239090	0.079229	0.0302368	0.096560
1990	0.025556	0.136287	0.0319055	0.162081
1991	0.0208800	0.114382	0.0315575	0.151621

Table A.1.2.12 Evolution of the Indicators of the Construction Industry, GDP and GFCF in Zambia

Year	CVA	GDP	CVA85	GDP85	GFCFC	GFCF	GFCFC85	GFCF85
(million Zambian kwacha)								
1980	196	3656	496.0	8992.0	281	672	708.1	
1981	174	4147	379.6	9475.1	299	697	664.2	
1982	204	4266	403.0	9139.0	291	677	582.1	
1983	238	5400	392.0	9408.0	332	737	551.2	
1984	299	6222	411.0	9353.0	401	837	557.8	
1985	378	9351	378.0	9351.0	511	1453	551.0	n.a.
1986	611	17617	397.0	9599.0	811	3261	517.5	
1987	882	21564	393.0	9863.0	1226	5494	546.4	
1988	1338	30823	386.0	10055.0	1691	6428	527.0	
1989	3019	58706	380.0	10151.0	4255	11667	535.6	
1990	6300	123487	376.0	10227.0	9466	37911	510.6	
1991	10911	234504	338.0	10027.0	16017	57695	496.2	

Year	ICVA	IGFCFC	ICVA85	IGFCFC85
1980	0.0536105	0.0768600	0.0551601	0.0787878
1981	0.0419580	0.0721003	0.0400629	0.0700995
1982	0.0478200	0.0682138	0.0440967	0.0636941
1983	0.0440741	0.0614815	0.0416667	0.0585884
1984	0.0480553	0.0644487	0.0439431	0.0596386
1985	0.0404235	0.0546466	0.0404235	0.0546466
1986	0.0346824	0.0460351	0.0413585	0.0539119
1987	0.0409015	0.0568540	0.0398459	0.0553990
1988	0.0434091	0.0548616	0.0383889	0.0524117
1989	0.0514257	0.0724798	0.0374347	0.0527633
1990	0.0510175	0.0766558	0.0367654	0.0499267
1991	0.0465280	0.0683016	0.0337090	0.0494864

Table A.1.2.13 Evolution of the Indicators of the Construction Industry, GDP and GFCF in Zimbabwe

Year	CVA	GDP	CVA80	GDP80	GFCFC*	GFCF	GFCFC80*	GFCF80
(million Zimbabwean dollars)								
1980	91	3332	91	3332	255	528	255	528
1981	138	4097	105	3606	341	830	278	722
1982	190	4803	101	3701	463	1039	324	788
1983	258	5605	93	3571	536	1238	319	765
1984	205	5817	86	3644	462	1185	244	618
1985	154	6710	64	3923	452	1133	213	505
1986	168	7641	67	4003	444	1312	185	518
1987	225	8303	62	3994	538	1673	203	601
1988	243	10482	61	4265	697	2031	247	666
1989	318	12452	63	4445	938	2042	296	726
1990	362	15046	57	4530				
1991	499	19953	59	4729	n.a.	n.a.	n.a.	n.a.
1992	499	26072	44.3	4372				

Year	ICVA	IGFCFC	ICVA80	IGFCFC80
1980	0.027311	0.075631	0.027311	0.075631
1981	0.033683	0.083232	0.029118	0.077149
1982	0.039559	0.096398	0.027290	0.087457
1983	0.046030	0.095629	0.026043	0.089324
1984	0.0352425	0.079422	0.023600	0.067064
1985	0.022951	0.067362	0.016314	0.054314
1986	0.021987	0.058107	0.016737	0.046435
1987	0.027099	0.065796	0.015523	0.050844
1988	0.023183	0.066495	0.014303	0.058014
1989	0.025538	0.075329	0.014173	0.066724
1990	0.024060		0.012583	
1991	0.025009	n.a.	0.012476	n.a.
1992	0.019139		0.010327	

Note: * - gross construction output

APPENDIX A.2

Additional Information for Angola Survey

This section presents the country profile, and reviews the relevant features of the economic development of Angola in the colonial period, paying special attention to the period from immediately before the Second World War up to the all-time peak in Angolan economy in 1973. Additionally, the evolution of the components of the balance of payments of Angola in the period 1985-1994 is presented.

A.2.1. Country Profile

Geography

The Republic of Angola is the third largest nation south of the Sahara. It occupies an area of 1,246,700 square kilometres including the oil-rich enclave of Cabinda, separated from the rest of the country by Zaire and river Congo. Angola is located on the Southwest coast of Africa and is bordered to the North by the People's Republic of Congo, to the Northeast by Zaire, to the East by Zambia, and to the South by Namibia. The country has a wide range of geographical features from the Cabinda forests to the semi-desert of the far South, the cool plateaux of Lubango and the central highlands. There are two distinct seasons: the dry and cool season (from June to September) and the hot and humid season (from October to May). The rainy seasons are from February to April and October.

Population

The population was estimated at 10,916 million (mid 1993). Angola has one of the lowest population densities of Sub-Saharan Africa, approximately 9 inhabitants per square kilometre. The most recent trend in population growth is at a rate of 2.9% per annum. The growth in urban population, since 1970, is at a much higher rate

<i>Year</i>	<i>1970</i>	<i>1985</i>	<i>1993</i>
Total Population (thousands)	5,588	8,754	10,916
Urban Population (% of total population)	15.0	24.0	42.0

Language

The official language is Portuguese. There are many ethnic groups with their own language or dialect.

Currency

The currency is the New Kwanza (NKz). The official exchange rate at December 1994 was NKz 493,480 = US\$ 1

Principal Cities

Luanda, the capital, with a population of about 1.7 million (1993), is also the principal port and concentrates the country's main manufacturing industry. Huambo, the second city (more than 400,000 inhabitants), is an agricultural centre and capital of central highlands, and Lobito, the second port, is the headquarters of the Benguela Railway.

Political Background

The nationalist armed struggle for the independence of Angola from Portuguese colonial rule, began in 1961 and was conducted by three rival movements: the MPLA (People's Movement for the Liberation of Angola), The FNLA (National Front for the Liberation of Angola) and UNITA (National Union for Total Independence of Angola).

After a coup d'état in Portugal in 1974, Portuguese authorities opened negotiations with the three nationalist movements. These culminated in the Alvor Agreement in January 1975, and a transitional coalition government with the participation of Portuguese ministers was established. The coalition government was short-lived and an open civil war involving the three movements erupted in the country in the mid-1975.

The MPLA, with the support of Cuban troops, reinforced its positions in the capital - Luanda and other major cities and proclaimed the independence of Angola in 11 November 1975. Nevertheless, the civil war did not end as UNITA continued with a guerrilla war in the South of Angola, which was enlarged in subsequent years to the central and northern provinces.

A cease-fire between the Government and the main opposition party - UNITA was signed in May 1991, and multi-party elections were summoned for September 1994. UNITA would not accept the results of the elections and the civil war was resumed in October 1992. However, in November 1994, a further peace agreement, under the auspices of the United Nations, was signed in Lusaka. At the time of writing, this peace process is still in place. Angola is a member of the UN, OAU, SADC and more recently of the WB, IMF and the CPLP.

Social Indicators

There is no reliable statistics of the social indicators of development of Angola from the period that follows the resumption of the civil war in the late 1992. According to MPCE (1994), 50% of the population in the capital lives in absolute poverty, and 85% of the sanitary infrastructures of the country were destroyed in the 1992 civil war. Since then all the following social indicators have been getting worse.

Employment

In 1993, and for the city of Luanda (where statistics are available), the total population of working age (10+ to 59) was 1,130,481, and the economically active population (EAP) was 640,111 inhabitants (56.6% of the total population of working age). The percentage of unemployed was 22.3 % and employed represented 77.7% of the EAP. The estimates for sub-employment were very high - 42.3% of total employment.

<i>Access to Safe Water and Sewerage</i>	<i>1980</i>	<i>1991</i>
-Percentage of Population with Access to Safe Water		
total	n.a.	41
urban	85	60
rural	10	20
- Percentage of Population with Access to Sewerage	<i>1980</i>	<i>1991</i>
total population	n.a.	19
<i>Education</i>	<i>1970</i>	<i>1990</i>
- Illiteracy Rate(%)	92.4*	58
<i>Survival Prospects</i>	<i>1975</i>	<i>1992</i>
- Life expectancy at birth (years)	39	46
- Infant mortality (per thousand)	167	124

Notes: n.a. - not available; * - adult illiteracy rate

Economic Indicators

<i>GNP per capita (1994)</i>	<i>US\$ 410</i>
<i>Inflation (CPI)</i>	<i>970% in 1994</i>
<i>Total External Debt</i>	<i>US\$ 13.5 billion(1994)</i>

A.2.2 Economic Development in the Colonial Period

The origin of the colonial rule in Angola is quite often traced in the literature of the colonial period of Angola (Randles, 1968; Macedo, 1975) as far back as the first encounter between the representatives of the kingdom of Portugal and the kingdom of Congo in the late years of the 15th century. The length of the Portuguese colonial presence (almost 500 years) and its peculiar characteristics - based on a labour system that was never free - left a colonial legacy which continues to constrain Angolan economic development (WB, 1991b). Ever since, the persistence of an economy based on the interests of the colonial ruler had shaped the economic development of Angola until its independence in 1975.

The colonial economy of Angola can be broadly characterised through three stages of development. Each cycle defines a period during which the external sector of the colony's economy was dominated by a particular product and/or market. The first period comprises the initial alliance between the Portuguese and Congo kingdoms, as well as the slave trade directed to Latin America, mostly to Brazil. This period is some times referred to as the South Atlantic Link (Macedo, 1978) The second period begins with the long period of transition from slave trade to an emergence of a coffee- export economy in the early decades of 1900s. The third period begins with the Portuguese military response to the nationalist armed revolt in 1961. A process of rapid industrialisation which took place alongside the coffee economy concludes with the beginning of the oil boom in the late 1960s which preceded the first oil crisis in 1973 and the 1974 coup d'état in Portugal.

In the early stages of this century, some development of the modern sector of the Angolan economy had become to take shape. This development was based upon its resource base (mineral resources, especially diamond mining, and agricultural exploitation) and railway building. The railway system was developed with the aim at connecting to the regional railway infrastructure of the then Southern African colonies and the Republic of South Africa. Thus, The Benguela Railway (C.F.B) was built with the purpose of transporting to the port of Lobito the mineral products from

Katanga and other British and Belgium possessions. Two other less important corridors compound this east-west railway system: the Malange-Luanda Railway to transport to the capital Luanda the exportable products of the commercial plantations from the former region; and finally, a railway to connect the port of Namibe to Lubango, and ultimately to the iron ore region of Cassinga.

Rapid economic growth in the sense pointed out by Reynolds (1985) began only after the Second World War with the coffee led-export boom. Table A.2.2.1 shows that, in 1950, coffee was the most important of Angolan exports, accounting for 34 percent of foreign currency earnings. A system of big plantations which employed the so called contract labour was the dominant pattern of this economy.

Table A.2.2.1 Principal Exports of Angola; 1950-1973

Year	Coffee	Diamonds	Oil	Sisal	Others
	(percentage)				
1950	34.0	9.0	0.0	9.0	48.0
1960	35.0	14.0	0.0	11.0	40.0
1963	40.0	16.0	0.0	12.0	32.0
1964	49.0	13.0	0.0	8.0	30.0
1969	34.0	20.0	5.0	2.0	39.0
1970	32.0	19.0	11.0	2.0	36.0
1973	26.0	10.0	30.0	2.0	32.0

Source: Banco de Angola (various years)

In response to the economic crisis in the then metropolis, Portuguese settlers increased from 44,000 in 1940 to 172,000 in 1960, and to a peak of 340,000 in 1974. The last value represents about 5% of total population at the end of the colonial period. Total population rose 2.5% a year from 1950 to 1975 preceded by an insignificantly average annual growth rate of less than 1% in the first half of this century.

During the period 1960-1974 (which coincided with the armed struggle for independence), economic growth accelerated considerably. Public investment in economic and social infrastructure increased significantly an less restrictive

investment laws were enforced to encourage foreign investments. The main interests of foreign investors were, as had been since the early decades of this century, the mining sector (mainly diamonds, copper, manganese and iron). With the first commercial discovery of oil in the late 1950s, oil production rose spectacularly in the late 1960s. In 1973, on the eve of independence, output was 144,000 barrels per day and oil overtook coffee as the leading export commodity. As constructed from Table A.2.2.2, GDP increased at an annual growth rate of about 7% in real terms in the period 1963-1973, representing one of the highest real growth rates at the time in Africa (WB, 1991b).

The growth of the domestic market fuelled by an accelerating investment programme and growing population provided the opportunity for the development of a domestic manufacturing sector. This development pattern was, in the beginning, one of that is characteristic of a low- income economy (see Syrquin & Chenery, 1989). It started with the transformation of agricultural products (food processing and drink sub-sectors) in order to take advantage of Angola's rich resource endowment. After the 1965 law that revoked the directive on "new industrial licensing", by which the establishment of new industries, especially textiles, in the then colonies were prohibited, the manufacturing sector started to diversify. As shown in Table A.2.2.3, manufacturing products included textiles, publishing and paper products, glass, non metal mineral, metallurgical products and machinery and equipment. According to data published by the Instituto Nacional de Estatística de Angola (INE, 1974), manufacturing output increased at an average annual rate of more than 20% in the period 1966-1970. However, most industries depended heavily on imported intermediate inputs and equipment, let alone management posts and other skilled labour.

Table A.2.2.2 Evolution of Gross Domestic Product of Angola; 1950-1973

Year	Current prices	1963 constant prices
	(million Escudos)	
1953	9078	9759
1961	12665	13890
1963	14820	14820
1965	19200	17167
1967	24633	19829
1969	33675	24042
1971	42078	27196
1973	58707	29391

Source: World Bank (1991b)

Table A.2.2.3 Manufacturing Output (percent) by Major Industrial Groups in Angola; 1966-1970

	Year				
	1966	1967	1968	1969	1970
Food and drinks	46	46	45	42	43
Fabrics/shoes	10	10	10	10	10
Chemical and oil products	19	15	15	16	14
Non metal mineral	8	7	7	8	7
Metallurgical products	2	2	3	3	5
Machinery and equipment	1	6	5	6	6
Others	14	14	15	15	15
Total	100	100	100	100	100
Rate of growth of Total	-	26	22	19	17
Share of Exports	20	22	21	21	18

Source: Instituto Nacional de Estatística de Angola (various years)

Regarding the share of manufacturing value added (MVA) in GDP, data available are more controversial. According to Dilolowa (1978) the share of MVA in GDP was 11.1% in 1970, three years before the peak in Angolan economy. This figure seems to be corroborated by an earlier work (Diogo, 1962) which pointed to an average value of 4.5% as the share of the country's manufacturing exports in total exports, in the period 1956-1961. Taking in account the spectacular rate of growth in MVA in the period 1960-1973, it is reasonable to assume a value around 10% as the share of MVA in GDP, in 1970. Most of the interviewees contacted during the field work seemed generally to agree with the last-mentioned value. However, another work (SADC, 1990) found out the value of 2.6% for the same indicator, and for the same year. Further, this source placed Angola, as in 1970, second from bottom (as far as the contribution of manufacturing to GDP is concerned) in the group of 9 countries that formed at the time the Southern African Development Community.

However, this somewhat spectacular economic growth in the late colonial period was not reflected in a general increase in income for the whole population. The income distribution biased favourably towards Portuguese settlers, alongside a wage differential, reflected, in part, the lack of skills of native Angolan workers. Although Angola was a middle-income economy in 1973, the social indicators of development were less developed (see section A.2.2.0) than their counterparts in the same income range. This pattern of development added to the massive exodus of the Portuguese settlers (more than 90% of the total) would constitute a major constraint in economic development of Angola in the post-independence period.

Table A.2.3 Balance of Payments of Angola; 1985-1994
(millions of US\$)

	Year					
	1985	1988	1991	1992	1993	1994
I. Current balance	195	-469	-645	-735	-668	-872
Trade Balance	900	1120	1080	1845	1438	1369
Exports	2301	2492	3472	3833	2901	3002
- oil	2150	2182	3238	3573	2827	2896
-others	151	311	189	260	74	106
Imports	1401	1372	1347	1988	1463	1633
Balance of services	-726	-1621	-2753	-2682	-2272	-2410
Services credit	129	128	186	159	117	119
(Services debit)	855	1749	2939	2841	2389	2380
Balance of unilateral transfers	21	32	28	102	166	169
II. Medium- and long-term capital balance	454	-199	-689	-387	-542	-124
Direct foreign investment (net)	278	131	664	288	302	326
Other capital operations	176	-330	-1353	-675	-844	-450
III. Short-term capital balance	-655	-255	-139	-16	-291	-298
IV. Overall balance	-6	-923	-1473	-1138	-1501	-1294
Financing	n.a.	n.a.	1472	1139	1502	1298
Variation of reserves	-21	-49	-48	-227	193	14
Net accumulated arrears	27	967	1431	1318	1263	1123
Rescheduling	0	7	89	48	46	161

Note: n.a. - not available. Sources: INE (1993b); MPCE (1994); SEPLAN (1995)

APPENDIX A.3

Additional Information for Mozambique Survey

This section presents the country profile, and reviews the relevant features of the economic development of Mozambique in the colonial period, focusing on the period from immediately before the Second World War up to the all-time peak in Mozambican economy in 1973. In addition, the evolution of the macroeconomic indicators of Mozambique for the period 1980-1991 is presented. The average of those economic indicators are shown for two distinct periods: period 1980-1986; and the period post -Economic Rehabilitation Programme (1987-1991).

A.3.1 Country Profile

Geography

The Republic of Mozambique has an area of 799,380 square kilometres of which 13,000 square kilometres are inland water. Mozambique is located in the South-eastern cost of Africa and is bordered to the North by Tanzania and Malawi, to the West by Zambia and Zimbabwe, to the Southwest by South Africa and Swaziland and to the South by South Africa, constituting a whole border of 4,300 km. The country has a wide range of geographical features from the mountain regions of Southwest and West to the eastern coastal line of about 3000 km in the Indian Ocean. The country has many watercourses, the most important are the Zambeze River and Lake Niassa.

Population

As quite often happens in countries which have experienced a long civil war, Mozambique's data on population are subjected to certain qualifications, despite the most recent trends in the improvement in statistical coverage to the most part of the country's territory. According to DNE (1994b), Mozambican population was estimated at 15,6 million in mid-1993 and expected to have reached 17,3 million in 1995. The most recent trend in population growth is at a rate of 2.7% per annum, and the rate of growth of urban population has been much higher since the independence- 6.1% per annum. In 1992, urban population accounted for 29% of total population whereas in 1980 the same ratio was 13%.

Language

The official language is the Portuguese. There are many ethnic groups with their own language or dialect.

Currency

Since 1980, the national currency is the Mozambican Metical (MzM). The exchange rate in 1994 (annual average) was MzM 5,998.6 per US dollar.

Principal Cities

Maputo, the capital, with a population of 1.047 million inhabitants (mid-1995) is also the principal port and the terminal of the Maputo rail-port corridor. With its twin town Matola, is the main country's manufacturing industry and the economic pole for foreign direct investment. Other main cities are Beira and Nampula which are, respectively, the headquarters of Beira and Nacala rail-port corridors.

Political Background

The Republic of Mozambique became independent from Portugal in June 1975 after a nationalist armed struggle conducted by Frelimo (Front for the Liberation of Mozambique) since 1964. This nationalist movement became since the independence the unique and ruling party, and in 1977, the country opted for a Marxist-oriented ideology.

A civil war between the ruling party and Renamo (Mozambique's National Resistance) erupted in the country in 1976, which spread widely to almost all over the territory from 1981 onwards. In August 1992, a peace agreement between the two rival parties was signed in Rome and democratic elections were summoned for October 1994 under the auspices of the United Nations. Frelimo won the parliamentary and presidential elections.

Mozambique has now freely elected democratic institutions and a successfully diversified relationships in the international arena. It is a member of the UN, OAU, WB, IMF, SADC and more recently of the CPLP and the Commonwealth.

Social Indicators

Again, like data on population, data on social indicators of development should be taken with a great deal of caution.

Employment

According to DNE (1994c), the size of the workforce or the economically active population represented, in 1991, 42.2% of total population. A more recent publication (Report on Mozambique, 1995) estimated that that figure should have reached 48.6% in 1995. This huge difference may be explained by the return of

Mozambican refugees and migrant workers, and the demobilisation of soldiers in the aftermath of the peace process. In 1991, employed and unemployed persons represented respectively 92.8% and 7.2% of the EAP. Of the employed persons, 52.2% were under-employed.

<i>Access to Safe Water and Sewerage</i>	<i>1985</i>	<i>1990</i>
- Percentage of Population with Access to Safe Water		
total	15	24
urban	38	44
rural	9	17
- Percentage of Population with Access to Sewerage in the Capital - Maputo	n.a.	20.6
 <i>Education</i>	 <i>1970</i>	 <i>1990</i>
- Illiteracy Rate (%)	93	67
 <i>Survival Prospects</i>	 <i>1982</i>	 <i>1992</i>
- Life Expectancy at Birth (years)	40	44
- Infant Mortality (per thousand)	171	162

Note: n.a. - not available

Economic Indicators

<i>GNP per capita</i> ¹ (1993)	<i>US\$ 95</i>
<i>Inflation (CPI)</i>	<i>63.1% (1994)</i>
<i>Total External Debt</i>	<i>US\$ 5.3 billion (1994)</i>

¹ This value is understated according to most of the interviewed contacted during the fieldwork

A.3.2. Economic Development in the Colonial Period

At the Berlin Conference in 1885 in which the colonial division of Africa was established, the principle of effective occupation was accepted over the Portuguese idea of priority of discovery. Unlike the case of Angola (particularly in Luanda district and its hinterland, and Benguela and surrounding districts) where the Portuguese presence was effective since the late 15th century, the effective occupation of the then colony of Mozambique by Portugal started only after the Berlin Conference. The English Ultimatum in 1890 which was against the Portuguese idea of linking Angola and Mozambique by land (the so called “pink map”) aggravated the weakness of the Portuguese kingdom at the time (Macedo, 1988).

Despite its weakness, Portugal was able to maintain the territories it claimed to have occupied because the inter-imperialist rivalries between Great Britain, Germany and France would not allow the position of any of them to be strengthened through the possession or control of more territories (Wuyts, 1983: p. 15)

The economic development of Mozambique from the Berlin Conference until the independence in 1975, can be broadly divided through three stages of development.

During the first period that ended in 1930, the colony’s economy was characterised by a clearly double dependence: it was both the product of the dependence of the relatively backward capitalist economy of Portugal, and subordinated to the interests of the more economically advanced areas of Southern Africa. Indeed, the economic development of Mozambique, throughout the colonial period, was in response to the needs of the mining industry development of Southern Africa, particularly in South Africa and the then colony of Southern Rhodesia. Further, foreign capital investment within the colony was seen by the Portuguese state as a starting point for the development of Mozambique.

With regard to the latter, three private enterprises set up between 1888 and 1892, were practically responsible for the development and exploitation of the Mozambican territory. These companies (Companhia de Moçambique, Companhia do Niassa and Companhia de Zambeze) were in charge of political administration in each parcel of their concessions, and were mostly owned by foreign (non-Portuguese) capital.

By this lease out of the majority of the Mozambican territory, the Portuguese state sought to achieve, apart from indirect control of the territory, two interrelated aims:

- 1) economic development of the colony through investment in infrastructures, plantations and export-related industries (processing of agricultural products);
- 2) income from foreign investments by claiming a share of the profits and taxes collected by these companies (Serra, 1983).

In terms of the labour force structure, the Mozambican workers (peasantry) became forcefully integrated with this colonial economy through a dual system: a system of forced (the so called “chibalo”) to fulfil the seasonal nature of the big plantations, and to a lesser extent as the forced producers of cash crops; and a system of migrant labour recruitment based on a state-to-state agreement by which the South African mining companies acquired the monopoly of the rental labour in the South of Mozambique. An illegal system of migrant labour, particularly from Central Mozambique and directed at the colony of Southern Rhodesia, was also a great component of this labour force structure.

In parallel, the gradual transformation of Mozambique into a transport services economy became to take shape with the construction of Beira (Mozambique)- Umtali (Rhodesia) railway in 1897. This was followed by the construction of the rail-port corridors of Maputo and Nacala, respectively in the South and North of Mozambique, in the early decades of this century.

The second stage of development commenced with the establishment of the new political order in the aftermath of the Portuguese coup d'état of 28 May 1926. The change of government led to a redefinition of the colonial policy from 1930 onwards.

This new policy, with a strong component of nationalism for the part of the colonial power, found its legal expression in the 1930 Pacto Colonial (Colonial Act) by which the Portuguese colonies were to serve the interests of Portugal's national development (de Brito, 1980). Furthermore, the new government abolished the privileges of the large enterprises in the colony, and their territories passed into direct administration of the Portuguese state.

Another feature of the economic development in this period was the accelerated migration of Portuguese settlers to the colony, particularly after the Second World War. This settler population was mostly urban and provided the administrative, managerial and other technical -skilled positions in the employment structure. It should be noted however that in the Southern region of the colony, settler farm production had been developed, in response to the growing demand for food (Wuyts, 1989: p 21). Agricultural products directed at exports started to diversify and included not only sugar, copra and tea (produced by the plantation sector) but also cotton and cashews which were mainly produced by the peasant sector under a forced labour regime.

Linked to this process of production of primary commodities, was the development of elementary agro-industries (cotton fibre, sugar extraction, tea preparation and vegetable oils). Cotton fibre was mostly exported to Portugal in order to protect the textile industry of the then metropolis, with purchasing prices of that commodity far below the international prices ²

Despite the stated intention of the Portuguese nationalism, the new Government extended Mozambique's integration with Southern Africa. This was partly because the surge in industrial development in Portugal required that its colonies should be self-financed, and as well as to contribute to foreign exchange to Portugal (de Brito, 1980; Wuyts, 1989).

² According to UNIDO (1987), Mozambique produced 21,335 tons of cotton fibre in 1947. The price fixed by the Portuguese authorities was Pt Escudos 10,000/ton, while the international price was Pt Escudos 24,000/ton.

In the institutional sphere, the Portuguese state attempted to regulate the varied labour force regimes prevailing in the colony. A gradual abolishment of the “chibalo” was also envisaged but not completely put in place until the beginning of the nationalist armed revolt in the early 1960s. (UNIDO, 1987). The 1928 convention between Portugal and South Africa established a system of deferred payments by which a portion of miner’s wages was to be paid to a Portuguese Trustee and remitted to the miners in Portuguese escudos (the same currency in Mozambique at the time) upon return to Mozambique (CEA, 1977).

Similarly, with regards to the migrant labour directed at neighbouring countries other than South Africa, the Portuguese state did not attempt to reduce the export of labour force but rather sought to increase the foreign exchange income derived from it. The 1947 convention between Southern Rhodesia³ and Portugal granted to the former the right to establish the necessary mechanisms for the recruitment of labour power in Mozambique, and furthermore requiring the Rhodesian authorities to collect the Portuguese hut tax from all Mozambican workers presented in Southern Rhodesia regardless their legal status (Wuyts, 1989: p. 19).

Finally, the period that started with the Portuguese military response to the nationalist armed revolt in early 1960s until the independence of Mozambique in 1975. This coincided with the growing influence of Portuguese capital and a spectacular progress in the industrial development of the colony. Word Bank (1991b) refers to this process as “soldiers and industrialisation”. The early 1960s (specifically in 1961, see section A.2.1) constituted a critical point in the economic development of Mozambique. The upsurge in independence in the late 1950s and the early 1960s of the formerly African colonies put increased pressure on Portugal to decolonise. Portugal chose instead to abolish the forced labour regime, and in the economic sphere, substitute the colonial model for a model of economic integration of “*Todo o Espaço Portugues*” (All the Portuguese Territory). Further, the industrial structure

³ Despite being a British colony at the time, Southern Rhodesia had a great degree of political autonomy. Reynolds (1985) provides a detailed description of the evolutionary status of the country which is now the Republic of Zimbabwe.

prevailing in the Portuguese colonies revealed signs of obsolescence and foreign capital was pressing for changes.

The Escudo Monetary Zone was created in 1961 to integrate the economies of Portugal and its colonies, and particularly to ensure that all foreign exchange earnings were to be centralised by the Banco de Portugal (Portuguese Central Bank). Subsequently, the directive on “new industrial licensing” was revoked (see section A.2.2) and more liberal laws on foreign investment were devised. The 1963 banking law (which opened the territory of Mozambique to private banking) was another institutional change brought about by this new economic policy. The growth of the settler population (the rate of growth increased significantly from 1960 onwards), with its higher income levels, widened the scope for food and for industrial consumer goods. The industrial development of Portugal after the Second World War led to the formation of monopolies which also moved to establish in the colonies (hence achieving gains of scale). The industrial development of Mozambique also benefited from (and depended on) the proximity South Africa and Southern Rhodesia for inputs, spare parts and servicing equipment. The costs of transports and cheap labour force represented for Mozambique a comparative advantage for its import-substitution policy.

At the end of colonial period, Mozambique had a very diversified manufacturing industry. It comprised the food and drink sub-sectors, electrical consumer goods, cement and other building materials, intermediary products (especially for the construction sector), petroleum refinery, and even some components of the heavy industry and engineering. Table A.3.2.1 shows the contribution of the manufacturing sector to the national economy and to the employment structure at the end of the colonial period. It can be seen that the share of MVA in GDP was 12.2% and the formal employment in manufacturing contributed with 8% to total employment, representing these values one of the highest of all Sub-Saharan Africa at the time.

Table A.3.2.1 The Structure of Employment and GDP in Mozambique in 1973

Sectors	Population	Employment	Value Added		GDP p. c
	(thousands)	(%)	million Escudos	(%)	US\$
Agriculture and Fishing		53.7	8,175	19.2	
Mining and Quarrying		0.6	191.0	0.5	
Manufacturing		8.0	5,156	12.2	
Construction		3.0	3,733	8.8	
Electricity & Water		0.2	338	0.8	
Commerce, Banking & Transports		15.1	16,472	38.8	
Other Services & Government Services		19.4	8,333	19.7	
Total	10,072	100.0	42,395	100.0	171.0

Source: DNE (1975); UNIDO (1987)

Nevertheless, this somewhat developed manufacturing sector concealed an industrial structure characterised by weak inter-industrial relations, for most of the industries (with the exception of the agro-industries) aimed at the domestic market. The manufacturing value added (MVA) represented 33% of the sector's gross output and the contribution of wages and salaries to MVA was 37%. (UNIDO, 1987). Taking in account that most industries (with the exception of cement and petroleum refinery) were labour-intensive, these values show the low level of wages used in the productive structure. Moreover, the rapid industrial development had been at the cost of increasing financial imbalances, and financed by the "deferred payment" mechanisms within the legal framework of the Escudo Monetary Zone.

Table A.3.2.2 shows that, at the end of colonial period, Mozambique had a surplus with the rest of the world and a deficit with Portugal (Escudo Monetary Zone). With regard to the rest of the world, revenue from transport services and from migrant labour were the main foreign exchange earnings and accounted for the large surpluses in invisible trade.

Table A.3.2.2 Balance of Payments* of Mozambique; 1965-1972
(millions of Escudos)

Year	Escudo Zone			Rest of the World			Total		
	Visible trade	Invisible trade**	Total	Visible trade	Invisible trade	Total	Visible trade	Invisible trade	Total
1965	-210	-1,248	-1,458	-1,032	2,272	1,240	-1,242	1,024	-218
1966	-299	-1,197	-1,406	-1,447	2,484	1,007	-1,777	1,478	-399
1967	-173	-1,141	-1,314	-1,781	2,762	981	-1,954	1,620	-333
1968	-124	-1,115	-1,240	-1,177	2,698	992	-1,900	1,582	-318
1969	-413	-930	-1,343	-2,675	2,739	64	-3,008	1,808	-1,279
1970	-624	-1,037	-1,662	-3,336	3,428	92	-3,960	2,391	-1,570
1971	-462	-576	-1,038	-3,339	3,937	598	-3,801	3,361	-440
1972	-497	-575	-1,072	-2,743	3,986	1,243	-3,240	3,412	172

Note: * - Balances only, ** - includes capital movements. Source: Adapted from P. da Costa (1973)

As regards the construction sector, construction value added, in 1973, represented 8.8% of GDP, a value generally considered as high for a low-income economy (Turin, 1973; Hillebrandt, 1985). This value, however, is consistent with the analysis sketched out above. The rapid process of industrialisation widened the scope for the construction of industrial building and other industrial construction works. The development of the transport sector demanded the need for the construction of new roads and construction works in the rail-port corridors. The rapid growth in urban population (most Portuguese settlers were concentrated in the big cities) required the need for the construction of housing, building for government services and urban infrastructures.

Regarding employment in construction (3% of total employment), this value seemed to be understated, for it refers only to formal employment. Reported facts (fieldwork interview) pointed to an increased growth in the informal sector of the construction industry at the end of the colonial period. With respect to the gross construction output, there is no data available in the standard methodology of the SNA of the UN. However, taking in account the cost structure in the manufacturing sector, it is reasonable to assume that the share of the construction value added in the sector's

gross output was about 50% or less. Thus, a value around 18% was the contribution of the construction gross output to the national economy, which was typical of an upturn economy. The completion of the Cahora Bassa dam in 1974, the larger hydroelectric complex in Africa south of the Sahara, completed this period of boom in construction development. During this period the growth in construction followed the growth pattern of the economy, particularly of the manufacturing industry (fieldwork interview).

This hydroelectric complex whose first and foremost aim was to supply energy to South Africa represented both of two things: i) the ultimate economic dependence from South Africa (and to a lesser extent from Southern Rhodesia); ii) an industrial strategy motivated by political criteria rather than economic criteria, and without any connection with Mozambique's resource endowments.

The picture that emerges from this review suggests that the stage of economic development of Mozambique at the end of the colonial period was typical of a low-income economy, with a GDP per capita of US\$ 171, one of the lowest in Sub-Saharan Africa at the time. Its singularity resided on the fact that the industrial sector and the agricultural sector contributed, practically, with the same share to the national output, and the service sector was the most important of them. It is also worthy of note that the economic and social development of Mozambique, was characterised by a clearly unequal distribution of the national income which was pictured in a social labour force structure biased unfavourably towards Mozambican native workers. An illiteracy rate of 93% (UNDO, 1987) at the time of independence, and the lack of managers and skilled workers, and particularly qualified civil servants constituted, probably, the heaviest legacy of the Portuguese colonialism.

Table A.3.3 Macroeconomic Indicators of Mozambique; 1980-1991

	Unit	Year										Averages			
		1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	80/86	87/91
GDP real growth		-	0.5	-3.4	-12.9	0.9	-8.8	0.9	4.4	5.4	5.4	1.03	4.09	-3.8	4.2
Import real growth		-	1.8	11.5	-20.3	-13.4	-13.1	28.0	7.6	-2.0	2.8	0.0	1.9	-0.9	2.1
Export real growth		-	-10.9	7.8	-37.1	-37.2	-2.0	-8.3	8.3	4.4	8.4	10.6	27.5	-14.6	11.8
Inflation (CPI)	% per annum	-	n.a.	18.6	12.0	14.8	46.1	8.2	163.5	69.2	44.2	32.0	34.5	20.0	68.7
Nominal exchange rate		-	9.1	6.8	6.4	5.6	1.7	-6.4	609.3	84.5	40.8	24.8	54.3	3.9	162.8
Increase in real money supply (M2)		-	26.1	9.5	7.0	-0.8	-22.7	2.3	-39.3	5.5	7.1	0.2	-29.0	3.6	-11.3
Total Consumption		99.5	97.4	101.0	108.3	104.5	101.4	99.9	106.2	117.3	119.1	111.8	110.2	101.7	112.9
Government Revenues of which Official Grants		22.3	25.7	26.0	26.7	26.1	25.5	25.8	32.7	37.4	40.0	40.3	25.4	25.4	38.9
Government current expenditures		2.7	2.3	2.5	3.2	2.7	2.0	2.3	9.2	14.0	16.5	16.9	20.8	2.5	15.5
Government Fiscal deficit	% of GDP	18.1	20.7	23.6	28.4	26.0	22.4	25.4	21.2	22.6	25.5	25.6	23.5	23.5	23.8
Gross Investment *		-7.0	-9.7	-14.4	-18.2	-15.4	-1.5	-5.2	-4.4	-6.5	-7.7	-9.4	-4.3	-10.2	-6.5
Current Account deficit		18.9	20.3	19.3	9.9	10.6	6.9	9.7	23.8	32.6	33.0	38.1	41.8	13.7	33.9
Total Gov. Expenditure		-15.7	-15.5	-17.8	-14.9	-12.4	-6.2	-7.2	-20.8	-35.9	-35.5	-33.0	-31.2	-12.8	-31.3
Official Transfers to Gov. Budget	US\$ billion	29.3	35.4	40.3	44.8	41.6	27.0	30.9	37.1	45.7	48.9	51.5	50.4	35.6	46.7
		0.06	0.05	0.06	0.07	0.07	0.07	0.10	0.14	0.17	0.21	0.24	0.28	0.07	0.21

Notes: * - including variations of Stocks; n.a. - not available. Sources: World Bank (1993); CNP (1994); DNE (1994a)

APPENDIX A.4

Opinion Survey

This section presents the opinion survey conducted on the representatives of the economic and financial sectors of Angola and Mozambique in January-April 1995.

The opinion-survey is divided into three parts. The first part is personal and confidential: name, post, organisation, date, country and kind of engagement with the construction industry. The second part consists of 7 questions concerning the construction sector and economic development. The third part of the questionnaire consists of 3 questions concerning the sectoral level of the construction industry for the next 10 years.

The structure of the questionnaire is the same for both Angola and Mozambique, with the exception of the question regarding the construction market. In the former country, the market segment of public works was disaggregated in two sub-segments: sanitary works and other public works, both comprising repair and maintenance construction works. In the latter, the market segment of the public works consisted of repair and maintenance works, and new public works.

A.4.1 Personal- Confidential

Name _____

Post, Title _____

Organisation _____

Date, Place, Country _____

Kind of Engagement with
the Construction Industry _____

A.4.2 Questions Concerning the Construction Sector and Economic Development

1. Beside is a list of the productive sectors of the economy. Please, range in a **1** to **5** scale the importance of each sector in the promotion of economic development, in your country, in the period 1975-1985

Note: 1 - unimportant; 2 - less important
3 - not sure; 4 - important; 5 - very important

- | | |
|------------------------------|--------------------------|
| Agriculture | <input type="checkbox"/> |
| Manufacturing | <input type="checkbox"/> |
| Mineral Resources | <input type="checkbox"/> |
| Energy and Water | <input type="checkbox"/> |
| Transport and Communications | <input type="checkbox"/> |
| Commerce and Other Services | <input type="checkbox"/> |
| Banking and Insurance | <input type="checkbox"/> |
| Construction | <input type="checkbox"/> |
| Tourism | <input type="checkbox"/> |
-

2. Beside is a list of the productive sectors of the economy. Please, range in a **1** to **5** scale the importance of each sector in the promotion of economic development, in your country, in the period 1985-1995

Note: 1 - unimportant; 2 - less important
3 - not sure; 4 - important; 5 - very important

- | | |
|------------------------------|--------------------------|
| Agriculture | <input type="checkbox"/> |
| Manufacturing | <input type="checkbox"/> |
| Mineral Resources | <input type="checkbox"/> |
| Energy and Water | <input type="checkbox"/> |
| Transport and Communications | <input type="checkbox"/> |
| Commerce and Other Services | <input type="checkbox"/> |
| Banking and Insurance | <input type="checkbox"/> |
| Construction | <input type="checkbox"/> |
| Tourism | <input type="checkbox"/> |
-

3. Beside is a list of the productive sectors of the economy. Please, range in a 1 to 5 scale the importance of each sector in the promotion of economic development, in your country, for the period 1995-2005

Note: 1 - unimportant; 2 - less important
3 - not sure; 4 - important; 5 - very important

Agriculture	<input type="checkbox"/>
Manufacturing	<input type="checkbox"/>
Mineral Resources	<input type="checkbox"/>
Energy and Water	<input type="checkbox"/>
Transport and Communications	<input type="checkbox"/>
Commerce and Other Services	<input type="checkbox"/>
Banking and Insurance	<input type="checkbox"/>
Construction	<input type="checkbox"/>
Tourism	<input type="checkbox"/>

4. Below, apart from the growth in GDP, is a list of goals of economic development. Please, range in a 1 to 5 scale, the importance of each one of these goals of economic development in your country.

Note: 1 - unimportant; 2 - less important; 3 - not sure;
4 - important; 5 - very important

- Poverty alleviation	<input type="checkbox"/>
- Creation of employment	<input type="checkbox"/>
- Improvement in global competitiveness	<input type="checkbox"/>
- Diversification of production and/or availability of products and services	<input type="checkbox"/>
- Achievement of a better physical and social environment	<input type="checkbox"/>

5- Below is presented some objectives of a construction industry development programme promoted by the Government. Please, range in a 1 to 5 scale the importance of each one of these objectives, taking in account the economic and social development of your country, for the next 10 years.

Note: 1 - unimportant; 2 - less important; 3 - not sure;
4 - important; 5 - very important

- Good quality natural environment	<input type="checkbox"/>
- Profit maximisation/cost minimisation	<input type="checkbox"/>
- Creation of job and diversification of business opportunities	<input type="checkbox"/>
- Local manufacture of building materials	<input type="checkbox"/>
- Optimal use of the country's fixed capital	<input type="checkbox"/>
-Multiplier effect on other sectors of the economy (excluding building materials production)	<input type="checkbox"/>

6- Below is a list of different strategies for the development of building materials for the next 10 years. Please, range in a 1 to 5 scale the importance of each one of these strategies, taking account the economic and social development of your country.

Note: 1 - unimportant; 2 - less important; 3 - not sure;
4 - important; 5 - very important

- Import-substitution of most common building materials used
 - Export-led production in which the country has most comparative advantage in Southern Africa
 - Building materials that promote labour-intensive technology
 - Building materials that enhance business opportunities in other industries (economies of scale)
 - Building materials for the housing sub-sector
-

7- Please, indicate your degree of agreement with the following statement. Tick the appropriate box.

“The share of construction in GDP increases in the first stages of economic development and decreases in the last stages of economic development”.

strongly disagree	disagree	not sure	agree	strongly agree
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

A.4.3 Questions Concerning the Sectoral Level (for the next 10 years)

1- Below is a list of policy measures to tackle the constraints affecting the demand-side of the construction industry in your country. Please, range in a 1 to 5 scale the importance of each one of these measures for enhancing the performance of the construction industry activity

Note: 1 - unimportant; 2 - less important; 3 - not sure;
4 - important; 5 - very important

- Establishment of a fiscal policy pertaining to construction companies and property development enterprises
 - Establishment of a market-oriented housing rent policy
 - Regulation of the informal sector of the construction activity
 - Regulation/amendment of the legislative framework pertaining to the construction activity (e.g. property rights and land-use planning, development plans, planning permissions)
 - Improvement in the planning of public sector projects in order to even the construction demand
 - Intervention in the financial market to facilitate the housing market through savings from private investors
-

2- Below is a list of policy measures to tackle the constraints affecting the supply-side of the construction industry in your country. Please, range in a 1 to 5 scale the importance of each one of these measures for enhancing the performance of the construction industry activity

Note: 1 - unimportant; 2 - less important; 3 - not sure;
4 - important; 5 - very important

- Establishment of guidelines at sectoral level, the appropriate construction technology for different sub-sectors, to award enterprises that achieve Government goals
 - Regulation/amendment of the labour and wage legislation pertaining to the construction industry activity
 - Regulation/amendment of the law on "Alvarás- Classification of Activities and Enterprises in the Construction Activity"
 - Improvement on the rules and procedures concerning the role of different parties in the construction industry activity
 - Regulation/modification of the procedures for procurement contract forms and contracting prices in the public and private sector
 - Investment on, and leasing of, construction equipment to promote the economic efficiency of construction enterprises
-

3- The construction market is, below, divided in different market sub-segments. Please, range, in a 1 to 5 scale, the development prospect of each market sub-segment for the next 10 years in your country.

Note: 1 - strongly decrease; 2 - decrease; 3 - stagnant;
4 - increase; 5 - strongly increase

3.1 Angola

- Informal sector market
 - Sanitation construction works
 - Other public works
 - Repair/maintenance of industrial and agro-industrial building
 - Housing
-

3.2 - Mozambique

- Informal sector market
 - Repair/rehabilitation of public works
 - New public works
 - Repair/maintenance of industrial and agro-industrial building
 - Housing
-

Thank you for your co-operation

Jorge Lopes

Surveying Department, University of Salford, UK

January 1995